Windsor BOE Curriculum Committee Meeting

Wednesday, May 1, 2013 4:30 PM
Curriculum Committee, L.P. Wilson Community Center, Room 17, 601 Matianuck Avenue, Windsor, CT 06095

1. **Call to Order, Pledge of Allegiance, Moment of Silence**
2. **Audience to Visitors**
3. **Mathematics Curricula: Grades 1,3,4,5**
4. **Language Arts Curricula: Grades 6,9,10,11**
5. **Forensic Science Curricula**
6. **Spanish 4 Textbook**
7. **Challenge Program Update--Elementary**
8. **Adjournment**

Windsor Public Schools
Curriculum Map for the Elementary Level
Grade 1 Mathematics

Purpose of the Course (from CCSS): In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

Name of the Unit: Unit 1 Fluency with Addition and Subtraction within 10	Length of the unit: 5 weeks
Purpose of the Unit: This unit is the first of three involving adding and subtraction during this grade level. This unit focuses on fluency with addition and subtraction within 10. Fluency within 5 and exploration within 10 was done in the previous grade level. In addition, this unit addresses counting, reading and writing numerals in the 0-120 range.	
Common Core State Standards Addressed in the unit: **1.OA.1: Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.** **1.OA.3: Apply properties of operations as strategies to add and subtract. Two examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.).** **1.OA.6: Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 − 4 = 13 − 3 − 1 = 10 − 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 − 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).** **1.OA.7: Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 − 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.*** **1.NBT.1: Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.** 1.OA.2: Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.4: Understand subtraction as an unknown-addend problem. For example subtract 10 − 8 by finding the number that makes 10 when added to 8.	

1.OA.5: Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).

1.OA.8: Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = ? − 3, 6 + 6 = ?.

1.MD.4: Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another

Big Ideas:	Essential Questions:
1. Numerals and symbols can be used to model problems. 2. Knowing properties of operations allow us to be flexible when working with numbers. 3. Addition is putting together or adding to and subtraction is taking apart or taking from. 4. Addition and subtraction are inverse operations; that is they undo each other.	1. How are numerals and symbols used? 2. What strategies can we use to make solving addition and subtraction problems easier? 3. What types of questions does adding and subtracting answer? 4. How are addition and subtraction the same or different?
Students will know: 1. addition and subtraction • Equations • Word problems • Unknowns • Symbols 2. strategies using properties of operations for addition and subtraction within twenty 3. strategies of counting on, making ten, decomposing a number leading to a ten, and creating equivalent but easier or known sums 3. subtraction as an unknown-addend problem 5. the meaning of the equal sign 6. written numerals 0-120	Students will be able to: 1. use addition and subtraction within 20 to solve word problems with unknowns in all positions. 2. apply properties of operations, counting on, making ten, decomposing a number leading to a ten, using the relationship between addition and subtraction, and creating equivalent but easier or known sums as strategies to add and subtract 3. demonstrate fluency for addition and subtraction within 10 4. determine if equations involving addition and subtraction are true or false 5. count to 120, starting at any number less than 120 6. read and write numerals and represent a number of objects with a written numeral within the range 0-120, 7. solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20

	8. use an equation with a symbol for the unknown to represent a word problem 9. understand subtraction as an unknown-addend problem 10. relate counting to addition and subtraction (e.g., by counting on 2 to add 2) 11. determine the unknown whole number in an addition or subtraction equation relating three whole numbers. (For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = ? − 3, 6 + 6 = ?) 12. organize, represent, and interpret data with up to three categories 13. ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another

Significant task 1: *Adding and Subtracting 1, 2, and 0*

The activities in this task are grounded in Chapters 2 and 3 of *Mastering the Basic Math Facts in Addition and Subtraction*. In these lessons, students transition from counting all, to beginning with one addend and counting on (or counting back for subtraction) to find the sum (or difference) by building on previous experiences with number lines and counting. As the task begins, students listen to the story, *Mouse Count*, by Ellen Stoll Walsh. Here, a context for exploring *counting on* as a strategy for *adding one* or *adding two* is set as 10 clever mice escape a greedy snake that is planning to eat them for dinner.

Following the story, students work with partners to count the number of mouse manipulatives in a bag, then find the totals as first one, then two mice are added to the bag. Students record the new numbers, write corresponding addition sentences, and draw pictures to show the process. After repeating this process several times, the class creates an organized list and discusses the patterns that emerge and the idea that the order of the addends does not affect the sum (the commutative property).

To enhance the concepts, partnerships move counters along number strips (enlarged versions of number lines) to solve story problems involving *adding one* and *adding two* and record the addition equations on the board as a class. Next, students play a spinner and number strip game for *adding one* and *adding two*, and writing corresponding number sentences.

For additional experiences as needed, the whole class or small groups may listen to *Fish Eyes* by Lois

Elhert. Here, students use goldfish crackers or counters to continually *add one* as each fish in the story adds himself to a new group of fish. Students may also may clap, jump or wiggle to kinesthetically represent *adding one* and *adding two* situations, or use pennies on a piggy bank work mat to solve piggy bank story problems. Finally, students play one or more games designed to provide practice for fluency with *adding one* and *adding two*.

Students make the connection between addition and subtraction facts as the story *Mouse Counts* is revisited throughout this task. Additionally, students listen to the story *Counting Crocodiles* by Judy Sierra, make predictions, then work as a class and in partnerships to create related *subtracting one* and *subtracting two* story problems. Finally, students share these problems for the class to solve.

Students next explore the sum of numbers when zero is an addend as they listen to the story *Gray Rabbit's 1, 2, 3* by Alan Baker, a story of a rabbit who falls asleep while he is making animals out of clay. Working in pairs, students write number sentences to show the total amount of each type of animal made while Gray Rabbit was awake, and asleep. Students share their findings with the class and discuss their observations, then act out a number of related story problems involving *adding zero* or *subtracting zero*.

Students having difficulty with the concept of adding zero may also use part-part-whole mats to visualize the facts. Here, students use the two upper sections to represent addends (the *parts*) and a larger section on the bottom to represent the sum (the *whole* or *total*). When exploring 6 + 0, students place 6 counters in one of the top sections, 0 counters in the other top section, and move all of the counters to the bottom section to show the sum. With this tool, students will quickly see that the sum is always the same as the non-zero addend because one part of their mat is always empty. Finally, students participate in one or more games or activities to practice for fluency with adding or subtracting 0, 1, or 2.

This task directly targets the following Common Core Standards: 1.OA.1, 1.OA.3, 1.OA.4, 1.OA.5, 1.OA.6, 1.OA.7, 1.OA.8, 1.NBT.1, 1.MD.4

Timeline: 2 weeks
Key vocabulary: addition (add), subtraction (subtract), plus, minus, equal(s), ten-frame, part, whole
Resources:
O'Connell, Susan, *Mastering the Basic Math Facts in Addition and Subtraction*, Chapters 2 *(pp. 31- 50)* and 3 (pp. 51-62)
Walsh, Ellen Stoll, *Mouse Count*
Elhert, Lois, *Fish Eyes*
Sierra, Judy, *Counting Crocodiles*
Baker, Alan, *Gray Rabbit's 1, 2, 3*

Significant task 2: *Doubles*

This task is grounded in Chapter 5 of *Mastering the Basic Math Facts in Addition and Subtraction.*
In these lessons, students build on the knowledge from the previous task to develop strategies for *doubles*. Students listen to the story, *Double the Ducks* by Stuart J. Murphy, where a boy with 5 ducks is followed back to his farm by 5 more ducks, and make predictions about what the boy will need in order to take care of double the original number of ducks. As a class, students solve related story problems, then turn to a partner and share the *doubles* facts discovered.

In partnerships, students play a spinner game and use counters to find the *doubles* sums for sets of farm animals. As one student finds the totals, the partner records addition number sentences on a recording sheet. The roles are then switched and play continues until pairs have determined doubles for each set of animals. Students then share the *doubles* facts with the class and respond to the prompt, "What does it mean to double a number?" These responses are shared with a partner, or presented during Math Meeting/ Circle Time to summarize the concept that doubling is the process of joining two groups of the same quantity.

In another activity to enhance the concepts, students use manipulatives and part-part-whole mats to help them solve story problems involving the addition of doubles facts. Students place a group of counters in the top left section of the mat, and create an equal-sized group in the top right section. Students then record an addition equation to show the two parts, pull the parts together to make one whole group, and record the sum.

As a class, or in small groups as needed, students revisit the story *Double the Ducks* and use manipulatives to double each item in the story. Students may also play games that use manipulatives to find the doubles of numbers to help reinforce the strategy of doubling. Additionally, students may create pages for a class book of doubles facts.

Students make the connection between addition and subtraction for *doubles* (and *halves*) as they listen to *Martha Blah Blah* by Susan Meddaugh, a story of a dog who gains the ability to speak when eating alphabet soup but encounters problems when half of the letters are removed from the soup. Students work in pairs or groups to count "letters" (manipulatives) and remove half as in the story. Students find out how many letters are left and record subtraction sentences on a recording sheet. Students then discuss their findings and relate them to *doubles* addition sentences. Through this activity, students learn that halving is the opposite of doubling.

This task directly targets the following Common Core Standards: 1.OA.1, 1.OA.2, 1.OA.3, 1.OA.4, 1.OA.5, 1.OA.6, 1.OA.7, 1.OA.8, 1.NBT.1, 1.MD.4

Timeline: 1 week
Key vocabulary: addition (add), subtraction (subtract), plus, minus, equal(s), ten-frame, part, whole, double(s), halves
Resources:
O'Connell, Susan, *Mastering the Basic Math Facts in Addition and Subtraction*, Chapter 5 (pp.77-91)
Murphy, Stuart J., *Double the Ducks*
Meddaugh, Susan*, Martha Blah Blah*

Significant task 3: *Making-Ten*

This task is grounded in Chapter 6 of *Mastering the Basic Math Facts in Addition and Subtraction.* To begin an investigation of *making-ten* facts, students listen to the story *Ten Apples up on Top!* By Dr. Seuss, about animals trying to balance ten apples on their heads. Through this story, students explore different combinations that make ten. In partnerships, students use two-color counters to represent the apples and record corresponding number sentences. Partners then share results with the class and, as a class, generate an organized list of possible combinations and number sentences.

In the next lesson, students use ten-frames to solve related story problems. Students work with partners to find and record corresponding number sentences by placing red counters in sections of the ten-frame and then filling the remaining sections with yellow counters. As students share results with the class, the number sentences are recorded on the board and students look for patterns. Insights are then discussed, to include an understanding of the commutative property and the flexibility of numbers- that there are multiple ways to make ten.

Students explore subtraction using the making-ten strategy by revisiting *Ten Apples up on Top!* Here, students investigate what might happen if some apples fall from the animals' heads as they are balancing ten. Students use 10 linked cubes, in two different colored groups of five, to visualize how many apples are left, and record a corresponding subtraction sentence. After several repetitions, students share their findings with the class and tell a partner how thinking about *making-ten* can help someone subtract from 10.

As needed, students may further explore the concepts, either as a whole class or in small groups. Boys and girls may line up to create sums of ten students, or make bead counters, a hands-on tool for visualizing tens. Students then use the bead counters as manipulatives for interactive games that focus on the making-ten strategy. Additionally, one or more games designed to promote fluency with *doubles* and *making-ten* addition and subtraction facts may be played. (Several game options are described in *Mastering the Basic Math Facts in Addition and Subtraction*).

Timeline: 2 weeks
Key vocabulary: addition (add), subtraction (subtract), plus, minus, equal(s), ten-frame, part, whole, double(s), halves
Resources:
O'Connell, Susan, *Mastering the Basic Math Facts in Addition and Subtraction*, Chapter 6 (pp. 93-110)
Seuss, Dr. (Theo LeSieg), *Ten Apples up on Top!*
Math Trailbazers Unit 3, Lessons 4-7 and CCSS Activities 3-5
Windsor Binder: *Grade One Math*

Common learning experiences:

- Math Meeting/ Circle Time: As described in the Teacher Notes section, Math Meeting/Circle Time occurs daily, for about ten minutes at the beginning of each math period. While the activities are described in general terms within the Teacher Notes section, following are a few specific suggested activities for Math Meeting/ Circle Time:

  120 Chart: In this unit, students are introduced to the 120 chart, a visual tool used throughout the year during this time for practice of counting by ones and tens, numeral identification and recognizing number patterns. As the year progresses, students also use the 120 Chart for learning about one and ten more/less, and other addition and subtraction concepts during the Math Meeting/Circle Time.

  Count Around the Circle: To practice sequences of 5-10 numbers within 120, children

stand in a circle and count from a given number to the designated target number within the sequence, one number per student. When the target number comes up, that student claps and sits down. The next student starts the sequence again. The game continues in this way until there is one person standing. (It may also be played non-competitively if students are allowed to remain standing).

Daily Ten-Frames and Hundred-Frame: Students use ten-frames to keep track of the number of days in school by placing one adhesive dot on the ten-frame each day, filling in the top row of 5 first, and moving from left to right. Once a ten-frame is filled, the next one is begun, and so on, until the number 100 is reached. The count then continues on a new set of ten-frames until 120 is reached (or the last day of school if interest is high). Students use this visual organizer to see five, ten and 100 emerge as natural benchmarks for thinking about relationships among numbers. During this time, students may also use individual white boards to write the number of days shown by the ten-frames and consider such questions as, *How many more days do we need to complete this ten-frame? How can we figure it out? Do we have more than five days? How do we know? What number story is the ten-frame telling?*

Graphing Activities: Once or twice a month throughout the year, students organize, represent, and interpret data with up to three categories on topics of interest to the class. During this time, students ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. Often the topic may pertain to read-alouds the class has shared, or to events that occur in the students' day. For example, since the read-alouds during this task are all about animals, students may create a class graph about some pets that students have at home.

- Read/Alouds/Literature Connections: Students may benefit from listening to one or more of the following stories during Math Meeting/Circle Time, prior to the *Math Trailblazers, Pennies, Pockets, Parts* Lessons (below). These stories may be used as springboards for discussion of the making-ten concept, the flexibility of numbers, and problem solving:

  Payne, Emmy, *Katy No-Pocket*
  Freeman, Don, *A Pocket for Cordoroy*
  Langstaff, John, *Over in the Meadow*

- *Math Trailblazers, Pennies, Pockets, Parts, Lessons 4-7 and CCSS Activities 3-5:* In these lessons, students explore part-whole relationships as they work with pennies and work mats showing pockets on clothing. In the first two lessons, students add two, then three whole numbers by adding the pockets on three items of clothing. Students then arrange ten pennies in a variety of ways on three pockets to learn about the associative property of addition. In the final lesson, students solve addition and subtraction word problems using pennies.

- *Giant Story Problems:* Students work as a class to read a story problem, discuss the essential points, draw a picture on the SMARTBoard or chart paper showing the details, and write both an equation and a sentence to represent the problem. Students then repeat the process with new problems, working in small groups or partnerships.

- *Math Links:*
  Addition and Subtraction within 10:
  http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_1/Mathematics/5485390886045419762/1__Addition_and_Subtraction_wi
  1. A Day at the Beach Subtraction: Complete the subtraction sentence to tell how many are left.
  2. Addition Arrays: Use an array like a ten-frame, select the number range, and print out reports of success
  3. Build A Train: Add or subtract cars to build a train.

Common assessments including the end of unit summative assessment:
Unit 1: Fluency with Addition and Subtraction within 10 Assessment
Selected Facts Assessments, found in *Mastering the Basic Math Facts in Addition and Subtraction*

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and persevere in solving them, reason abstractly and quantitatively, and model with mathematics

- Throughout the year, the math period is generally broken into 4 sections as follows:

  Daily Math Meeting/Circle Time (about 10 minutes) is an active time for students, to include such activities as games for counting within 120, ten-frame counting, problem solving, graphing, review/practice of skills, and an introduction to the lesson of the day. During this time, students generally gather around the teacher at a class meeting area of the room. Students participate by carrying out meaningful routines, by explaining their reasoning to partners and/or the class, by asking clarifying questions of other students, and often by showing work on individual whiteboards, the SMARTBoard, or clipboards with paper. Students may also contribute by using a variety of strategies for solving story problems, such as acting them out, drawing a picture, and/or using manipulatives and visual tools. (A few suggested activities may be found in the Common Learning Experiences section of each unit).

  Direct Instruction (about 15 minutes) is generally introduced at the class meeting area following the Math Meeting/Circle Time. Here, the students usually work as a class, listening and participating in the instruction, asking and answering questions, discussing mathematical thinking, and/or practicing together. This time may alternately be devoted to small group instruction, where some students participate in lessons for re-teaching or enrichment while others work independently or in partnerships on differentiated games and activities that provide needed practice or enrichment of concepts.

  Investigation, Application and/or Practice (about 30 minutes): Students work independently, in partnerships, and/or small groups to investigate, apply, and/or practice the activity upon which the direct instruction is based. At this time, students may also be involved workstations, math fact activities, and/or computer-based review/practice.

Lesson Wrap-Up (about 5 minutes): Student reflections, essential questions, and lesson objectives are discussed during this time.

- Targeted Learning: During this time (a 30-minute period that is supplemental to the math block) students who continue to struggle with kindergarten skills can focus on skills for early numbers (0-20) and fluency of addition and subtraction facts within 0-5. (The *Windsor Math Protocols Binder* outlines several suggestions for students having difficulty with early number skills). Students on grade level work toward fact fluency and mastery of concepts. These students may use flash cards and number lines to solve story problems, and play games designed for differentiated practice and promoting fluency of *adding* and *subtracting 0, 1, and 2* facts, *doubles* facts, and *making-ten* facts. (Several suggestions and options for such practice are provided in Chapters 2, 3, 5, and 6 of *Mastering the Basic Math Facts in Addition and Subtraction)*. At the same time, students who have already mastered the facts through ten can work toward developing fluency for facts to twenty by extending the numbers in the above activities.

- Differentiation: Opportunities for differentiation frequently arise through the use of a spectrum of resources available for students, from concrete, to visual or abstract. As students are introduced to concepts, it is often at a concrete level, where hands-on manipulatives, and/or acting out situations are employed to help with mathematical reasoning. At a higher level, students use visual aids, such as number lines, charts, or drawings to help solve problems. At the highest levels, students reason abstractly, relying solely on numerals and symbols. Therefore, one way lessons are differentiated is by having a variety of manipulatives and resources readily available for students to use. In this task, these opportunities are built into each lesson.

- Predictable misconceptions: While addition and subtraction with zero are easy for automaticity, thinking about part of a quantity when that part consists of nothing is confusing. Thus, students learn the facts for 1 and 2 first, in order to develop a firmer understanding of addition and subtraction processes before thinking about how to separate or take away nothing. Once the processes are understood, the zero facts are easier for students to comprehend.

Windsor Public Schools
Curriculum Map for the Elementary Level
Grade 1 Mathematics

Purpose of the Course (from CCSS): In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

Name of the Unit: Unit 2 Exploring Addition and Subtraction within 20	Length of the unit: 5 weeks

Purpose of the Unit: This unit is the second of three involving adding and subtraction during this grade level. This unit focuses on exploring addition and subtraction within 20 in a similar way exploration was done in the previous grade within 10.

Common Core State Standards Addressed in the unit:

1.OA.1: Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

1.OA.3: Apply properties of operations as strategies to add and subtract. Two examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)

1.OA.6: Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 − 4 = 13 − 3 − 1 = 10 − 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 − 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

1.OA.7: Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 − 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.*

1.NBT.1: Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

1.OA.2: Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

1.OA.4: Understand subtraction as an unknown-addend problem. For example subtract 10 − 8 by finding the number that makes 10 when added to 8.

1.OA.5: Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).

1.OA.8: Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = ? − 3, 6 + 6 = ?.

1.MD.4: Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another

Big Ideas:	Essential Questions:
5. Numerals and operation symbol can be used to model problems. 6. Knowing properties of operations allow us to be flexible when working with numbers. 7. Addition is putting together or adding to and subtraction is taking apart or taking from. 8. Addition and subtraction are inverse operations; that is they undo each other.	5. How are numerals and symbols used? 6. What strategies can we use to make solving addition and subtraction problems easier? 7. What types of questions does adding and subtracting answer? 8. How are addition and subtraction the same or different?
Students will know: 1. addition and subtraction • Equations • Word problems • Unknowns • Symbols 2. strategies using properties of operations for addition and subtraction within twenty 3. strategies of counting on, making ten, decomposing a number leading to a ten, and creating equivalent but easier or known sums 4. subtraction as an unknown-addend problem 5. meaning of the equal sign 6. written numerals 0-120	Students will be able to: 1. use addition and subtraction within 20 to solve word problems with unknowns in all positions 2. apply properties of operations, counting on, making ten, decomposing a number leading to a ten, using the relationship between addition and subtraction, and creating equivalent but easier or known sums as strategies to add and subtract within 20 3. determine if equations involving addition and subtraction are true or false 4. count to 120, starting at any number less than 120 5. read and write numerals and represent a number of objects with a written numeral within the range 0-120 6. solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20 7. use an equation with a symbol for the unknown to represent a word problem 8. relate counting to addition and subtraction (e.g., by counting on 2 to add 2) 9. determine the unknown whole number in an addition or subtraction equation relating three whole numbers. (For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = ? − 3, 6 + 6 = ?) 10. organize, represent, and interpret data with up to three categories 11. ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another

Significant task 1: *Adding Ten*

The activities in this task are grounded in Chapter 4 of *Mastering the Basic Math Facts in Addition and Subtraction*. In these lessons, students explore the facts for adding and subtracting 10 to extend the understanding of the flexibility of numbers and build upon previously known facts. First, students participate in a survey of preferred cookies, create a graph, and read the story, *If you Give a Mouse a Cookie* by Laura Numeroff about a Mouse whose favorite kind of cookie is chocolate chip. Students explore adding ten more chips to a number of chocolate chips in a picture of a cookie, then draw or use counters to find the answer in a concrete or visual way. Students record number sentences to represent adding 10 chips to the cookie, and start again with a new cookie. A class chart of number sentences is created as students discuss the findings. Students then turn to a partner and talk about any patterns observed, including such comments as, *It is just counting 10 more*, or *You just write 1 and then the number you already had.*

In another activity to promote understanding, the students use double ten-frames as a visual tool to represent the number ten, plus some more. Students place ten dots, or counters, in the first ten-frame and record *10* below it. Next to it, students place 1 dot, or counter on the ten-frame and record 1 below it. Students then place an addition sign between the numbers and tell a partner the sum for the two frames. Students work together to find sums when beginning with 10 and adding 2-9 more, then write about these observations and share the ideas with the class.

For additional experiences as needed, the whole class or small groups may use *1-20 Charts* and counters to show sums of + 10 facts, discuss patterns and predict the next sums, or tell the sum of a double ten-frame that is quickly flashed. The class may also demonstrate *Finger Facts*, using one student as the ten-finger student and another student showing any number from 0-9. Others in the group are challenged to tell the total number of fingers.

Students explore subtracting 10 after listening to *Don't Eat the Teacher!* By Nick Ward. Students solve problems involving subtracting ten, and discuss the patterns that occur. The students' insights are recorded on chart paper to summarize the thinking about these patterns, such as *The 1 goes away when you subtract 10* (place value understanding- subtract 1 ten) or *If you change it around and add it, you use the same numbers* (fact families). Finally, students may participate in a variety of games and activities as needed, for focused practice of *adding ten* and *subtracting ten* facts (found in Chapter 4 of *Mastering the Basic Math Facts in Addition and Subtraction).*

This task directly targets the following Common Core Standards: 1.OA.1, 1.OA.2, 1.OA.3, 1.OA.4, 1.OA.5, 1.OA.6, 1.OA.7, ,1.OA.8, 1.NBT.1, 1.MD.4

Timeline: 2 weeks
Key vocabulary: addition (add), subtraction (subtract), plus, minus, equal(s), double, ten-frame, addend
Resources:
O'Connell, Susan, *Mastering the Basic Math Facts in Addition and Subtraction*, Chapter 4 *(pp. 63-75)*

Significant task 2: *Using Tens*

The activities in this task are grounded in Chapter 7 of *Mastering the Basic Math Facts in Addition and Subtraction*. The lessons help students use their understanding of the flexibility of numbers and knowledge of the foundation facts (+0, +1, +2, +10, *doubles facts*, *making-ten* facts) to find sums for the *using tens* facts. First, students explore different combinations of addends that make ten as the story *Diary of a Worm* by Doreen Cronin is read aloud. Students are then given 20 pieces of uncooked macaroni to represent 20 worms and a set of double ten-frames for solving story problems in which one of the addends is 8 or 9. As students work, the strategy of moving worms from one of the ten-frames to the other to make a ten is discussed. Students then record both equations, (such as 9 + 3 = 12) and a simpler equation by making ten (10 + 2 = 12) on recording sheets. Here, students learn to recognize that when a worm is moved to one ten-frame, it is coming away from the other, so the total number of worms never changes.

Another way students visualize the process of using tens is by using a single ten-frame and some two-color counters. Students pull a fact card to solve (e.g., 8 + 4), then place 8 yellow counters in the ten-frame and 4 red counters outside the ten-frame. Students determine whether it is difficult to solve the problem without counting each counter. Then students move 2 red counters into the frame to fill it, leaving 2 outside the frame. This way, students are able to quickly know the sum, without having to count.

For additional support as needed, students may represent facts using the bead counters from the *making-ten* strategy. (The *using ten* strategy focuses on sums greater than ten, so students add ten beads for a total of twenty). Students may also flip two-color counters to show a group of ten and some more for the *using ten* facts. Finally, students may use counters and egg cartons (with two sections removed) to solve related story problems, one step at a time, with a teacher's guidance.

Students revisit *Diary of a Worm* to make the connection between using ten addition facts and the subtraction facts. Again, students use a double ten-frame as a tool to help them visualize the process. Students explore a problem and discuss strategies as the teacher or another student models. Using the strategy, it is easy to subtract 9 by removing all but one of the counters from a full ten-frame, then move the remaining counter next to the ones on the other ten-frame to show the difference. As this task ends, students may participate in a variety of games and activities (found in Chapter 7 of *Mastering the Basic Math Facts in Addition and Subtraction)* as needed, for focused practice of *using tens* for addition and subtraction.

This task directly targets the following Common Core Standards: 1.OA.1, 1.OA.2, 1.OA.3, 1.OA.4, 1.OA.5, 1.OA.6, 1.OA.7, ,1.OA.8, 1.NBT.1, 1.MD.4

Timeline: 2 weeks

Key vocabulary: addition (add), subtraction (subtract), plus, minus, equal(s), ten-frame, addend

Resources:

O'Connell, Susan, *Mastering the Basic Math Facts in Addition and Subtraction*, Chapter 7 *(pp. 111-126)*

Windsor Binder, *Grade One Math*, Unit 1, *Find the Missing Number*

On Core Mathematics, Lesson 42, *Equal and not Equal*

Significant task 3: *Using Doubles*

The activities in this task are grounded in Chapter 8 of *Mastering the Basic Math Facts in Addition and*

Subtraction. In this task, students use prior knowledge of *doubles* facts to explore *doubles-plus-one more*. The students listen to the story *Fish Eyes* by Lois Elhert to set the context for exploring fishy problems, and work with partners to solve the problems. Students share their thinking about how to solve each problem using the *doubles-plus-one* strategy. For example to solve a problem with the number sentence 3 + 4 = 7, a student may know that 3 + 3 = 6, then count one more, which is 7.

Prior to exploring *using doubles* to find unknown facts, it is suggested that students revisit the activities from Chapter 5, of *Mastering the Basic Math Facts in Addition and Subtraction* if students do not have quick recall of doubles facts. Once students have reviewed the *doubles* facts, students may be shown the facts 6 + 6 and 6 + 7 and asked to turn to a partner to tell how the two fact cards are alike and how they are different. Addends may then be reversed for students to see that the order of the addends does not make a difference. To complete this activity, students make a list of *doubles-plus-one* facts and work with partners to share a tip for someone just learning these facts.

For additional experiences with *doubles-plus-one* facts as needed, the whole class or small groups may create *near-doubles* trains using linking cubes of two colors, or revisit Fish Eyes to act out the problems using goldfish crackers or manipulatives. Students predict the sum before lining up the goldfish in two rows to show the doubles-plus-one more. Another activity has students sort doubles and near-doubles fact cards into two categories then match each *doubles* fact with a *near-doubles* partner.

The concept of half simplifies finding the difference for *doubles* subtraction for students. Similarly, as students explore the *near-doubles* facts, the addends are about half. Students are supported in developing this number sense as a *near-doubles* sum (e.g., 15) is flashed and students are asked to identify about half (i.e., 7 or 8 would make sense). Recognizing about half helps students determine whether a math fact computation is reasonable. Again, students may revisit *Fish Eyes,* this time to explore subtraction problems using *near-doubles* facts. Finally, there are several games and activities that students may participate in as needed, for focused practice of adding and subtracting *near-doubles* facts (found in Chapter 8 of *Mastering the Basic Math Facts in Addition and Subtraction).*

This task directly targets the following Common Core Standards: 1.OA.1, 1.OA.2, 1.OA.3, 1.OA.4, 1.OA.5, 1.OA.6, 1.OA.7, ,1.OA.8, 1.NBT.1, 1.MD.4

Timeline: 1 week
Key vocabulary: addition (add), subtraction (subtract), plus, minus, equal(s), doubles, near-doubles, addend
Resources:
O'Connell, Susan, *Mastering the Basic Math Facts in Addition and Subtraction*, Chapter *8 (pp. 127-142)*

Common learning experiences:

- Math Meeting/ Circle Time: As described in unit 1, Math Meeting/Circle Time occurs for ten minutes at the beginning of each lesson and continues to be comprised of tasks and routines to help develop, review, and introduce concepts to students. While the activities are described in

general terms in unit 1, topics that are specific to this unit include problem solving and graphing opportunities with familiar contexts. For example, to relate to the story, *If you give a Mouse a Cookie*, story problems may focus on mice or cookies, while worms may serve as the theme near the end of the unit. In addition, a topic for graphing during the Math Meeting/Circle Time might include a student survey of responses to the following question: *Do you prefer to eat chocolate chip, sugar, or oatmeal cookies?*

- Read/Alouds/Literature Connections: Students may benefit from listening to one or more of the following stories during Math Meeting/Circle Time, as they relate to the lessons outlined below. These stories may be used as springboards for discussion of the flexibility of numbers (the associative property), and problem-solving:
  Merriam, Eve, *12 Ways to get to 11*
  Hong, Lily Toy, *Two of Everything*
  Long, Lynette, *Domino Addition*

- Additional Lessons: In this unit, students participate in the following additional whole-group lessons:
  On Core Mathematics, Lesson 42: *Equal and not Equal:* Children use and discuss the equal sign, and determine if equations involving addition and subtraction are true or false.
  Math Trailblazers, Unit 13, Lesson5, *Problem Solving and CCSS Activity 17:* Children use a variety of strategies to solve story problems. Additionally, they are provided with an opportunity to understand subtraction as an unknown-addend problem and complete CCSS Activity 17: *Using Addition to Subtract.*
  Windsor Math, Grade One Math Binder, Unit 1, *Find the Missing Number:* Students apply their knowledge of addition and subtraction facts and strategies to solve a variety of problems, including some with missing addends.

- Math Links: Exploring Addition and Subtraction within 20:
  http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_1/Mathematics/5485390886045419762/2__Exploring_Addition_and_Subt
  Addition or Subtraction Arrays: Use an array like a ten-frame, select the range of 1 to 10, and print out reports of success.
  Addition Hidden Pictures: Find the sums to uncover hidden pictures.
  Bowling Subtraction: Subtract the number of pins that fall each time the ball rolls.
  Build A Train: Add or subtract cars to build a train.
  A Day at the Beach Subtraction: Choose the correct subtraction sentence and find the difference.
  High Rise Math: Play a game to add and subtract all the way to the top.
  Subtraction Hidden Pictures: Find the differences to uncover hidden pictures.
  Ladybug Subtraction: Choose the correct number of ladybug dots to complete the problem.
  Line Jumper: Use a number line to practice addition and subtraction. Choose "Medium" level for facts to 20.
  Sum Sense: Drag the numbers to make "sum" sense.
  Ten Frame Game: Use ten frames to help count and add.
  Test the Toad: Help Toad by adding or subtracting the given amount.

That's a Fact! Adjust the amount of time needed for practicing math facts.
Story Problems (One-Step): Set A , Set B , Set C , Set D , Set E , Set F , Set G , Set H , Set I , Set J

Common assessments including the end of unit summative assessment:
Unit 2 Exploring Addition and Subtraction within 20 Assessment

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and persevere in solving them, construct viable arguments and critique the reasoning of others, attend to precision.

- Targeted Learning: During this time (a 30-minute period that is supplemental to the math block) students who continue to struggle with kindergarten skills can focus on skills for early numbers (0-20) and fluency of addition and subtraction facts within 0-5. (The *Windsor Math Protocols Binder* outlines several suggestions for students having difficulty with early number skills). Students on grade level work toward fact fluency of facts through ten and further exploration of addition and subtraction facts within 20. These students may work with particular groups of fact flash cards, or play a linking cube addition game, spinner, or card game to practice *adding ten*, *using tens*, or *using doubles*, while students who have already mastered the strategies work toward developing fluency for facts to twenty. (Several suggestions and options for such practice are provided in Chapters 4, 7, and 8 of *Mastering the Basic Math Facts in Addition and Subtraction)*.

- Refer to Unit 1 for the structure of the first grade math period.

- Differentiation: As described in unit 1, opportunities for differentiation frequently arise through the use of a variety of resources available for students, from concrete, to visual or abstract. In this task, these opportunities are built into each lesson. As students are introduced to concepts, students use hands-on (concrete) manipulatives, and/or act out situations to help with mathematical reasoning. At a higher level, students use visual aids, such as drawings to help solve problems. At the highest levels, students reason abstractly, relying solely on numerals and symbols. Throughout these lessons, students are provided with many strategies for solving problems and are encouraged to use the tools that work best for their level of development.

Windsor Public Schools
Curriculum Map for the Elementary Level
Grade 1 Mathematics

Purpose of the Course (from CCSS): In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

<table>
<tr><td>Name of the Unit: Unit 3 Counting and Place Value</td><td>Length of the unit: 6 weeks</td></tr>
<tr><td colspan="2">Purpose of the Unit: This unit has a focus on place value and building on the counting and introduction to place value in the previous grade.</td></tr>
<tr><td colspan="2">Common Core State Standards Addressed in the unit:

1.NBT.1: Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

1.NBT.2: Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:

1.NBT.2a: 10 can be thought of as a bundle of ten ones—called a “ten.”

1.NBT.2b: The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

1.NBT.2c: The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

1.NBT.3: Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.

1.NBT.5: Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

1.MD.4: Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another</td></tr>
<tr><td>Big Ideas:
9. Counting tells how many there are in a group regardless of their arrangement. The last number said when counting tells the total number of objects counted.
10. Numerals and operation symbol can be used to model problems.
11. Our number system is a system of patterns.</td><td>Essential Questions:
9. How are numerals and symbols used?
10. How can two quantities be related?
11. What patterns do you see in counting?
12. How does organizing data help us?</td></tr>
<tr><td>Students will know:
1. numbers to 120
2. written Numerals to 120
3. that the two digits of a two-digit number represent amounts of tens and ones</td><td>Students will be able to:
1. count to 120, starting at any number less than 120
2. read and write numerals to 120
3. represent a number of objects with a written</td></tr>
</table>

4. that 10 can be thought of as a bundle of ten ones—called a "ten" 5. that the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones 6. the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones) 7. symbols <, =, and > for comparisons of two two-digit numbers 8. attributes of data graphs and tables	numeral 4. compose numbers using tens and ones 5. compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and < 6. organize, represent, and interpret data with up to three categories 7. ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another

Significant task 1: Grouping By Tens

The activities in this task are grounded in the following Math Trailblazers Lessons:
Unit 9 (*Grouping by Tens*), Lessons 1-4, Lesson 5 (Part 2 only), and Lesson 6, with *CCSS Activity 10*
Unit 11 (*Looking at 100*), Lessons 1 and 4
Unit 17 (*Tensland*), Lesson 1 (*Adventure Book* pp. 77-92)

In this task, students explore number relationships, and number patterns on the hundred chart and extend partitioning work to multiples of ten. To create a context for this task, students may first listen to the story *From One to One Hundred* by Teri Sloat. As the task begins, student partnerships group and count objects by tens and ones as they play a game called *Spill the Beans.* Next, students predict the total number of letters in the first names of all of the students, estimate whether there are more or less than 100, and use connecting cubes to represent and count the total number of letters. In this activity tens are to be counted two ways (10, 20, 30… and 1 ten, 2 ten, 3 tens…). This activity continues the focus on grouping and counting, and emphasizes the concept that 100 represents 10 tens. In this activity tens are to be counted two ways (10, 20, 30… and 1 ten, 2 tens, 3 tens…).

The game *Spin for Beans*, played independently, in pairs, or in small groups, provides additional practice. In this game, players use ten-frames to keep an ongoing count of the number of beans collected until a total of 50 is reached. In the next lesson, students build models of numbers by sorting connecting cubes into groups of tens and ones. Students lay each model on a *50 Chart* to illustrate the relationship of the groupings to the sequence of two digit numbers on the chart. As a class, students identify number patterns and discuss some of the number relationships represented in the activity. In this activity tens are to be counted two ways (10, 20, 30… and 1 ten, 2 tens, 3 tens…).

Next, students are introduced to the 100 Chart, focusing on number patterns and number relationships to reinforce familiarity with the counting sequence to 100. Individually and through class discussion, students identify numbers on the hundred chart given clues such as *one less than 25* (24), *one more than 25* (26), *ten less than 25* (15) and *ten more than 25* (35). Further practice includes finding numbers that are *between*, *more than*, or *less than* other numbers.

Students continue to explore two-digit numbers in the lesson *Measuring with Connecting Links*. First, students make 80-link chains that alternate colors in groups of ten links. Students then measure an object and break off the chain to the length of the object. Students count the links, then place them in order from least to greatest on a chart. For practice of mentally finding ten more and ten less of a number, students are asked find ten more and ten less than each of the numbers of links. Students then explain the strategies used, which may include using the *100 Chart* or thinking of tens and ones.

Math Trailblazers, Unit 11, helps students build number sense by focusing on the quantity of 100 and partitioning 100 into two and three parts. Here, groups of 2-4 students use connecting links and number charts as concrete and visual representations of two-digit numbers and grouping by tens. First, students make chains of 100 links that alternate colors in groups of ten links and separate the links between the colors to make two or three parts. Each group of students then creates a corresponding number sentences and shares it with the class. A class discussion focuses on such questions as, *What is the same about these number sentences?*; and *What is the same about all our partitions?*

This activity is followed by a game called Arrow Dynamics, where students use spinner clues (-1, +1, -10, +10) to locate numbers on a hundred chart and write corresponding number sentences using the clues. Finally, to summarize the task, students listen to the *Math Trailblazers Adventure Book* story *Tensland.* Here, students use experiences with grouping tens and ones to join in the counting as two characters count a variety of math manipulatives and other objects. In this activity tens are to be counted two ways (10, 20, 30… and 1 ten, 2 tens, 3 tens…).

This task directly targets the following Common Core Standards: 1.NBT.1, 1.NBT.2, 1.NBT.2a, 1.NBT.2b, 1.NBT.2c, *1.NBT.3, 1.NBT.5*

Timeline: 3 weeks
Key vocabulary: tens, ones, greater than, less than, more, less, same, equal, between, partition
Resources:
Math Trailblazers: Unit 9 (*Grouping by Tens*), Lessons 1-6; Unit 11 (*Looking at 100*), Lessons 1 and 4; *Unit 17 Lesson 1* (*Adventure Book, Tensland, pp. 77-92)*
Read-Alouds/Literature Connections:
Sloat, Teri, *From One to One Hundred*

Math Trailblazers CCSS Activity 10: \\wpsvm01\Elementary\Elementary Math for Teachers\Grade 1\NEW! CCSS Materials\CCSS_Activity_10_Lesson_6_Unit_9.pdf
100-Link Chain-More Partitioning into Two Parts:\\wpsvm01\Elementary\Elementary Math for Teachers\Grade 1\NEW! CCSS Materials\100-Link Chain(Two Parts) MTB Unit 11 Lesson 1.docx

Significant task 2: Exploring Place Value Concepts
The activities in this task are grounded in
On Core Mathematics, Lessons 54-60.

In these lessons, students explore place value concepts by using connecting cubes as base ten models, with a train of 10 cubes representing *10 ones*, or *1 ten*, and single cubes representing *ones.*
First, students use the models and write numerals and number sentences to represent equivalent forms of tens and ones within the teen numbers (11-19). Next, students use the connecting cube models to

show numbers and draw corresponding pictures of the models, starting with teen numbers and moving to larger two-digit numbers within 100.

To explore the concepts of *greater than* and *less than*, students compare 2 two-digit numbers by building a model of each number with connecting cubes and matching the groups of tens, then ones, to see which number has more (or less). At this time, students are introduced to the symbols for *greater than* (>) and *less than* (<) and use the symbols to show comparisons between two numbers.

Finally, students apply this experience with comparing numbers by solving problems that give clues for determining a mystery number. For example given several numbers to choose from, students solve such problems as, *Anthony has the number cards shown (32, 33, 35, 37, 39). He gives away the cards with numbers less than 34 and greater than 38. Which cards does Anthony have now?*

This task directly targets the following Common Core Standards: 1.NBT.1, 1.NBT.2, 1.NBT.2a, 1.NBT.2b, 1.NBT.2c, *1.NBT.3*

Timeline: 3 weeks
Key vocabulary: tens, ones, greater than, less than, more, less, same, equal
Resources:
On Core Mathematics, Lessons 54-60
Windsor Binders: *Grade One Math; Windsor Math Protocols Binders # 1 and #2; Problem Solving Protocols*
Selected Read-Alouds/Literature Connections, listed above

Common learning experiences:

- *Missing Numbers 20-50:* *\\wpsvm01\Elementary\Elementary Math for Teachers\Grade 1\NEW! CCSS Materials\missingnumbers20-50.pdf*

- Missing numbers 50-120 (TBD)

- Windsor Binder: *Grade One Math:*
  Place Value Mini Ten Frames Lesson: Students show given numbers with ten-frame cards and groupable manipluatives (connecting cubes) and write numbers in standard form.
  Roll to 100 (or to 120): Students play a game to count their way to 100 (or 120) on a *100* (or *120*) *Chart*.
  I have Who Has? Children build a given number (0-100) using connecting cubes and name their number two ways (e.g., 17; 1 ten and 7 ones)
  Greater, Less, Equal Cover Up Given a number and the clues, *greater*, less and *equal*, students take turns covering numbers on a 100 Chart until one player covers up an entire row or column.

- Math Meeting/ Circle Time: For ten minutes at the beginning of each lesson, Math Meeting/Circle Time continues to be comprised of tasks and routines to help develop, review, and introduce concepts (see unit 1). At this time, review of content from the previous units includes the sharing of addition, subtraction and problem-solving strategies and reasoning by

students. It continues to be important to provide students with opportunities to experience a variety of different types of problems and to allow sufficient time for students to solve problems in different ways. Now, relevant contexts for meaningful problem-solving situations may include the letters in students' names or a visit to *Tensland*. Additionally in this unit, daily routines of counting the school days on ten frames and using the *120 Chart* to reinforce skills often relate directly to the day's topic, and may be used as springboards for lessons. For example, a discussion of the grouping of dots on ten-frames to track the number of days in school may lead into instruction pertaining to grouping and counting strategies. Finally, counting and place value concepts that are learned during previous lessons (e.g., *greater than* and *less than*) may be extended beyond 100 to include the numbers 101-120 during Math Meeting/Circle Time.

- Math Links: Counting and Place Value:
  http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_1/Mathematics/5485390886045419762/3___Counting_and_Place_Value
  Beaded Numbers: Choose the number that matches the number of beads.
  Caterpillar Ordering: Choose *Order* and *1 to 20* or *1 to 100*.
  Count Along to 100: Use the 100 chart to count higher.
  Hundred Chart with Counters: Use the counters to show number patterns.
  Identify 11-30: Use ten frames to help identify the numbers.
  Interactive 100 Chart: Guess which numbers are covered.
  Mend the 100 Chart: Find the missing numbers.
  Race to Find the Number: Find the target number on the 100 chart. The timer shows the time taken to locate the number.
  Splat Square 100 Chart: Interactive 100 chart splats paintballs with optional sound effects. Use different colors to demonstrate counting by tens.
  Ten Frame Game: Use ten frames to help you count and add.

Common assessments including the end of unit summative assessment:
Unit 3 Counting and Place Value Assessment

Teacher notes:

- Process standards to highlight through instruction: construct viable arguments and critique the reasoning of others, look for and make use of structure, and look for and express regularity in repeated reasoning.

- Targeted Learning: During this time (a 30-minute period that is supplemental to the math block) students who continue to struggle with kindergarten skills can focus on skills for early numbers (0-20) and fluency of addition and subtraction facts within 0-5. (The *Windsor Math Protocols Binder* outlines several suggestions for students having difficulty with early number skills). Students needing support with early first grade skills work to develop strategies and fluency of the foundation facts through ten (+0, +1, +2 *doubles* facts, *making-ten* facts). (Several suggestions and options for such practice are provided in Chapters 2- 6 of *Mastering the Basic Math Facts in Addition and Subtraction)*. Students on level may continue to explore facts through 20 while students who have already mastered the strategies work toward developing fluency and problem-solving skills. Additionally, these students may work toward extending

counting and place value concepts.

- Refer to Unit 1 for the structure of the first grade math period.

- Differentiation: In this unit, students are introduced to place value through the use of concrete manipulatives. However, by the end of task three, there is a heavier weight placed upon visual representations. It is important to note that while many students are able to make the transition to visual representations at this point, others are not. For those students, the continued provision of additional concrete materials, such as connecting cubes, is necessary.

- Predictable Misconceptions: When students share solutions for partitioning 100 into two parts, questions may arise as to whether two number sentences (e.g., 30 + 70 = 100 and 70 + 30 = 100) are the same or different solutions. It is important to hear student opinions and explanations, and to come to a class agreement.

- Omit Part 1 of *Math Trailblazers* Unit 9, Lesson 5, *Skip Counting by Twos, Fives, and Tens*: With the Common Core, students learn to skip-count by twos and fives in second grade. Since counting by twos and fives is <u>not</u> a focus in first grade, Part 1 of Unit 9, Lesson 5 is not included i this task.

Windsor Public Schools
Curriculum Map for the Elementary Level
Grade 1 Mathematics

Purpose of the Course (from CCSS): In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

Name of the Unit: Unit 4 Exploring Addition and Subtraction within 100	Length of the unit: 5 weeks

Purpose of the Unit: This unit is the last of three involving adding and subtraction during this grade level. This unit explores addition and subtraction within 100. Fluency within 5 and exploration within 10 was done in the previous grade level.

Common Core State Standards Addressed in the unit:

1.OA.3: Apply properties of operations as strategies to add and subtract. Two *examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*

1.OA.7: Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 − 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.*

1.NBT.1: Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

1.NBT.2: Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:

1.NBT.2a: 10 can be thought of as a bundle of ten ones—called a "ten."

1.NBT.2b: The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

1.NBT.2c: The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

1.NBT.4: Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

1.NBT.6: Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

1.OA.5: Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).

1.NBT.5: Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

Big Ideas:	Essential Questions:
12. Our number system is a system of patterns. 13. Place value is based on groups of ten. 14. Knowing properties of operations allow us to be flexible when working with numbers. 15. Addition is putting together or adding to and subtraction is taking apart or taking from. 16. Addition and subtraction are inverse operations; that is they undo each other.	13. How are numerals and symbols used? 14. What strategies can we use to make solving addition and subtraction problems easier? 15. What types of questions does adding and subtracting answer? 16. How are addition and subtraction the same or different?
Students will know:	Students will be able to:

1. the meaning of the equal sign 2. that the two digits of a two-digit number represent amounts of tens and ones 3. that 10 can be thought of as a bundle of ten ones—called a "ten" 4. that the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones 5. that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones)	1. apply properties of operations to add and subtract 2. determine if equations involving addition and subtraction are true or false 3. count to 120, starting at any number less than 120 4. within the range 0-120, read and write numerals and represent a number of objects with a written numeral 5. relate counting to addition and subtraction (e.g., by counting on 2 to add 2) 6. given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used 7. add a two-digit number to a one-digit number within 100 using concrete models/ drawings, place value strategies, or properties of operations 8. add a two-digit number to a multiple of ten within 100 using concrete models/ drawings, place value strategies, or properties of operations 9. subtract multiples of ten in the range 10-90 from multiples of 10 in the range 10–90 (positive or zero differences) using concrete models or drawings, place value strategies, or properties of operations 10. relate addition and subtraction facts 11. explain strategies for solving problems 12. use an equation with a symbol for the unknown number to represent a word problem

Significant task 1: Adding and Subtracting Ten

This task is grounded in a series of lessons found in the Windsor Binder: *Grade One Math.* The lessons help students develop strategies for adding and subtracting ten (within 100). Here, students use concrete models (i.e., connecting cubes, connecting links), drawings, and strategies based on place value to solve problems. Students may also consider the flexibility of numbers (i.e., the associative property, the commutative property), the relationship between addition and subtraction, and such written methods as number lines to solve the problems. Throughout, students are asked to explain strategies and the reasoning used to determine solutions.

To set the context for adding and subtracting groups of 10, the students may listen to the story *One Hundred Hungry Ants* by Elinor J. Pinczes and discuss the groups of ten found on some of the pages.

Adding sets of Ten: In this activity, students work with a partner to represent a teen number (11-19) with a train of 10 connecting cubes and some ones (single cubes), then add a train of ten and record the new number. Students continue adding one more train of 10 connecting cubes and recording the new numbers until a number in the nineties is reached. Students then look for and discuss patterns. The

process is repeated starting with a new teen number until again, a number in the nineties is reached. Class discussion then focuses on number sentences in which 10 is an addend, and student observations.

Ten More: Using a 5 x 6 grid of random teen numbers (11-19) as a game board, students roll a die, calculate the total of the number rolled plus 10, and cover the total on the game board. Students take turns, using different colored counters to cover the totals, until one player has 4 counters in a row.

What Number is…? : Using a game board showing a space for a two-digit target number in the center, a *10 less* space above, a *10 more* space below, a *1 less* space to the left, and a *1 more* space to the right, students work with partners to identify numbers that relate to the target number. To generate each target number, students take turns drawing from a set of digit cards. Students may then work together, using a number chart, connecting cubes, or a number line to help with each clue and fill in the grid. A class discussion then focuses on patterns that emerge and strategies used for finding the missing numbers in the grid.

Adding and Subtracting Tens, Using Number Lines: To use an open number line as a visual tool to help with adding 10, students roll a die and record the number on the first point of the number line. Students then add 10 to the starting number and record the total at the next point to the right. Students continue adding 10 for each point until ten numbers in the sequence are completed. To Subtract, students record a two-digit number with a 9 in the tens place on the last space of the number line. Students then subtract 10 from the number and record the difference in the next space to the left. Students continue subtracting 10 until ten numbers in the sequence are completed. For each activity, a class discussion focuses on patterns that students observe, and strategies for adding or subtracting 10.

Ten More and Ten Less: To start, students use a 100 Chart to find numbers that are 10 more and 10 less than given two-digit numbers. Following this warm-up, students decorate a blank *100 Chart* by solving number puzzles with such clues as *ten more than 38* and *one less than 43.* For each number identified, the space is colored, until a design emerges.

This task directly targets the following Common Core Standards: 1.OA.3, *1.OA.5,* 1.OA.7, 1.NBT.1, 1.NBT.2, 1.NBT.2a, 1.NBT.2b, 1.NBT.2c, 1.NBT.4, *1.NBT.5,* 1.NBT.6

Timeline: 2 weeks
Key vocabulary: tens, ones, greater than, less than, more, less, same, equal
Resources:
Windsor Binder, *Grade One Math*
Read-Alouds/Literature Connection:
Pinczes, Elinor J., *One Hundred Hungry Ants*

Significant task 2: Add within 100 and subtract multiples of 10
The activities in this task are grounded in
On Core Mathematics, Lessons 61-69.

The lessons in this task help students add within 100 and subtract multiples of 10 in the range 10–90 (positive or zero differences). To introduce this task and set a context for adding tens, students may listen to the poem, *Bandaids*, by Shel Silverstein, and discuss the following questions: *If bandaids come in boxes of 40, how many boxes are needed? If each child uses the same amount, how many bandaids do 2 children need?* In the lessons that follow, students use a variety of concrete manipulatives and

visual representations to help solve problems such as these.

To begin, students work in partnerships to count tens in two ways (10, 20, 30…and 1 ten, 2 tens, 3 tens…) as connecting cubes are used to add multiples of ten. Students first create representations of the problems using the connecting cubes as base ten models, then draw pictures to show the work using a line to represent a train of ten connecting cubes and a dot to represent a single cube.

Students also use the *100 Chart* to count on by ones, and models to combine ones with ones or tens with tens. In this task, the students use connecting cubes to reinforce the previously learned strategy of making-ten to add, apply the strategy to larger numbers, and draw corresponding pictures to show the work. To subtract multiples of ten, students complete a chart and draw pictures of base ten models as described above.

This task directly targets the following Common Core Standards: 1.OA.3, *1.OA.5,* 1.OA.7, 1.NBT.1, 1.NBT.2, 1.NBT.2a, 1.NBT.2b, 1.NBT.2c, 1.NBT.4, *1.NBT.5,* 1.NBT.6

Timeline: 3 weeks
Key vocabulary: tens, ones, greater than, less than, more, less, same, equal
Resources:
On Core Mathematics, Lessons 61-69 (See Windsor Binder: *Grade One Math* for revised version)
Windsor Binders: *Grade One Math*
Read-Alouds/Literature Connections:
Silverstein, Shel, *Where the Sidewalk Ends, Bandaids,* p. 140

Common learning experiences:

- Windsor Binder: *Grade One Math, Adding two-digit and One Digit Numbers Game:* To supplement the *On Core Mathematics* lessons in Significant task 2*,* students work in partnerships to play this addition game. Students take turns to draw from a set of digit cards and generate addition sentences involving two-digit and one-digit addends. (These number sentences may be written on individual white board, or clipboards with paper). Both students solve each problem that is generated during the game, then work together to check solutions and discuss the strategies used.

- Math Meeting/ Circle Time: For ten minutes at the beginning of each lesson, Math Meeting/Circle Time continues to be comprised of tasks and routines to help develop, review, and introduce concepts (see unit 1). In this unit, review of content from the previous units continues to include the sharing of addition, subtraction and problem-solving strategies and reasoning by students. Additionally, grouping and counting concepts are reviewed, to include numbers that extend beyond 100 (101-120). Again daily routines of counting the school days on ten frames and using the *120 Chart* often relate directly to the day's topic, and may be used as springboards for lessons. For example, a discussion of number relationships on the *120 Chart* during Math Meeting/Circle Time may serve as a springboard for a lesson about using the *100 Chart* to count on for addition of ones and tens.

- Math Links: Exploring Addition and Subtraction within 100
  http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_1/Mathematics/5485390886045419762/4__Exploring_Addition_and_Subt
  Glencoe Base Ten Blocks: Use base ten blocks to add a two-digit number and a one-digit number or a two-digit number and a multiple of 10. Subtract multiples of 10 in the range of 10-90.
  Ten Frame Game: Use ten frames to help you count and add.
  Word Problems: Set 1; Set 2; Set 3; Set 4; Set 5Set 6; Set 7; Set 8; Set 9; Set 10

Common assessments including the end of unit summative assessment:
Unit 4 Assessment

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and persevere in solving them, reason abstractly and quantitatively, and construct viable arguments and critique the reasoning of others.
- Refer to Unit 1 for the structure of the first grade math period.
- Targeted Learning: During this time (a 30-minute period that is supplemental to the math block) students needing support with early first grade skills work to develop strategies and fluency of the foundation facts through ten (+0, +1, +2 *doubles* facts, *making-ten* facts). (Several suggestions and options for such practice are provided in Chapters 2- 6 of *Mastering the Basic Math Facts in Addition and Subtraction)*. Students on level may continue to explore facts through 20 and work on the concepts of this unit, while students who have already mastered the strategies work toward a higher level of functioning, using fewer manipulatives and more visual and /or abstract representations as problems are solved. Additionally, these students may work toward extending counting and place value concepts.
- Predictable Misconceptions: Children may need to review the *making-ten* and *using ten* strategies for add one-digit numbers (e.g., 8 + 5 = 8 + 2 + 3 = 10 + 3 = 13), before it is possible to relate those strategies to adding a two-digit number and a one-digit number.

Windsor Public Schools
Curriculum Map for the Elementary Level
Grade 1

Purpose of the Course (from CCSS): In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating

length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

Name of the Unit: Unit 5 Defining Attributes of 2-D and 3-D Shapes	Length of the unit: 5 weeks
Purpose of the Unit: This unit is the first of three involving geometry during this grade level. This unit focuses on defining attributes of 2-D and 3-D shapes and is a continuation of the unit on 2-D and 3-D shapes from Kindergarten.	
Common Core State Standards Addressed in the unit: **1.G.1: Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.** **1.G.2 (2-D): Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.**	
Big Ideas: 17. Characteristics allow us to name and categorize shapes. 18. Shapes can be combined or broken apart to create new shapes.	Essential Questions: 17. How are shapes the same and how are shapes different? 18. How can shapes be combined or broken apart to create new shapes?
Students will know: 1. defining attributes of shapes (e.g., triangles are closed and three-sided) 2. non-defining attributes of shapes (e.g., color, orientation, overall size)	Students will be able to: 1. distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size) of a shape 2. compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.

Significant task 1: Two-Dimensional Shapes

The activities in this task are grounded in
Math Trailblazers, Unit 2, *Exploring Shapes, Lessons 1-5*
On Core Mathematics, Lessons 88-89 and lesson 93

In this task, identifying, comparing, and describing shapes in nature helps students focus on the attributes of two-dimensional geometric shapes. In the first lesson, students listen to the book *Shapes, Shapes, Shapes*, by Tana Hoban, which depicts a variety of shapes in the real world and serves as an introduction to searching for two-dimensional shapes within the classroom. Next, students describe shapes found in the classroom and individually sketch a classroom object that resembles a particular shape. As a class, students then discuss how some of the drawings are the same or different from shapes drawn by other students.

In the next lesson, children identify pattern block shapes that are hidden in a bag, described according to each shape's properties. In addition, sets of two shapes, such as squares and rectangles, are compared and contrasted. A "shapes walk' in this lesson involves having students sketch the shapes they see around the school. (Here, a page of shapes may be given as a reference for students who have difficulty remembering shapes and names). These drawings may then be used in a class shapes book that may also include photographs of the shapes.

Next, as a class students create rectangles, squares, trapezoids, and triangles on the SMARTBoard using Geoboard virtual manipulatives (see Common Learning Experiences section for links). Here, students stretch virtual rubber bands around pegs on a pegboard to form shapes. The characteristics of each shape are discussed, to determine whether it meets the description of a given shape. For example, if a shape with four sides is shown on the Geoboard, then it cannot be a triangle since a triangle has three sides. Additionally, the Geoboard allows for making different lengths of sides to show the various types (e.g., right triangles and equilateral triangles). A question for the students' consideration might be: *Can we use the Geoboard for making a circle? Explain your reasoning.*

As a class, students may listen to *Shape Capers* by Cathryn Falwell to set the stage for using shapes to compose new shapes. Students then find as many ways as possible to compose a hexagon, using pattern blocks. For example, a student may use 6 triangles, or a trapezoid and 3 triangles. In the fourth lesson, children find three different ways to use pattern blocks for composing larger shapes, such as snakes, turtles, and rockets. Students then view the outlines of composite shapes and determine which pattern block shapes are used to create them.

Next, students determine rules that can be used for sorting, and select drawings of shapes that fit into such categories (e.g., *curved and closed*; *more than 3 sides)*. Students then describe shapes according to the number of sides and vertices. Finally, students use pattern blocks to make composite shapes, and turn to a partner to explain how each shape is made, compare solutions, and discuss the results.

This task directly targets the following Common Core Standards: 1.G.1, 1.G.2 (2-D)

Timeline: 3 weeks
Key vocabulary: rectangle, square, trapezoid, triangle, circle, curved, not curved, sides, vertices (corners or points), closed, flat, solid, shape, size
Resources:
Math Trailblazers, Unit 2, *Exploring Shapes, Lessons 1-5*
On Core Mathematics, Lessons 88-89 and lesson 93
Read-Alouds/Literature Connections:
Hoban, Tana, *Shapes, Shapes, Shapes*
Falwell, Cathryn, *Shape Capers*
Elhert, Lois, *Color Zoo*

Blackstone, Bella, *Bear in a Square*

Significant task 2: Three-Dimensional Shapes

The activities in this task are grounded in:
Math Trailblazers, Unit 15, *Exploring3-D Shapes,* Lessons 1, 3, 4, and CCSS Activity 18 with extension
Windsor Binder, *Grade One Mathematics*

In these lessons, students explore three-dimensional shapes and investigate the attributes of those shapes. To start, students play a guessing game with shapes that are collected for this purpose, including tubes, boxes, balls, and cubes. Students are invited to ask questions for clues about a shape hidden in a "mystery bag." Once the shape is revealed, the students discuss the terms and create a class chart showing the best clues for each of the shapes.

Next, students begin an investigation of three-dimensional shapes to find out which shapes can roll, stack, or slide. The lesson is followed with analyzing the pictures in the book *Shapes, Shapes, Shapes*, by Tana Hoban. Students identify examples of spheres, cubes, prisms, and cylinders in the pictures, discuss the characteristics of each, and how the shapes are used in everyday life. After a group discussion, students are encouraged to explore independently for three-dimensional shapes at home.

In partnerships, students next find the numbers of faces, corners and edges of several boxes. Students compare cubes and rectangular prisms looking for similarities and differences in the number of edges, faces, and other properties. A class chart is then created as students share the observations.

After exploring the properties that distinguish cubes from rectangular prisms, students build new three-dimensional shapes from the boxes and find the number of corners, edges, and faces of the new shape. This activity is extended to include comparing real world objects to new shapes that students might build with two or more three-dimensional models (e.g., 3-D blocks, paper tubes, boxes). For example, a rectangular prism with a cube on top may look like a building, or a pencil may look like a cylinder with a cone on top.

Next, students are led through a procedure for outlining all of the faces of a rectangular prism on a large sheet of newsprint. Students then use language to describe a specific box, create a class list of the descriptions, and are challenged to analyze the descriptive statements for accuracy.

To set the stage for the next investigation, students listen to the story *Shapes in the Kitchen* by Tracy Steffora. Students then create books featuring foods and food containers that are various three-dimensional shapes. Finally, students draw conclusions and form generalizations about shapes.

This task directly targets the following Common Core Standards: 1.G.1, 1.G.2 (2-D)

Timeline: 2 weeks
Key vocabulary: cube, rectangular prism, cone, cylinder, corner, edge, face, sphere, three-dimensional (3-D) shapes, curved, not curved, sides, vertices (corners or points), flat, solid, shape, size, closed, flat, solid, shape

Resources:
Math Trailblazers, Unit 15, *Exploring3-D Shapes,* Lessons 1, 3 and 4

On Core Mathematics Lessons 86-87 and 90-92

Windsor Binder, *Grade One Math*
Read-Alouds/Literature Connections:
Hoban, Tana, *Shapes, Shapes, Shapes*
Steffora, Tracy, *Shapes in the Kitchen*
Elhert, Lois, Color Zoo
Blackstone, Bella, *Bear in a Square*

Common learning experiences:

- Windsor Binder, *Grade One Math* (Supplemental Lessons):
  Triangles or Not Triangles? : Defining attributes of triangles are discussed as students learn the difference between shapes that are closed and those that are not. Students first examine pictures of triangles and trace each one. Next, children examine pictures of figures that are not triangles and discuss possible reasons. Students then mark various figures according to whether the figures are triangles or not triangles and explain the reasoning.
  Comparing 3-D Shapes: Students choose, or are assigned, 2 three-dimensional shapes and write about how the shapes are similar and how they are different. (This activity may be adjusted and repeated according to student needs and interests).
  Pattern Block Numbers: Students use pattern blocks to compose numerals, draw a picture showing the shapes that make up each numeral, and tell how many shapes are used.

- *On Core Mathematics,* Lessons 94-97 (Supplemental two-dimensional shape lessons):
  Students may benefit from additional practice with combining and taking apart two-dimensional shapes. Students may trace the pictures in these lessons or use pattern blocks to help determine shapes that are used to make composite shapes.

- *On Core Mathematics,* Lessons 86-87 and 90-92 (Supplemental three-dimensional shape lessons): Students may benefit from additional practice with composing and decomposing three-dimensional shapes.

- Math Meeting/ Circle Time: For ten minutes at the beginning of each lesson, Math Meeting/Circle Time continues to be comprised of tasks and routines to help develop, review, and introduce concepts (see unit 1). At this time, review of content from the previous units includes the sharing of strategies and reasoning related to addition and subtraction problems, counting, and place value concepts for 0-120. Additionally, in this unit teachers may implement new daily routines that include a discussion of shapes and their attributes. For example, a "shape of the day" may be highlighted to help introduce concepts, and to reinforce skills. Now, daily routines involving shapes or books about shapes may relate directly to the day's topic and be used as springboards for lessons. Two such books may include *Bear in a Square* by Bella Blackstone, and *Color Zoo* by Lois Elhert.

Math Links: Defining Attributes of Shapes

http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_1/Mathematics/5485390886045419762/5___Defining_Attributes_of_Sha

Buzzing With Shapes: Learn shapes and win the game!

Glencoe Virtual Manipulatives: Choose: Manipulatives: Attribute Blocks, Attribute Buttons, Geoboard/Bands, or Pattern Blocks

NLVM Pattern Blocks: Use six common shapes for making designs and problem solving.

NLVM Geoboard: Use virtual manipulatives to form shapes and solve problems.

Common assessments including the end of unit summative assessment:

Unit 5 Assessment

Teacher notes:

- Process standards to highlight through instruction: construct viable arguments and critique the reasoning of others, model with mathematics, look for and make use of structure.
- Refer to Unit 1 for the structure of the first grade math period.
- Targeted Learning: During this time (a 30-minute period that is supplemental to the math block) students needing support with first grade skills work to develop strategies and fluency of addition and subtraction facts through ten and application of strategies for facts through 20. (Several suggestions and options for such practice are provided in Chapters 2- 8 of *Mastering the Basic Math Facts in Addition and Subtraction)*. Students on level may continue to explore addition and subtraction within 100, while students who have already mastered the strategies work toward a higher level of functioning, using fewer manipulatives and more visual and /or abstract representations as problems are solved. Additionally, these students may work toward broadening the vocabulary and concepts of two-dimensional and three-dimensional shapes.
- Predictable misconceptions: Drawings of three-dimensional objects are difficult for students to identify because these representations are actually two-dimensional. As students are learning to identify three-dimensional shapes, it is necessary to have concrete examples of each three-dimensional shape as well as visual representations. As the lessons progress, many students may continue to rely upon concrete models of three-dimensional shapes, while other students are able to interpret visual representations (drawings).

Windsor Public Schools
Curriculum Map for the Elementary Level
Grade 1

Purpose of the Course (from CCSS): In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens

and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

Name of the Unit: Unit 6 Partitioning Circles and Rectangles	Length of the unit: 3 weeks
Purpose of the Unit: This unit is the second of three involving geometry during this grade level. This unit focuses on circles and rectangles.	
Common Core State Standards Addressed in the unit: **1.G.3: Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.**	
Big Ideas: 19. Fractions refer to equal sized pieces of a whole. 20. Shapes can be partitioned into equal shares (fractions). All of the equal shares of a shape can be combined to create a whole. 21. Breaking apart shapes into more equal shares creates smaller shares.	Essential Questions: 19. How can you break apart shapes to be shared in a fair way? 20. When you break a shape into equal size pieces, what is the relationship between the number of pieces and the size of the pieces?
Students will know: 3. halves, half of circles and rectangles 4. fourths, fourth of, quarters, quarter of circles and rectangles	Students will be able to: 3. partition circles and rectangles into two and four equal shares 4. describe equal shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of 5. describe the whole as two of, or four of the equal shares 6. understand for these examples that decomposing into more equal shares creates smaller shares

Significant task 1: Partitioning and Describing Halves and Fourths

The activities in this task are grounded in:
Math Trailblazers, Unit 18, *Pieces, Parts, and Symmetry,* Lessons 1-2
On Core Mathematics Lessons 98-100

Students are introduced to the concepts of partitioning and describing halves as they listen to the story,

Give Me Half by Stuart J. Murphy. As a class, students discuss and list various objects that can be cut into halves, and possible reasons for doing so. Students further discuss the characteristics of halves, including that two halves of a whole make "fair shares" that are equal in size.

In the next lesson, students study a rectangular sheet of paper that is folded in half, discuss what they notice about the two sections, and compile a class list of their observations. Next, students cut out rectangles, squares, triangles, and circles, fold one of each into halves, and color one-half of each shape with a crayon. Students then glue the shapes onto a work page and complete sentences using the word *half* and the name of each shape to describe the work.

Students extend this exploration of halves to fourths by listening to the story, *Eating Fractions* by Bruce McMillan and studying a rectangle folded into fourths. Students repeat the process used for the concept of halves. This time, students fold shapes into fourths, color one quarter of each, and write descriptive sentences to describe the work, using the word *quarter* and the name of each shape. (A common formative assessment, *Halves and Fourths,* is administered at this time to determine if students understand that fractional pieces of a whole must be the same size).

Students next fold and color half of one circle, and one of two parts that are not halves of another circle. The process is repeated for triangles, squares and rectangles. Students then post their products onto a class chart with two columns, labeled *Halves* and *Not Halves*. Again, this activity is repeated using *Fourths* and *Not Fourths.* Throughout the lesson, students discuss how the shapes that are not halves (or fourths) have two (or four) unequal parts while the shapes in the halves (or fourths) column have parts that are the same size and shape, or equal parts. The story *Eating Fractions* may be revisited at this point, to see if children notice that not all of the pieces of food in the story are of equal size.

This task directly targets the following Common Core Standards: 1.G.3

Timeline: 2 weeks
Key vocabulary: fraction, halves, half, fourths, quarter, whole, equal share, fair share

Resources:
Selected Read-Alouds/Literature Connections:
Murphy, Stuart J., *Give Me Half*
McMillan, Bruce, *Eating Fractions*
Math Trailblazers, Unit 18, *Pieces, Parts, and Symmetry,* Lessons 1-2
On Core Mathematics Lessons 98-100

Significant task 2: Comparing Halves and Fourths

The activities in this task are grounded in
Math Trailblazers, Unit 18, *Pieces, Parts, and Symmetry,* Lesson 3, *Fraction Puzzles*
Windsor Binder, *Grade 1 Math*, *Fraction Pictures* and *Make a Pizza*

In this task, students work in partnerships to make and solve fraction puzzles. Here, one partner is responsible for making circle and oval puzzles. The other partner is responsible for the square and rectangle puzzles. Once complete, partners trade and assemble one another's puzzle pieces. The class is then guided by the teacher in a discussion to draw conclusions: that all pieces for an individual puzzle

are the same size; each piece represents part of the whole; there are 2 halves in the puzzles and 4 fourths; and quarters are smaller than halves of the same whole.

In *Fraction Pictures*, students are given two identical circles to cut into two halves or four quarters. Students then create a fraction picture using the fraction pieces, adding details with markers or crayons. Students turn to a partner and describe the picture that was made and the fractions used. As a class, students determine how to tell whether a fractional piece of the circle is a half or a fourth (quarter). Answers may include that it takes two (or four) to make a whole, or that the fourths are smaller than the halves. Through the process of cutting halves into fourths, students learn that decomposing ("cutting") into more equal shares creates smaller shares.

In the next activity, Students divide a paper pizza into two equal slices and draw a different topping on each half. Students are asked to answer the following question: If you cut the pizza into four equal slices (quarters) would the pieces be the same size, smaller, or larger than the two slices? Explain your thinking. Here, in addition to a written response, students may draw a picture or cut and glue the pizzas onto writing paper to help explain the reasoning.

This task directly targets the following Common Core Standards: 1.G.3
Timeline: 1 week
Key vocabulary: fraction, halves, half, fourths, quarter, whole, equal share, fair share
Resources:
Math Trailblazers, Unit 18, *Pieces, Parts, and Symmetry,* Lesson 3, *Fraction Puzzles*
Windsor Binder, *Grade 1 Math*, *Fraction Pictures* and *Make a Pizza*

Common learning experiences:

- The daily Math Meeting/ Circle Time: For ten minutes at the beginning of each lesson, Math Meeting/Circle Time continues to be comprised of tasks and routines to help develop, review, and introduce concepts (see unit 1). At this time, review of content from the previous units includes the sharing of strategies and reasoning related to addition and subtraction, counting and place value concepts, and defining attributes of two-dimensional and three-dimensional shapes. A topic for graphing might include a student survey of responses to the following question: *Would you rather have half of a pickle or a quarter of a pickle?*

- *On Core Mathematics, Lessons 98-100:* For extra practice or reinforcement as needed, the whole class, or small groups of students may complete these lessons to distinguish between equal and unequal shares and find shapes that are halves or fourths.

- Math Links: Partitioning Circles and Rectangles
  http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_1/Mathematics/5485390886045419762/6___Partitioning_Circles_and_R
  Geoboard

Common assessments including the end of unit summative assessment:

Common Formative Assessment: Hal*ves and Fourths (Math Trailblazers Student Guide, p. 369)*

Unit 6 Partitioning Circles and Rectangles Assessment: TBD

Teacher notes:

- Process standards to highlight through instruction: construct viable arguments and critique the reasoning of others, model with mathematics, and attend to precision.
- Refer to Unit 1 for the structure of the first grade math period.
- In Grade 1, students should focus on partitioning shapes and using the phrases "half of", "a fourth of" or "a quarter of." Time need not be spent on writing fraction notation. Thus, where the fraction notation is shown in a lesson, students are to write the word *half* or *quarter* instead of writing the fraction notation.
- Targeted Learning: During this time (a 30-minute period that is supplemental to the math block) students needing support with first grade skills work to develop strategies and fluency of addition and subtraction facts through ten and application of strategies for facts through 20. (Several suggestions and options for such practice are provided in Chapters 2- 8 of *Mastering the Basic Math Facts in Addition and Subtraction)*. Students on level may continue to explore addition and subtraction within 100, while students who have already mastered the strategies work toward a higher level of functioning, using fewer manipulatives and more visual and /or abstract representations as problems are solved. Additionally, these students may work toward broadening the vocabulary and concepts of two-dimensional and three-dimensional shapes.
- Predictable misconceptions: Providing pre-drawn circles and rectangles that are partly shaded and/or un-shaded takes away opportunities for students to partition shapes themselves. Therefore, In the activities of this unit, students are provided with opportunities to partition shapes by cutting, folding, and/or drawing a line.

Windsor Public Schools
Curriculum Map for the Elementary Level
Grade 1

Purpose of the Course (from CCSS): In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

Name of the Unit: Unit 7 Measuring Length with Non-Standard Units	Length of the unit: 4 weeks
Purpose of the Unit: This unit is the last of three involving geometry during this grade level. This unit focuses on measurement and is a follow up to the unit on measurement in kindergarten.	
Common Core State Standards Addressed in the unit: **1.MD.1: Order three objects by length; compare the lengths of two objects indirectly by using a third object.** **1.MD.2: Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*** *1.MD.4: Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another*	
Big Ideas: 22. Measurements can be quantified using standard measures or common objects. 23. When comparing two objects you need to use a common or standard unit of measure.	Essential Questions: 21. Why do we measure objects? 22. How can we measure objects? 23. How can we compare objects using measurements?
Students will know: 5. that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps.	Students will be able to: 7. order three objects by length 8. compare the lengths of two objects indirectly by using a third object. 9. express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end

Significant task 1: Ordering, Comparing and Measuring Lengths
The activities in this task are grounded in:
On Core Mathematics, Lessons 70-74

In this task, students order lengths of objects and make comparisons without units and numbers, then learn to measure objects using nonstandard units. To begin, the class observes and discusses the different lengths of three objects (e.g., pencils), using such terms as *shortest* and *longest*. After working through several examples with real objects, students draw lines, pencils, and markers to show them in order from shortest to longest or longest to shortest.

Next, students indirectly measure by using similar figures to find a measurement, and use logical reasoning to compare and order the lengths of objects. To start, students solve riddles about objects they can see and hold, based on the lengths of the objects, such as: *I am longer than a crayon. I am shorter than a paintbrush. What am I?* Students then confirm the solutions by aligning and comparing the lengths of the objects. Students also work in partnerships to use clues about questions involving comparisons of lengths, and draw pictures to prove the solutions.

After students have had experience with comparing length, they are ready to measure length using nonstandard units. To set a context for this, students first listen to the story *Inch by Inch* by Leo Lionni, about a clever inchworm that outwits hungry birds by using its measuring ability. Following a class discussion of the story, students are shown how to measure objects using color tiles and practice as a class. Students then work with partners to measure a variety of real objects (e.g., books, markers, glue sticks) by laying multiple color tiles end to end with no gaps or overlaps.

Students continue experiences with measuring by using a different nonstandard measuring tool. Here, students make measuring tools from paper clips or connecting links, then measure and record the lengths a variety of common objects found in the classroom (e.g., shoe, desktop, book). As a class, students discuss observations and make connections between the measuring tools and the measurements yielded. For example, a student may realize that a smaller unit of measure results in a greater number of units for the measurement. Finally, students solve problems involving measurement by using paper clips to show given lengths of ribbon or string and comparing the lengths.

This task directly targets the following Common Core Standards: 1.MD.1, 1.MD.2, 1.MD.4

Timeline: 2 weeks
Key vocabulary: about, close to, length, short, shorter, shortest, long, longer, longest
Resources:
On Core Mathematics, Lessons 70-74
Read-Alouds/Literature Connections:
Lionni, Leo, *Inch by Inch*

Significant task 2: Rolling Along with Links
The activities in this task are grounded in:
Math Trailblazers, Unit 6, *Measurement: Length*, Lessons 1-2, and 4-5

In this task, students continue to focus on concepts involving nonstandard units of measure and comparisons. To start, students make a 50-link chain for measuring, organized into groups of ten links by alternating colors. Students use the chains to review counting by tens and leftovers by ones. As a class, students discuss how to hold the chain taught and line up the end of the chain with the edge of an object to measure. In pairs, students then measure different objects in the classroom and make comparisons between the measurements.

Next, students begin an investigation to study the distances that toy cars travel during a class experiment. This investigation provides a setting for measuring length and presents opportunities for collecting, recording, and analyzing data. Here, students roll five toys cars down a ramp that is set up in the classroom, to see which car is the “best roller.” In planning the experiment, students discuss keeping everything “fair,” including measuring the distance the car rolls the same way each time. Students then post a description of each car on an index card for displaying the length of chain used to measure the

distance of each car's roll.

As a class, students work together to roll each car down the ramp and mark where the car stops with a piece of tape. Next, students make a chain that is the same length as the car's distance and place the chain beneath the appropriate index card. For each chain, students skip count by tens and count leftovers by ones to find how many links the car rolled. Each student then creates a graph to show the data and answer such questions as: *Which car was the best roller? How far did the best roller go*? *How much farther did the best roller go than the worst roller*?

In the next lesson, students measure several objects twice, using chains of links and trains of cubes, and compare the measurements. As a class, observations about the comparisons are discussed, to include that a length of four links is longer than a length of 5 cubes. Students use inferences from this observation to predict which of two objects is longer when measured using a different unit. Finally, in partnerships, student work to verify the predictions by building chains of links and trains of cubes and comparing the lengths.

This task directly targets the following Common Core Standards: 1.MD.1, 1.MD.2, 1.MD.4

Timeline: 2 weeks
Key vocabulary: about, close to, length, short, shorter, shortest, long, longer, longest, length, distance, farther
Resources: *Math Trailblazers,* Unit 6, *Measurement: Length*, Lessons 1-2, and 4-5

Common learning experiences:

- The daily Math Meeting/ Circle Time: For ten minutes at the beginning of each lesson, Math Meeting/Circle Time continues to be comprised of tasks and routines to help develop, review, and introduce concepts (see unit 1). At this time, review of content from the previous units includes the sharing of strategies and reasoning for addition and subtraction, counting and place value concepts (0-120), defining attributes of two-dimensional and three-dimensional shapes, and partitioning circles and rectangles. While activities for the Math Meeting/Circle Time are described in general terms in unit 1, topics that are specific to this unit include problem solving and graphing opportunities with familiar contexts. For example, to relate to the story *Inch By Inch*, story problems may include questions about measurement and have an inchworm as a character. Similarly, a topic for graphing prior to the *Rolling Along with Links* investigation might be: *What is your favorite car color?*

- Math Links:
  http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_1/Mathematics/5485390886045419762/Measuring_with_Non-Standard_Un
  Length Strength: Paper Clips: Click and drag paper clips to measure each object.
  Longer/Shorter: Compare objects to see which is longer or shorter.

Common assessments including the end of unit summative assessment:
Unit 7 Assessment: TBD

Teacher notes:

- Process standards to highlight through instruction: reason abstractly and quantitatively, make sense of problems and persevere in solving them, and look for and make use of structure.

- Refer to Unit 1 for the structure of the first grade math period.

- Differentiation: Students must be able to compare concrete materials and pictorial representations as measurement skills are developed. The tasks in this unit provide many opportunities for using a variety of manipulatives and visual tools to meet the needs of different levels of ability within the classroom as students explore measurement concepts.

- With the Common Core, students learn to count by fives in second grade. Therefore, Math Trailblazers lessons that have students count chains of links by fives are modified to have students count by tens instead.

- Targeted Learning: During this time (a 30-minute period that is supplemental to the math block) students needing support with first grade skills work to develop strategies and fluency of addition and subtraction facts through ten and application of strategies for facts through 20. (Several suggestions and options for such practice are provided in Chapters 2- 8 of *Mastering the Basic Math Facts in Addition and Subtraction)*. Students on level may continue to explore addition and subtraction within 100, while students who have already mastered the strategies work toward a higher level of functioning, using fewer manipulatives and more visual and /or abstract representations as problems are solved. Additionally, these students may work toward broadening the vocabulary and concepts of two-dimensional and three-dimensional shapes.

- Predictable misconceptions: When measuring with nonstandard units of measure, it is important for students to understand that the units can be any size or shape, but the units must be identical.

Windsor Public Schools
Curriculum Map for the Elementary Level
Grade 1

Purpose of the Course (from CCSS): In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

Name of the Unit: Unit 8 Time to the Hour and Half-Hour	Length of the unit: 3 weeks

Purpose of the Unit: This is the last unit of the year and the first unit on time in the K-5 curriculum. Time gives us a frame of reference for events like cooking, going to school, recess, sporting events, etc. In Grade 1 students tell time to the nearest hour and half-hour. In Grade 2 this is expanded to the nearest five minutes until Grade 3 where students tell time to the nearest minute.

Common Core State Standards Addressed in the unit:

1.MD.3: Tell and write time in hours and half-hours using analog and digital clocks.

1.G.3: Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

Big Ideas:	Essential Questions:
24. Time can be measured. 25. Fractions refer to equal sized pieces of a whole. 26. Shapes can be partitioned into equal shares (fractions). All of the equal shares of a shape can be combined to create a whole.	24. How do we measure time? 25. Why do we measure time? 26. What are different ways to count?
Students will know: 6. hours and half-hours on digital and analog clocks 7. halves, half, of (circles and rectangles) 8. fourths, forth of, quarters, quarter of (circles and rectangle)	Students will be able to: 1. tell and write time in hours and half-hours using analog and digital clocks 2. partition circles and rectangles into two and four equal shares 3. describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of 4. describe the whole as two of, or four of the shares 5. understand for these examples that decomposing into more equal shares creates smaller shares

Significant task 1: Telling Time with a One-Handed Clock

The activities in this task are grounded in
NCTM Illuminations, *The Grouchy Lessons of Time*
On Core Mathematics, Lessons 75-76

In this task, students learn to tell time to the hour on a one-handed analog clock. To begin this task, students gather in a whole group to share activities they participate in during the morning time, afternoon and night. As students share ideas, a class chart using three columns that correspond to the three times of day is created. Students then listen to the story *The Grouchy Ladybug*, by Eric Carle, about a grouchy ladybug's activities throughout the day. This story documents the ladybug's adventures each

hour of the day and includes a picture of a clock with the indicated hour on each page. As the book is read, students' attention is guided to the clocks, times of day, and activities that the ladybug participates in.

After reading the story, students turn to a partner to share ideas, then discuss (as a class) the kinds of clocks they have at home and where the clocks are found (e.g., on microwaves, televisions, alarm clocks). An analog demonstration clock is then used to model the times pictured in *The Grouchy Ladybug* while the students review the activities that the ladybug did during the morning, afternoon, and evening. To close this lesson, students independently draw pictures of some of the activities children typically do during each period of the day.

The next lesson focuses on telling time to the hour on a one-handed analog clock and writing that time in standard notation (as on a digital clock). To start, students listen to the story *What Time is It, Mr. Crocodile* by Judy Sierra, to set a context for telling time to the hour. The class is then shown how to read a one-handed analog clock to the hour (using a clock with the minute hand removed), which can be read with reasonable accuracy.

To write the time, students are shown as a class that the number to the left of the colon shows the hour, and the number to the right shows how many minutes past the hour. When writing time to the hour, the zeros represent zero minutes past the hour. Next, students practice together, taking turns using the one-handed clock, and writing the times on whiteboards or paper. Students then independently practice reading and writing time to the hour using pictures of a one-handed clock.

Next, as a class, students are shown different times on a one-handed clock and are guided to read the clock using approximate language: *It's about 8 o'clock. It's a little past 9:00. It's halfway between 4 o'clock and 5 o'clock.* In this lesson, students discuss how the hour hand on a clock moves as time passes. When the hour hand moves halfway between two numbers, it is half past the hour. This experience enables students to make sense of the passage of time. Again, students practice together, taking turns using the one-handed clock, and writing the times on whiteboards or paper. Students then independently practice reading and writing time to the half-hour using pictures of a one-handed clock, and writing the times using the term *half past*.

The story *Time to…* by Bruce McMillan, about the two kinds of clocks, may follow this lesson to serve as a transition to the next task.

This task directly targets the following Common Core Standards: 1.MD.3:
Timeline: 1 week
Key vocabulary: analog clock, digital clock, hour, half-hour, minute, o'clock, half past, hour hand, minute hand
Resources:
NCTM Illuminations, *The Grouchy Lessons of Time*
Van De Walle, *Teaching Student-Centered Mathematics, Grades K-3*, p. 244
Read Alouds/ Literature Connections:
Carle, Eric, *The Grouchy Ladybug*
Sierra, Judy*, What Time is It, Mr. Crocodile?*
McMillan, Bruce, *Time To…*

Significant task 2: Analog and Digital Clocks

The activities in this task are grounded in
On Core Mathematics, Lesson 77
Math Trailblazers, CCSS Activities 1 and 7
Windsor Binder, *Grade One Math, Time Concentration; Tick Tock Clock; What Time is it?*

In this task, students learn to read and write the time to the hour and half-hour using a two-handed analog clock and digital clocks. To start, students identify the hour hand and are introduced to the minute hand. As the teacher moves the minute hand around the clock, the class counts the minutes in an hour. Students then turn and talk to a partner to discuss strategies for finding a half-hour. Following, class discussion of the strategies includes dividing the clock in half from top to bottom. Together, students count the minutes as the minute hand is moved halfway around the clock. Here, students see that there are thirty minutes in a half-hour and that the minute hand is on the six when it is half past the hour.

As a class, students discuss approximate times during the day when certain activities take place, such as lunch or recess, and practice showing the times (to the hour or half-hour) on a demonstration clock. As students discuss different times, various terms to describe the times are introduced. For example, 2:30 can be described as "two-thirty" or "half-past three"; 12:00 can be described as "12 o'clock' or "noon" or "midnight". The students then practice independently by labeling pictures of clocks with times to the hour and half-hour.

Next, students listen to the story It's *About Time* by Stuart J. Murphy, about activities that typically occur throughout a child's day. As a class, the students make predictions about activities that may happen during the next school day, creating a class schedule that includes times to the hour or half-hour. (Throughout the day this schedule may be checked to verify predictions.) In partnerships, the students then play the game *Time Concentration* to practice time-telling skills. Here, students match corresponding digital and analog time cards until all of the cards are matched. Depending on the students' abilities, the cards for this game may include times to the hour, times to the half-hour, or a combination of both.

Two additional games for practice may be played in partnerships. In *Tick Tock Clock,* students take turns drawing a time card from a deck and covering the corresponding time on a game board with a marker until one player has three markers in a row. In *What Time Is It* students take turns reading the times shown on cards and moving along a game board to the finish line. Again, the cards in both games may be adjusted according to the needs of the students.

This task directly targets the following Common Core Standards: 1.MD.3, 1.G.3:

Timeline: 2 weeks
Key vocabulary: analog clock, digital clock, hour, half-hour, minute, o'clock, half past, hour hand, minute hand, noon, midnight
Resources:
On Core Mathematics, Lesson 77
Math Trailblazers, CCSS Activities 1 and 7
Windsor Binder, *Grade One Math, Time Concentration; Tick Tock Clock; What Time is it?*
Read-Aloud/Literature Connection:
Murphy, Stuart J., *It's About Time!*

Common learning experiences:

27. Supplemental lessons for enrichment:
    On Core Mathematics, Lesson 78
    Students independently draw the hour or minute hand on analog clocks and label digital clocks with the corresponding time.
    Math Trailblazers, CCSS Activity 13
    Given different terms for expressing times to the hour or half-hour, students independently draw or write the time on each clock.
    My TV Guide
    Students independently write the day, channel, and time, and draw a clock to indicate when favorite shows begin.
    Time Barrier Game: In partnerships, students play a game involving reading, writing, and drawing times on a grid while trying to match one another's directions.

28. The daily Math Meeting/ Circle Time: For ten minutes at the beginning of each lesson, Math Meeting/Circle Time continues to be comprised of tasks and routines to help develop, review, and introduce concepts (see unit 1). At this time, review of content from the previous units includes the sharing of strategies and reasoning for addition and subtraction, counting and place value concepts (0-120), defining attributes of two-dimensional and three-dimensional shapes, partitioning circles and rectangles, and measurement with nonstandard units of measure. Following *The Grouchy Ladybug,* story problems posed during Math Meeting/Circle Time may have ladybugs as subjects to promote interest and provide a meaningful context. Similarly, a topic for graphing to begin this unit may be: *What is your favorite time of day: morning, afternoon, or night?*

29. Math Links:
    http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_1/Mathematics/5485390886045419762/8__Time_to_the_Hour_and_Half-H
    Telling Time to the Hour: Choose the correct digital clock to tell the time on the analog clock.
    Stop the Clock:Match digital and analog clocks. Choose level of difficulty.
    Willie the Watchdog:Help Willie the Watchdog tell time all the way to the finish line.

Common assessments including the end of unit summative assessment:

Unit 8 Assessment: TBD

Teacher notes:

- Process standards to highlight through instruction: use appropriate tools strategically, attend to precision, and look for and make use of structure.

- Refer to Unit 1 for the structure of the first grade math period.

- Differentiation: During activities requiring students to read clocks shown in pictures, some students may benefit from extra support. Using clock manipulatives with movable or geared hands provides a concrete tool for helping students understand the concept of telling and writing time. Other students may tell time with ease and be capable of drawing clocks to show the time. (Several opportunities for this enrichment are included in the Common Learning Experiences section).

- Targeted Learning: During this time (a 30-minute period that is supplemental to the math block) students needing support with first grade skills work to develop strategies and fluency of addition and subtraction facts through ten and application of strategies for facts through 20. (Several suggestions and options for such practice are provided in Chapters 2- 8 of *Mastering the Basic Math Facts in Addition and Subtraction)*. Students on level may continue to explore addition and subtraction within 100, while students who have already mastered the strategies work toward a higher level of functioning, using fewer manipulatives and more visual and /or abstract representations as problems are solved. Additionally, these students may work toward broadening the vocabulary and concepts of two-dimensional and three-dimensional shapes or using standard units for measurement.

- Predictable misconceptions: A common error students encounter and struggle with is the hour hand being between two numbers when the minute hand is on the half-hour. If students have difficulty with this, the one-handed clock may be revisited. In addition, often students confuse 12:30 and 6:00. Again, the one-handed clock is a tool for addressing this misconception.

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 3 Mathematics

Purpose of the Course (from CCSS): In Grade 3, instructional time should focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

Name of Unit 1: Computing with Whole Numbers	**Length of the unit:** 4 weeks
Purpose of the Unit: This unit is intended to build upon the skills introduced in second grade. Students in second grade used their understanding of addition to develop fluency with addition and subtraction within 100. They utilized strategies based on place value, properties of operations, the relationship between addition and subtraction and/or an algorithm to add up to four two-digit numbers. This third grade unit provides baseline measures about a broad range of students' mathematical understandings and competencies. The activities include opportunities for teachers to assess students' arithmetic skills, mathematical concepts, and abilities to solve problems and communicate solutions.	
Common Core State Standards Addressed in the unit: **3.NBT.2: Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.** 3.NBT.1: Use place value understanding to round whole numbers to the nearest 10 or 100.	
Big Ideas: 1. Knowing properties of operations and number patterns allows us to be flexible when working with numbers. 2. Operations can be modeled with a visual representation.	**Essential Questions:** 1. When is it appropriate to round and for what purpose? 2. What strategies can we use to make solving addition and subtraction problems easier? 3. How are addition and subtraction related?
Students will know: 1. strategies for fluently adding and subtracting within 1000 including the standard algorithm	**Students will be able to:** 1. round whole numbers to the nearest 10 or 100 2. use properties to add and subtract numbers based on place value

Significant task 1: "Playing" with Addition and Subtraction This task is comprised of several lessons from Math Trailblazers which review and build upon the addition and subtraction concepts introduced in grade 2. This is done through the introduction of many games which require students to use their skills and strategies to solve problems. Teachers should introduce these lessons as a full class, allowing time for small groups/pairs to develop strategies and then have students to defend and/or present their strategies for solving these problems.

URG 1, Lesson 2, ***Turn Over,*** engages students in a game where they practice mental computation. As student pairs play, they also begin to investigate which strategies are needed to win the game. After this game has been played once, it should be made available to students to play during Targeted Learning.

In URG 2, Lesson 1, ***Addition Fact Strategies,*** students review addition strategies and work in pairs to solve problems with more than two addends.

Lesson 2, ***Spinning Sums,*** provides an opportunity for students to review the addition facts while conducting an investigation. Students spin two spinners to randomly generate addition fact problems. Students record these facts in a data table and graph the number of times they spin each sum.

Lesson 5, ***Subtraction Fact Strategies,*** reviews and practices subtraction facts. A whole class discussion of strategies helps students verbalize number relationships and encourages them to think about problems in new ways. It is important to emphasize that a strategy that works well for one person may not be helpful to another. Encourage students to develop and share their own strategies as well as the ones introduced in the lesson. Students play the game *Nine, Ten* as a way to practice their strategies.

Lesson 6, ***Spinning Differences,*** is similar to ***Spinning Sums.*** Students spin two spinners to generate random subtraction sentences and work in groups to answer the question, "Which is the most common difference?" Students write descriptions about their solutions and problem-solving strategies.

In these tasks students will:

- Develop mental math skills for addition and subtraction
- Practice and review addition and subtraction facts
- Use strategies to add and subtract
- Use turn-around facts (commutativity) to add
- Use grouping strategies (associativity) to add
- Use patterns in data to make predictions and solve problems
- Collect, organize, graph, and analyze data
- Communicate solutions verbally and in writing

This task directly targets the following Common Core Standards: 3.NBT.2
Timeline: 7 days
Key vocabulary: addend, sum, least common, most common, turn-around facts, difference
Resources

- Math Trailblazers URG 1 – Lessons 2, 4 & 6
- Math Trailblazers URG 2 – Lessons 1, 2, 4, 5, & 6

Significant task 2: More Adding and Subtracting

This task is comprised of several lessons from Math Trailblazers which extend students' work with place value to four-digit numbers and helps them build and understanding of our number system. The first lesson lays the groundwork for adding and subtracting four-digit numbers using paper-and-pencil procedures. Base-ten pieces provide a concrete representation of the relationship between the different digits in our number system. This is done through the introduction of many games which require students to use their skills and strategies to solve problems. Teachers should introduce these lessons as a full class, allowing time for small groups/pairs to develop strategies and then have students

to defend and/or present their strategies for solving these problems.

In URG 4, Lesson 3, ***Base-Ten Addition,*** students explore a standard algorithm while developing an understanding of place value. This activity concentrates on understanding two-digit plus two-digit addition.

Students expand their understanding of place value and continue to explore addition with base-ten pieces in URG 6, Lesson 3, ***Adding with Base-Ten Pieces.*** It is important for students to establish links between the base-ten blocks, the shorthand, the symbols and the words that describe the base-ten pieces.

Lesson 4, ***Subtracting with Base-Ten Pieces,*** students subtract using base-ten pieces, *Base-Ten Boards,* and *Base-Ten Recording Sheets.* The standard subtraction algorithm is introduced as a shortcut to working with the recording sheets.

In Lesson 5, ***Close Enough!***, students further their number sense and learn about finding and using "nice" numbers in computational estimation. The lesson has two parts. In Part 1 students use a visual approach to develop a conceptual understanding of rounding numbers to the nearest ten and hundred. In Part 2 students are introduced to strategies for estimating sums.

This task rounds out with Lesson 8, ***Digits Game.*** Cards are drawn one at a time from a deck of ten digit cards. Students attempt to make the largest or smallest answer to addition and subtraction problems by strategically placing the digits on a playing board. After playing the ***Digits Game*** together as a class, it can be played on an on-going basis during Targeted Instruction.

In these tasks students will:

- Understand place value
- Solve addition and subtraction problems and explain their mathematical reasoning
- Represent addition and subtraction problems using base-ten pieces
- Add and subtract multi-digit numbers using manipulatives and drawings
- Translate between representations of addition and subtraction (base-ten pieces and symbols)
- Develop addition and subtraction algorithms
- Add and subtract using paper and pencil
- Develop number sense
- Use convenient numbers to estimate
- Develop mental math skills

This task directly targets the following Common Core Standards: 3.NBT.1, 3.NBT.2

Timeline: 11 days
Key vocabulary: regrouping, Fewest Pieces Rule, estimate, estimation, front-end estimation, nice numbers, rounding, digit
Resources

- Math Trailblazers URG 4 – Lesson 3
- Math Trailblazers URG 6 – Lessons 3, 4, 5, & 8

Common learning experiences:

- **MTB Unit 1, Lesson 4: Line Math Puzzles** – this is an optional activity that would be suitable during Targeted Learning. Much arithmetic practice and reasoning is required in the creation and solution of these puzzles. Students can also use the guess-and-check approach by cutting out all the digits and moving them about until the specified sum is obtained.
- **MTB Unit 2, Lesson 4: Magic Squares -** this is an optional activity that would be suitable during Targeted Learning. In this activity, students are introduced to magic squares by working on an easier, nontraditional type of magic square. These activities help develop problem-solving and addition skills.
- **MTB Unit 4, Lesson 3: *Base-Ten Addition*** If students show a thorough understanding of working with base-ten pieces from grade 2, you may move quickly through the addition practice problems. It is, however, important to thoroughly cover the meaning of the columns and trading.
- **MTB Unit 10, Lesson 2: Problem Game -** this is an optional activity that would be suitable during Targeted Learning. Students review the subtraction facts by studying their subtraction flash cards and then playing a review game.
- **MTB Unit 15, Lesson 5: Nothing to It! -** this is an optional activity that would be suitable during Targeted Learning. Players have four cards for each round and must use those cards in a number sentence to get the smallest possible result.

Common assessments including the end of unit summative assessment:

End of Unit Summative Assessment – Unit 1: Computing with Whole Numbers
Unit 1 Scoring Guide

Teacher notes:

- Process standards to highlight through instruction: **make sense of problems and persevere in solving them, construct viable arguments and critique the reasoning of others,** and **model with mathematics.**
- **Targeted Learning:** For students who are having difficulty, targeted learning time can be focused on re-teaching. Since addition and subtraction facts should have been mastered by the end of second grade, during this instruction block students who have not mastered their addition and subtraction facts coming in to third grade will be focused on. Using an addition and subtraction pre-assessment, group students for instruction based on the results.
- **Predictable misconceptions:** Strategies that works well for one person may not be helpful to another. Encourage students to develop and share their own strategies as well as the ones introduced in the lessons. When it comes to adding and subtracting using base-ten pieces it is important for students to establish links between the base-ten blocks, the shorthand, the symbols and the words that describe the base-ten pieces.

Purpose of the Course (from CCSS): In Grade 3, instructional time should focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

Name of Unit 2: Understanding Multiplication and Division	**Length of the unit:** 4 weeks

Purpose of the Unit: To represent and solve problems involving multiplication and division. This unit builds on work started in Grade 2, Unit 8 where students create rectangular arrays and write number sentences to go along with them. (CCSS 2.OA.4) Building on their experiences in first and second grade, third-grade students will begin a more formal study of the concepts, applications, notation and procedures of multiplying and dividing. The lessons will emphasize the development of the concepts and the use of computation to solve problems. Students will investigate multiplication and division by solving problems and sharing solutions and strategies with one another.

Common Core State Standards Addressed in the unit:

3.OA.1: Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. ***For example, describe a context in which a total number of objects can be expressed as 5 × 7.***

3.OA.2: Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. ***For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.***

3.MD.3: Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*

Big Ideas:	**Essential Questions:**
3. Multiplication involves counting groups of like size and determining how many are in all. 4. Division is breaking apart into equal size groups. 5. Multiplication and division are inverse operations. 6. Division names a missing factor in terms of the known factor and the product. 7. Operations can be modeled with a visual representation.	1. How can you use equal groups to find how many in all? 2. How are multiplication and addition related? 3. How can division be modeled?
Students will know: 1. multiplication is combining equal group of objects	**Students will be able to:** 1. find the total number of objects within equal groups

2. multiplication is repeated addition 3. skip counting can be used to solve multiplication 4. in a multiplication equation, the first factor equals the number of groups and the second factor equals the number in each group 5. division represents two different situations – PARTATIVE (Equal groups): determining how many objects are in each group and QUOTATIVE (Measurement): determining how many groups can be made from a specific amount of equal objects. 6. division is repeated subtraction	2. use repeated addition to find the product of equal groups 3. use skip counting to find the product of equal groups 4. find how many equal groups can be made out of a certain number of objects 5. find how many objects can be shared equally among a certain number of groups 6. use repeated subtraction to find the number of equal groups 7. solve division problems using manipulatives 8. solve multiplication problems with the standard algorithm

Significant task 1: Exploring Multiplication

This task is comprised of multiple lessons from Math Trailblazers. This task engages students in the use of all four operations, but the problems lend themselves to the use of multiplication. In all three lessons students can work in pairs or small groups and the teacher should circulate around the room to check for understanding.

In Lesson 1, ***T-Shirt Factory Problems***, students work in groups to solve a problem concerning the number of letters in their first names. Then, a story about a fictitious class that is decorating T-shirts with the students' first names serves as the context for a series of problems. This lesson lends itself to assessing students' abilities to solve problems and to work collaboratively by asking them to write a report of their group's strategies and solutions to ***Question 5***.

In Lesson 2, ***In Twos, Threes, and More*** students work in groups to make lists of things that come in twos, threes, fours, and so on, up to twelves. Students write multiplication problems based on items in this list. They solve problems using various strategies and multiplication sentences to express their answers. Discussing their solution strategies is an important part of this lesson. This lesson lends itself to assessing students' abilities to solve problems by asking them to solve a problem such as, *"How many corners are there on eight triangles?"*. Note students' abilities to use words, pictures, or number sentences to show how they solved the problem.

Lesson 3, ***Multiplication Stories***, has students continuing to explore multiplication by drawing pictures and writing stories to illustrate multiplication problems such as 7 x 8, 4 x 20, and 4 x ½ . Students work well in pairs for this activity. Pairs can use counters in creating their multiplication stories. This lesson lends itself to assessing students' abilities to solve problems by asking them to write a story for a problem such as 8 x ¼ , 10 x 9, or 20 x 3.

In these tasks students will:

- Interpret bar graphs
- Explore multiplication through problem solving
- Use patterns in data to solve problems
- Create and solve problems involving multiplication

- Represent multiplication with manipulatives, pictures, and words
- Write multiplication number sentences
- Communicate solutions verbally and in writing and explain their reasoning
- Connect multiplication and repeated addition
- Connect multiplication and addition of equal-sized groups

This task directly targets the following Common Core Standards: 3.OA.1, 3.OA.2

Timeline: 6 days
Key vocabulary: multiplication number sentence, product, factor
Resources

- On Core Lessons 3, 4, 5
- Math Trailblazers URG 3 - Lessons 1, 2 (CCSS Activity 4), & 3

Significant task 2: Applying Multiplication Through Problem Solving

This task is comprised of two lessons from Math Trailblazers. In Lesson 4, ***Making Teams***, groups of students are asked to consider the problem of dividing the class into teams of equal sizes. For each team size, they find the number of teams they can form and the number of students left over. To help solve this problem, students group counters into sets of equal sizes (with remainders). Finally, they use multiplication number sentences to represent the groupings. Although phrased in terms of multiplication, the concepts are precursors to the understanding of division. Teachers should introduce these lessons as a full class, allowing time for small groups/pairs to develop strategies and then have students to defend and/or present their strategies for solving these problems.

In Lesson 6, ***More T-Shirt Problems***, students solve a set of word problems using multiplication and division. As an **extension**, ask students to write their own problems involving multiplication and division. Have students swap problems with a partner. After partners solve their partner's problems they can check each other's solutions and strategies. Use your document camera to highlight several student generated problems as a full class discussion. Any of the problems presented can be used to assess students' abilities to solve multiplication and division problems and explain their reasoning.

In these tasks students will:

- Divide a set of objects into equal size groups (with remainders)
- Write multiplication number sentences
- Solve multistep problems involving multiplication and division
- Communicate solutions verbally and in writing

This task directly targets the following Common Core Standards: 3.OA.1, 3.OA.2

Timeline: 4 days
Key vocabulary: multiplication number sentence, product, factor
Resources:

- Math Trailblazers URG 3 - Lessons 4 & 6 (CCSS Activity 5)

Significant task 3: *Mastering the Basic Math Facts in Multiplication and Division* (For more information, see Teacher Notes.)

- Chapter 2 – Multiplying by 2 (pp. 27-41)

- Chapter 3 – Multiplying by 10 (pp. 43-52)

Chapter 2 – Multiplying by 2: Students have extensive experience skip-counting by twos and grouping twos (pairs) and have developed an understanding of doubling. This set of facts is a natural place to begin exploring multiplication facts.

Big Ideas

- Multiplication by 2 is the same as doubling
- Numbers stand for a variety of things. Operation symbols help us determine what the numbers represent.
- Our number system is a system of patterns
- The order of factors does not change the product (the commutative property)

Literature Link: ***Two of Everything*** by Lily Toy Hong

Chapter 3 – Multiplying by 10: The understanding of 10 is foundational in our number system. Students have experience skip-counting by 10, grouping in tens, and working with models of 10, such as ten-frames and base-ten blocks.

Big Ideas

- Multiplication by 10 is like skip counting by 10
- Our number system is a system of patterns
- The order of factors does not change the product (the commutative property)

Literature Link: ***The Grouchy Ladybug*** by Eric Carle

This task directly targets the following Common Core Standards: 3.OA.1, 3.OA.2

Timeline: 5 days
Key vocabulary: none
Resources: On Core Lessons 1 & 2, ***Mastering the Basic Math Facts in Multiplication and Division*** book (Chapters 2 & 3)

Common learning experiences:

- Optional Literature Connection: ***Each Orange Had Eight Slices: A Counting Book*** *by Paul Giganti, Jr.* (This book illustrates multiplication problems with colorful drawings just as students illustrate their multiplication problems during this activity.)

Common assessments including the end of unit summative assessment:

End of Unit Summative Assessment - Unit 2: Understanding Multiplication and Division
Unit 2 Scoring Guide

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and persevere in solving them, model with mathematics, and attend to precision.

- **Targeted Learning:** For students who are having difficulty, targeted learning time can be focused on re-teaching. Since addition and subtraction facts should have been mastered by the end of second grade, during this instruction block students who have not mastered their addition and subtraction facts coming in to third grade will be focused on. Using an addition and subtraction pre-assessment, as well as your Unit 1 Assessment Reflection form to group students for instruction based on the results.

- **Predictable misconceptions:** At this point, do not place too much emphasis on the order of the factors in a multiplication sentence. It is standard practice to associate the number sentence 3 x 4 = 12 with the sentence *3 groups of 4 equal 12*. However, some students might write 4 x 3 = 12. Since multiplication is commutative, this is acceptable.

- **For Significant Task 3:** The purpose of these lessons is to explore ways to support all students in mastering multiplication and division facts. By focusing on big ideas, strengthening students' understanding of math operations, developing strategic thinking, and providing varied and engaging practice tasks to promote fluency, students will be better equipped to both understand math facts and commit the facts to memory. Whether you are introducing students to basic facts, reviewing facts, or providing remediation for struggling students, these lessons will provide you with insights and activities to simplify this complex, but critical component of math teaching.

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 3 Mathematics

Purpose of the Course (from CCSS): In Grade 3, instructional time should focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

Name of Unit 3: Using Multiplication and Division	**Length of the unit:** 6 weeks

Purpose of the Unit: This unit further explores the concept of multiplication as well as its connection to division. Students encounter many types of multiplication and division problems, discover different strategies for solving problems, and learn to communicate their solutions in many ways. Students also solve problems involving multiplication of two-digit by one-digit numbers and division problems that cannot be solved just by using fact families. Students solve multiplication problems by breaking products into the sums of simpler products and write stories that represent their arithmetical processes in a meaningful way. This work leads to the conceptual development of a paper-and-pencil algorithm for the multiplication of two-digit by one-digit numbers. Students solve division problems that deal with remainders in various ways and multistep problems that involve both multiplication and division.

Common Core State Standards Addressed in the unit:

3.OA.5: Apply properties of operations as strategies to multiply and divide.2 ***Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)***

3.OA.7: Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

3.OA.8: Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

3.NBT.3: Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.

3.OA.3: Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

3.OA.4: Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = ? ÷ 3, 6 × 6 = ?.*

3.OA.6: Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*

3.OA.9: Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*

Big Ideas:	**Essential Questions:**
1. Multiplication involves counting groups of like size and determining how many are in all. 2. Multiplication and division are inverse operations. 3. Division names a missing factor in terms of the known factor and the product. 4. Operations can be modeled with a visual representation.	8. How can you use arrays to model multiplication and find factors? 9. How are division and subtraction related? 10. How do patterns aid in mastering multiplication facts? 11. How is multiplication and division related?
Students will know:	**Students will be able to:**
2. word problems can be represented in multiple ways (e.g., equation, array, equal groups, repeated addition, repeated subtraction, number line, table).	1. create and solve a multiplication or division word problem 2. create and solve a multiplication or division word problem using a symbol to

3. there can be an unknown within an equation 4. multiplication is commutative and division is not commutative 5. the distributive, associative, and commutative properties of multiplication 6. the identity property (multiplying by 1) 7. the zero property of multiplication (multiplying by 0) 8. multiplication and division are inverse operations 9. from memory all multiplication math facts from 0 x 0 up to and including 9 x 9	represent the unknown number 3. apply multiplication or division to solve for an unknown in an equation 4. multiply two factors in any order 5. find the product when multiplying by 1 or 0 6. use fact families to help solve division problems 7. apply strategies to solve multiplication and division equations 8. demonstrate automatic recall of all multiplication math facts from 0 x 0 up to and including 9 x 9

Significant task 1: Problem Solving with Multiplication and Division
This task is comprised of two lessons from Math Trailblazers. Teachers should introduce these lessons as a full class, allowing time for small groups/pairs to develop strategies and then have students to defend and/or present their strategies for solving these problems.

Lesson 4, ***Birthday Party***, has students working in groups or pairs on a set of problems they can solve using division. Using their solutions as a foundation, the discussion will lead to division and the introduction of division number sentences.
This lesson lends itself to **assessing** students' abilities to communicate their solution strategies and represent multiplication and division by asking them to show as many different ways as they can to solve ***Question 1.***

The Money Jar, Lesson 5, engages students in solving a series of problems where they divide money equally among the members of a family. They will write number sentences to show their solutions.

In these tasks students will:

- represent multiplication and division using manipulatives and words
- solve division problems
- communicate problem-solving strategies
- interpret remainders
- write division number sentences
- solve problems involving money

This task directly targets the following Common Core Standards: 3.OA.3

Timeline: 3 days
Key vocabulary: remainder
Resources

- Math Trailblazers URG 7 - Lessons 4 & 5

Significant task 2: Strategies for Learning Facts

This task is comprised of several lessons from Math Trailblazers. Lesson 1, ***Lizardland Problems***, has students solving problems involving multiplication by using clues they find in a drawing of the Lizardland Amusement Park. Students write and solve their own multiplication problems about the drawing. Later in the task, students revisit Lizardland to explore the relationship between multiplication and division. Teachers should introduce these lessons as a full class, allowing time for small groups/pairs to develop strategies and then have students to defend and/or present their strategies for solving these problems.

Fact practice is interwoven in this task as students use a multiplication table to look for patterns. In Lesson 2, ***Handy Facts***, students generate the multiplication facts for 0, 1, 2, 3, 5, and 10; record them on a blank multiplication table; and look for patterns in the table entries. In Lesson 4, ***Completing the Table***, students complete their multiplication tables by finding the remaining multiplication facts through skip counting or using a calculator. They also learn how to use triangle flash cards to practice their facts. Prior to this, in Unit 1, students began their study of math facts with x2 and x10.

In Lesson 3, ***Multiplication and Rectangles,*** students arrange square-inch tiles into rectangles to find factors of 6, 12, and 18. They turn the rectangles around and learn that changing the order of the factors in a multiplication sentence does not change the product (e.g., 3 x 6 = 18 and 6 x 3 = 18). They build squares with their tiles to derive the square number multiplication facts and look for patterns among square numbers. They record new facts on their multiplication tables. Finally, they solve problems about tile arrangements. As an **extension**, ask students to use tiles to investigate the factors of the numbers 1 to 50 and identify the prime numbers.

Students will play a game called ***Floor Tiler*** in Lesson 5. This game can be played with 2 or 4 players. After spinning two numbers, a player uses the product to color in grid squares in the shape of a rectangle on his or her grid paper. Players take turns spinning and filling in their grids.
Students return to ficticious Lizardland in Lesson 6, ***Division in Lizardland.*** Students explore the relationship between multiplication and division through problems about the Lizardland Amusement Park. They discover that there is no turn-around rule for division. They investigate division involving zero and they look at the relationship between multiplication and

In the last lesson on this task, ***Multiples of Tens and Hundreds***, students use base-ten pieces to investigate multiplication by multiples of 10 and 100.

In these tasks students will:

- Solve and write problems involving multiplication and division
- Communicate solutions and strategies verbally and in writing
- Use a multiplication table to record and retrieve multiplication facts
- Identify patterns among the multiplication facts for 0, 1, 2, 3, 5, 9 and 10
- Solve problems involving nickels and dimes
- Represent multiplication using rectangular arrays
- Derive turn-around facts
- Investigate square and prime numbers
- Practice multiplication facts
- Use the array model of multiplication to learn the multiplication facts
- Investigate division involving zero

- Multiply be tens and hundreds and communicate patterns found

This task directly targets the following Common Core Standards: 3.OA.3, 3.OA.4, 3.OA.5, 3.OA.6, 3.OA.7

Timeline: 11 days
Key vocabulary: factor, multiple, product, array, column of an array, prime number, row of an array, square number, turn-around fact
Resources

- Math Trailblazers URG 11 - Lessons 1, 2, 3 (CCSS Activity 12), 4 (CCSS Activity 13), 5 (CCSS Activity 14), 6, & 8

Significant task 3: Multiplication and Division Made Easier
Task 3 is comprised of multiple lessons from Math Trailblazers. Teachers should introduce these lessons as a full class, allowing time for small groups/pairs to develop strategies and then have students to defend and/or present their strategies for solving these problems.

In Lesson 1, ***Break-apart Products,*** students break products, such as 6 x 8, into the sum of simpler products, e.g., 6 x 5 + 6 x 3. To do this, they draw a rectangular array on grid paper to represent the product. Next they divide the array into two smaller arrays that represent easier products and then add the easier products to get their answers. Students begin with one-digit by one-digit problems and move to two-digit by one-digit problems. By doing this, students will begin to develop an understanding of the distributive property of multiplication over addition although it is not studied formally.

Lesson 2, ***More Multiplication Stories,*** students continue to solve two-digit by one-digit multiplication problems. After exploring and discussing their own methods of solving these problems, students focus on the method of breaking apart products into the sum of simpler products. They pay particular attention to partitioning numbers into tens and ones. Students then write stories to represent multiplication problems and refine the stories to reflect their partitions. This work leads to the development of a paper-and-pencil algorithm. In this lesson ask students to solve the problem 4 x 34 using "Tyrone's Way" to represent their work. Through a full class discussion, you can use this activity to **assess** students' abilities to create stories for multiplication sentences and explain their solution strategies.

Making Groups, Lesson 3, has students considering the number of groups of equal size they can make from various numbers of objects. The groupings involve dividing numbers between 25 and 50, many of which cannot be solved using a simple reversal of multiplication facts. Particular attention is given to remainders.

This task closes with Lesson 4, ***Solving Problems with Division.*** Students solve multiplication and division word problems, including some division problems that involve remainders. They also solve challenging multistep problems whose solutions use both multiplication and division.

In this task students will:

- Represent multiplication problems using arrays
- Solve multiplication problems by writing them as the sum of easier problems
- Create stories and write number sentences for multiplication and division situations

- Solve multistep multiplication and division problems and explain their reasoning
- Multiply numbers ending in zero
- Solve 2-digit by 1-digit multiplication problems using paper and pencil
- Break products into the sum of simpler products (applying the distributive law of multiplication over addition
- Divide a set of objects into equal-size groups (with remainders)
- Represent division problems using drawings and manipulatives
- Divide two-digit numbers
- Investigate patterns involving remainders
- Interpret remainders

This task directly targets the following Common Core Standards: 3.OA.3, 3.OA.5, 3.OA.6, 3.OA.7

Timeline: 7 days
Key vocabulary: partition
Resources

- Math Trailblazers URG 19 - Lessons 1 (CCSS Activity 12B), 2 (CCSS Activity 30), 3, & 4 (CCSS Activity 31)

Significant task 4: *Mastering the Basic Math Facts in Multiplication and Division* (For more information, see Teacher Notes.)

- Chapter 4 – Multiplying by 5 (pp. 55-67)
- Chapter 5 – Multiplying by 1 (pp. 69-78)
- Chapter 6 – Multiplying by 0 (pp. 79-89)

Chapter 4 – Multiplying by 5: Students have extensive experience skip-counting by 5. They recognize connections with money concepts (nickels). Previous exploration with x10 facts leads to the insight that multiplying by 5 can be thought of as half of multiplying by 10.

Big Ideas

- Multiplication by 5 is like skip-counting by 5
- Our number system is a system of patterns
- 5 is half of 10. Multiplying a number by 5 will result in a product that is half of the product that results when the same number is multiplied by 10
- The order of factors does not change the product (the commutative property)

Literature Link: ***Count on Pablo*** by Barbara deRubertis

Chapter 5 – Multiplying by 1: Although x1 facts are easy to memorize, we do not begin with x1 facts because of the confusion with the grouping aspect of multiplication (e.g., groups of 1?) Providing students with opportunities to explore groups of 2, 5, and 10 provides a stronger foundation for understanding multiplication facts.

Big Ideas

- When multiplying by 1, the product is the same as the other factor
- The order of factors does not change the product (the commutative property)

Literature Link: ***One Tiny Turtle*** by Nicole Davies

Chapter 6 – Multiplying by 0: x0 facts are easy for students to commit to memory because the product is always 0, but this set of facts can be challenging for concrete thinkers. It is difficult to conceptualize a group of nothing. Once students have explored multiplication with 2, 10, 5, and 1, this set of facts becomes easier to understand.

Big Ideas

- If either factor is 0, the product will be 0
- The order of factors does not change the product (the commutative property)

Literature Link: ***Where the Wild Things Are*** by Maurice Sendak

This task directly targets the following Common Core Standards: 3.OA.1, 3.OA.2

Timeline: 4 days
Key vocabulary: none
Resources: ***Mastering the Basic Math Facts in Multiplication and Division*** book (Chapters 5, 6 & 7)

Common learning experiences:

- On Core Lessons 6 - 39 and 52-54 ***as needed*** for practice, extension, intervention or homework
- Optional Literature Connection: ***Sea Squares*** by Joy Hulme. (This book develops square number facts through counting). U11-L3
- **Technology:** Use *The National Library of Virtual Manipulatives* http://nlvm.usu.edu website to work with manipulatives to model the all-partials algorithm.

Common assessments including the end of unit summative assessment:

End of Unit Summative Assessment – Unit 3: Using Multiplication and Division
Unit 3 Scoring Guide

Teacher notes:

- Process standards to highlight through instruction: **make sense of problems and persevere in solving them, construct viable arguments and critique the reasoning of others, and look for and express regularity in repeated reasoning.**
- **Targeted Learning:** For students who are having difficulty, targeted learning time can be focused on re-teaching. Refer to your Assessment Reflection form for Unit 2: Understanding Multiplication and Division, to determine student needs.
- **Predictable misconceptions:** In Lesson 3, ***Multiplication and Rectangles***, give students 25 square-inch tiles of the SAME color. Different colors might confuse students when they write number sentences to match tiles. Also, connecting a number sentence with a picture may not be apparent to some students. Emphasize that number sentences must match the picture.
- **For Significant Task 4:** The purpose of these lessons is to explore ways to support all students in mastering multiplication and division facts. By focusing on big ideas, strengthening students' understanding of math operations, developing strategic thinking, and providing varied and

engaging practice tasks to promote fluency, students will be better equipped to both understand math facts and commit the facts to memory. Whether you are introducing students to basic facts, reviewing facts, or providing remediation for struggling students, these lessons will provide you with insights and activities to simplify this complex, but critical component of math teaching.

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 3 Mathematics

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Name of Unit 4: Exploring Measurement and Data	**Length of the unit:** 5 weeks

Purpose of the Unit: To solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects. This unit extends student's work with telling time from the hour and half hour in first grade and telling time to the nearest five minute interval in second grade to now telling time to the nearest minute. For volume, students use graduated cylinders and water to measure the volume of solid objects and of containers. The procedure of measuring volume by displacement is explored. Finally, students use a two-pan balance and standard masses to find the mass of various objects. Then, during a lab, they investigate how to predict the total mass of a number or identical objects. Students see that such procedures give a good, though possibly inexact, prediction. The concept of experimental error is explored.

Common Core State Standards Addressed in the unit:

3.MD.1: Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.

3.MD.2: Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).1 Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.

3.MD.3: Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*

3.MD.4: Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.

Big Ideas: 12. When comparing two objects you need to use a common or standard unit of measure. 13. The choice of measurement tool depends on the measurable attribute and the degree of precision required. 14. Estimation of measures and the development of personal benchmarks for frequently used units of measure help students increase their familiarity with units, prevent errors in measurements, and aid in the meaningful use of measurement.	**Essential Questions:** 4. How can you tell time to the nearest minute? 5. How can you measure elapsed time in minutes? 6. How can you estimate and measure liquid volume and mass in metric units? 7. How do time, mass, and volume relate to each other?
Students will know: 10. how many minutes are in an hour 11. the clock can be divided into fifteen-minute intervals 12. hour and minute hand move at different rates 13. the concept of elapsed time, including between a.m. and p.m. 14. the concepts of whole, half and quarter as they relate to a number line 15. how to estimate time for different tasks 16. the relationship between mass and weight and liquid and volume 17. measures of metric capacity (liter, gram, kilogram) 18. masses and volumes can be added, subtracted, multiplied and divided 19. how to estimate measurement of liquid volume and mass 20. abbreviations used to represent units of measure 21. how to present data on a scaled picture graph and a scaled bar graph with several categories 22. when it is important to measure precisely to a half or quarter inch	**Students will be able to:** 1. write time on a digital clock and draw hands on analog clock to a precise minute 2. accurately compute elapsed time to the nearest minute 3. solve elapsed time word problems using addition and subtraction 4. use an open number line to determine elapsed time 5. estimate the capacity of real-life items to the nearest liter 6. accurately measure liquids using liters 7. estimate the mass of real-life items to the nearest gram of kilogram 8. measure mass using grams and kilograms 9. choose appropriate units of measure for specific problems and solve 10. accurately solve two step problems relating to a picture or bar graph 11. demonstrate accurate measurement to the nearest half inch and quarter inch

Significant task 1: It's Time

This task is comprised of four lessons from Math Trailblazers that focus around telling time and time

intervals. Teachers should introduce these lessons as a full class, allowing time for small groups/pairs to develop strategies and then have students to defend and/or present their strategies for solving these problems.

In Lesson 5, ***It's Time***, students practice telling time to the nearest five minutes. Students make a clock and use it to review the position of the hour and minute hands for various time of day. Students use the context of the TIMS Candy Company to practice writing and telling time on analog and digital clocks.

Lesson 6, ***Time for Problems,*** has students solving a series of word problems about telling time and elapsed time. To solve them, students use the analog clock that was created in the previous lesson.

In Lesson 1, ***Time Again,*** students practice telling time to the nearest minute. Students also engage in problems involving elapsed time. Lesson 2, ***Time and Time Again,*** is a game in which players find pairs from memory. Players turn over face-down cards trying to match the time on an analog clock to the corresponding digital time.

In these tasks students will:

- tell time to the nearest five minutes
- tell time to the nearest minute
- tell time on analog and digital clocks
- solve problems involving elapsed time
- learn how skip counting is a helpful skill to use when telling time
- connect mathematics to real-life situations

This task directly targets the following Common Core Standards: 3.MD.1

Timeline: 4 days
Key vocabulary: A.M., analog clock, digital clock, P.M., elapsed
Resources

- Math Trailblazers URG 4 (Lessons 5 & 6) and URG 14 (Lessons 1 & Lesson 2- Parts 1 & 2 only)

Significant task 2: Mass and More Mass

This task focuses on mass. It is comprised of three lessons from Math Trailblazers. Teachers should introduce these lessons as a full class, allowing time for small groups/pairs to develop strategies and then have students to defend and/or present their strategies for solving these problems.

In Lesson 1, ***Measuring Mass,*** students use the basic metric unit of measure for mass, the gram, to find the mass of a variety of small objects using a two-pan balance and standard masses. Different groups compare their results for the mass of some common objects. Students discuss why they may have gotten different answers for the mass of the same objects and whether these differences are reasonable.

Students continue the study of mass in Lesson 2, ***Mass vs. Number,*** by investigating how the mass of nearly identical objects is related to the number of objects. In small groups, students explore why measurements are not exact. Students use patterns in their data to make predictions and solve

problems involving multiplication.

Students conclude this task in Lesson 3, ***More Mass Problems,*** with a series of word problems that build on the concepts introduced in these lessons (mass, using data tables, graphs and multiplication). Students can work on these problems individually, in pairs or in groups. One approach is to ask students to work on the problems individually at first and then come together in pairs or small groups to compare solutions.

In these tasks students will:

- Measure mass in grams
- Deal with precision and accuracy
- Use patterns in tables and graphs to make predictions and solve problems
- Collect, organize, graph and analyze data
- Learn to draw best-fit lines
- Make and interpret point graphs
- Solve problems using multiplication and division
- Connect math to real-life situations

This task directly targets the following Common Core Standards: 3.MD.2, 3.MD.3

Timeline: 7 days
Key vocabulary: gram (g), kilogram (kg), mass, measurement error, standard mass, two-pan balance, unit of measure, best-fit line, weight, estimate
Resources

- Math Trailblazers URG 9 (Lessons 1, 2, & 3)

Significant task 3: Turn up the Volume

This task focuses on volume. It is comprised of three lessons from Math Trailblazers. Teachers should introduce these lessons as a full class, allowing time for small groups/pairs to develop strategies and then have students to defend and/or present their strategies for solving these problems.

In Lesson 1, ***Measuring Volume,*** working in groups, students estimate the volume of small solid objects, based on models they made from centimeter connecting cubes. Then students measure the actual volume of the objects by determining the about of water displaced in a graduated cylinder when an object is placed in the cylinder. Students record the estimates and the actual volumes in a data table and analyze the data collected.

In the lab entitled ***Fill'er Up!*** (Lesson 2) students develop a plan for accurately finding the volume of large containers. Students find the volumes of at least three containers of various sizes and shapes. Students use all four operations to solve problems involving volume. In working with containers of different shapes, the students are reminded that the tallest container may not always have the largest volume.

Lastly, in Lesson 3, ***Volume Hunt,*** students explore volume by finding two containers at home that have different sizes (a cup, a quart, a pint or a gallon). The objective of this activity is for students to discover the relationships among these units by pouring water between the different-sized containers. Students share their results with classmates, record their findings in a data table, and use arithmetic to derive any

missing values.

In these tasks students will:

- Estimate volume using centimeter connecting cubes
- Use graduated cylinders to measure volume by displacement
- Collect, organize, graph and analyze data
- Accurately measure the volume of large, unusually shaped containers
- Solve addition, subtraction, multiplication, and division problems involving volume
- Make and interpret a bar graph
- Use patterns in data to make predictions and solve problems
- Deal with precision and accuracy
- Use medians to average data
- Discover relationships between cups, pints, quarts and gallons

This task directly targets the following Common Core Standards: 3.MD.2, 3.MD.3

Timeline: 5 days
Key vocabulary: cubic centimeter (cc), displacement, graduated cylinder, liter (l), meniscus, milliliter (ml), volume, median, cup, gallon, pint, quart, gram (g), kilogram (kg), capacity, liquid volume
Resources

- Math Trailblazers URG 16 (Lessons 1, 2, & 3)

Significant task 3: *Mastering the Basic Math Facts in Multiplication and Division* (For more information, see Teacher Notes.)

- Chapter 7 – Multiplying by 3 (pp. 91-101)
- Chapter 8 – Multiplying by 4 (pp. 103-113)

Chapter 7 – Multiplying by 3: Multiplying by 3 can be thought of as multiplying by 2 and then adding one more group, or as tripling a number.
Big Ideas

- Multiplication by 3 is tripling a number
- Our number system is a system of patterns
- The order of factors does not change the product (the commutative property)

Literature Link: ***A Three Hat Day*** by Laura Geringer

Chapter 8 – Multiplying by 4: Multiplying by 4 can be thought of as doubling a double. The previous mastery of x2 facts allows students to double x2 products to find the x4 products.
Big Ideas

- Multiplication by 4 is doubling a double
- Our number system is a system of patterns
- The order of factors does not change the product (the commutative property)

Literature Link: ***If You Hopped Like a Frog*** by David Schwartz

This task directly targets the following Common Core Standards: 3.OA.1, 3.OA.2

Timeline: 4 days
Key vocabulary: none
Resources: ***Mastering the Basic Math Facts in Multiplication and Division*** book (Chapters 7 & 8)

Common learning experiences:

- On Core Lessons 71-86 as needed for practice, extension, intervention or homework

Common assessments including the end of unit summative assessment:

End of Unit Summative Assessment - Unit 4: Exploring Measurement and Data
Unit 4 Scoring Guide

Teacher notes:

- Process standards to highlight through instruction: **use appropriate tools strategically, attend to precision, look for and make use of structure,** and **look for and express regularity in repeated reasoning.**
- **Targeted Learning:** For students who are having difficulty, targeted learning time can be focused on re-teaching. Refer to your Assessment Reflection form for Unit 3: Using Multiplication and Division, to determine student needs.
- **Predictable misconceptions:** Some students initially believe that measuring in larger units will result in a larger answer.
- **For Significant Task 3:** The purpose of these lessons is to explore ways to support all students in mastering multiplication and division facts. By focusing on big ideas, strengthening students' understanding of math operations, developing strategic thinking, and providing varied and engaging practice tasks to promote fluency, students will be better equipped to both understand math facts and commit the facts to memory. Whether you are introducing students to basic facts, reviewing facts, or providing remediation for struggling students, these lessons will provide you with insights and activities to simplify this complex, but critical component of math teaching.

Windsor Public Schools
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Grade 3 Mathematics

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Name of Unit 5: Understanding Area and Perimeter	**Length of the unit:** 4 weeks

Purpose of the Unit: To understand the concept of area and relate area to multiplication and to addition. To recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. This is the first introduction students have to area and perimeter. Their understandings will be further developed in grade 4.

Common Core State Standards Addressed in the unit:

3.MD.5: Recognize area as an attribute of plane figures and understand concepts of area measurement.

3.MD.5a: A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.

3.MD.5b: A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.

3.MD.7: Relate area to the operations of multiplication and addition.

3.MD.7a: Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.

3.MD.7b: Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.

3.MD.7c: Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths *a* and *b* + *c* is the sum of *a* × *b* and *a* × *c*. Use area models to represent the distributive property in mathematical reasoning.

3.MD.7d: Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.

3.MD.8: Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

3.MD.6: Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).

Big Ideas:	**Essential Questions:**
15. Area is measured in square units. 16. Polygons with the same area can have different perimeters. 17. Polygons with the same perimeter can have different areas.	8. How is finding the area of a shape different from finding the perimeter of a shape? 9. How can shapes be combined or broken apart to create new shapes?
Students will know:	**Students will be able to:**

1. the area of a plane figure is dealing with the inside of the shape 2. when using a square unit the entire surface of a plane figure must be measured without gaps or overlays 3. area can be solved using *n* when the unit of measure is unknown using repeated addition and multiplication 4. area is measured in square units 5. square units can include customary and metric units of length 6. the relationship of multiplication and addition to area 7. the area algorithm to solve problems 8. rectilinear shapes can be broken down into rectangles 9. what makes a polygon 10. how to determine the perimeter if polygons 11. polygons with the same area can have different perimeters and that polygons with the same perimeter can have different areas	1. use manipulatives to show area with no gaps or overlays 2. use repeated addition or multiplication to find the area of a plane figure 3. identify the difference between customary and metric units of length 4. determine area 5. use arrays 6. know that areas equals length x width 7. work backwards to find the possible lengths and widths when given the area of a rectangle 8. find the perimeter of polygons, including finding the unknown side length 9. solve mathematical problems with polygons

Significant task 1:
This task is comprised of 3 lessons from Math Trailblazers. Teachers should introduce these lessons as a full class, allowing time for small groups/pairs to develop strategies and then have students to defend and/or present their strategies for solving these problems.

In Lesson 1, ***Measuring Area***, students expand their understanding of area by measuring the area of irregular shapes. Students count whole square units and piece together the remaining fractional ones. In this lesson, Professor Peabody is covering his living room and hall with square tiles. Students help him determine how many tiles he will need. Then, students also find the area of other polygons and curved shapes.
In Lesson 2, ***Boo the Blob***, students find the area of an irregular "blob" named Boo. Boo can change shape but not area. After Boo changes his shape, students find which of three different mystery shapes is Boo in another form. This activity provides a context for students to see that different shapes can have the same area, to practice estimating the area of irregular shapes, and to practice identifying the median value of a set of data.

Lesson 3 is a lab entitled ***The Better "Picker Upper"***. Students investigate the area of a spot made by a given number of drops of water on different brands of paper towels. Students measure the area of the spots by counting square centimeters. Students use this information to decide which brand is most absorbent.

In these tasks students will:

- Measure area by counting whole and fractional parts of square centimeters
- Find the area of irregular shapes
- Solve problems involving area
- Investigate the relationship between shape and area
- Recognize that different shapes can have the same area
- Learn to find the mean
- Identify variables of an investigation
- Identify variables that must be fixed to ensure fairness in an investigation
- Collect, organize, graph and analyze data
- Use data to solve problems

This task directly targets the following Common Core Standards: 3.MD.5, 3.MD.6, 3.MD.7

Timeline: 7 days
Key vocabulary: area, estimate, square centimeter, average, mean, median, variable
Resources:

- On Core Lessons 87, 88, 89, 90, 91
- Math Trailblazers URG 5 - Lessons 1 (CCSS Activity 6), 2, & 3

Significant task 2:
Task 2 focuses on perimeter with Lesson 6, ***Walking Around Shapes,*** from Math Trailblazers. Students measure the perimeter and length of each of three sizes of regular polygons. Groups record their measurements in data tables and graph the data. Students look for the relationship between the length of a side and the perimeter of equilateral triangles, squares, and regular hexagons, and write multiplication and division number sentences to express these relationships.

In this task students will:

- Measure length in centimeters
- Measure perimeter in centimeters
- Identify and describe patterns
- Use patterns to solve problems
- Identify regular shapes

This task directly targets the following Common Core Standards: 3.MD.8

Timeline: 4 days
Key vocabulary: equilateral triangle, perimeter, regular hexagon, regular pentagon
Resources:

- On Core Lessons 92, 93, 95, 96
- Math Trailblazers URG 7 – Lesson 6

Significant task 4: *Mastering the Basic Math Facts in Multiplication and Division* (For more information, see Teacher Notes.)

- Chapter 9 – Multiplying by 6 (pp. 115-128)
- Chapter 10 – Multiplying by 9 (pp. 129-140)

Chapter 9 – Multiplying by 6: Multiplying by 6 can be thought of as doubling a multiple of 3. Previous

mastery of x3 facts allows students to see that 4 x 6 can be thought of as double 4 x 3, or (4 x 3) + (4 x 3). Previous mastery of x5 facts also supports students with x6 facts, knowing that the product of a x6 fact is simply 1 set more than the product of the related x5 fact (e.g., the product of 6 x 8 is 8 more than the product of 5 x 8).

Big Ideas

- In multiplication, if we double the number of sets or double the size of each set, the product will double
- The distributive property shows us that numbers can be broken apart in varied ways
  e.g., a (b + c) = (a x b) + (a x c)
- The order of factors does not change the product (the commutative property)

Literature Link: ***Snowflake Bentley*** by Jacqueline Briggs Martin

Chapter 10 – Multiplying by 9: Building on knowledge of x10 facts, the product of a x9 fact is 1 group less than the product of the same x10 fact (e.g., 10 x 5 = 50, so 9 x 5 = 45, which is 5 less, or 10 x 7 = 70 and 9 x 7 = 63, which is 7 less).

Big Ideas

- Our number system is a system of patterns
- Multiplication facts are connected. Knowing one set of facts can help us understand a related set of facts.
- The order of factors does not change the product (the commutative property)

Literature Link: ***Cloudy with a Chance of Meatballs*** by Judi Barrett

This task directly targets the following Common Core Standards: 3.OA.1, 3.OA.2

Timeline: 5 days
Key vocabulary: none
Resources: ***Mastering the Basic Math Facts in Multiplication and Division*** book (Chapters 9 & 10)

Common learning experiences:

- *Exploring Area, Area on the Geoboard,* and *The Area Stays the Same* activities
- *Measuring Perimeter, Perimeter on the Geoboard, Perimeter with Color Tiles, Designing a Rabbit Enclosure,* and *The Perimeter Stays the Same* activities
- These activities can be found in the ***Supplementary Materials binder***

Common assessments including the end of unit summative assessment:

End of Unit Summative Assessment - Unit 5: Understanding Area and Perimeter
Unit 5 Scoring Guide

Teacher notes:

- Process standards to highlight through instruction: **reason abstractly and quantitatively, model with mathematics, use appropriate tools strategically,** and **attend to precision.**
- **Targeted Learning:** For students who are having difficulty, targeted learning time can be focused on re-teaching. Refer to your Assessment Reflection form for Unit 4: Exploring Measurement and Data, to determine student needs.
- **Predictable misconceptions:** Area and perimeter (the distance around a region) are continually a source of confusion for students. Perhaps it is because both involve regions to be measured or because students are taught formulas for both concepts and tends to get them confused.
- **For Significant Task 4:** The purpose of these lessons is to explore ways to support all students in mastering multiplication and division facts. By focusing on big ideas, strengthening students' understanding of math operations, developing strategic thinking, and providing varied and engaging practice tasks to promote fluency, students will be better equipped to both understand math facts and commit the facts to memory. Whether you are introducing students to basic facts, reviewing facts, or providing remediation for struggling students, these lessons will provide you with insights and activities to simplify this complex, but critical component of math teaching.

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Name of Unit 6: Reasoning About Two-Dimensional Shapes	**Length of the unit:** 3 weeks
Purpose of the Unit: In second grade, students identify and draw triangles, quadrilaterals, pentagons and hexagons. Third graders build on this experience and further investigate quadrilaterals. Students recognize shapes that are not quadrilaterals by examining the properties of the geometric figures. Students conceptualize that a quadrilateral must be a closed figure with four straight sides and begin to notice characteristics of the angles and the relationship between opposite sides. Students should be encouraged to provide details and use proper vocabulary when describing the properties of quadrilaterals. Students sort geometric figures and identify squares, rectangles, and rhombuses as quadrilaterals. Students will classify shapes by attributes and draw shapes that fit specific categories.	
Common Core State Standards Addressed in the unit: **3.G.1: Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.**	
Big Ideas:	**Essential Questions:**

18. Objects can be described and compared with their geometric attributes. 19. Shapes in different categories may share attributes.	10. How can two dimensional shapes be described? 11. How can you describe angles in shapes? 12. How can you use line segments and angles to make polygons? 13. How are geometric shapes constructed?
Students will know: 23. the attributes of different categories or quadrilaterals 24. which shapes are and are not quadrilaterals 25. what shared attributes can define a larger category of polygons	**Students will be able to:** 1. classify shapes based on the number of sides 2. classify shapes based on length of sides 3. classify shapes based on angles 4. articulate proper vocabulary and details when describing the properties of quadrilaterals 5. show examples of quadrilaterals do not belong

Significant task 1: Exploring Polygons with The Greedy Triangle

This unit begins with the read aloud story entitled ***The Greedy Triangle*** *by Marilyn Burns.* In this lively introduction to shapes and polygons, a bored triangle is turned into a quadrilateral after a visit to the shape shifter. Delighted with his new career opportunities--as a TV screen and a picture frame--he decides the more angles the better, until an accident teaches him a lesson.

As the story is read another time, pairs of students will use a piece of tied yarn or elastic loops to form the polygons described in the book. After each polygon is formed and students will have the opportunity to observe and comment about the similarities and differences in the shapes. Students may do a similar activity using a geoboard instead. Finally, students can create a picture glossary of polygons to use as a reference.

This task directly targets the following Common Core Standards: 3.G.1

Timeline: 1 day
Key vocabulary: triangle, quadrilateral, pentagon, hexagon, octagon, decagon
Resources: ***The Greedy Triangle*** book *by Marilyn Burns*, **Exploring Polygons with The Greedy Triangle** lesson sheet can be found in the ***Supplementary Materials binder***.

Significant task 2: The Case of the Missing Shape

The Case of the Missing Shape lessons introduce students to shape attributes and new shapes. It is expected that students are familiar with identifying squares, circles, triangles and rectangles before these lessons. During these lessons, students will become detectives working for "Poly Gon" to help her rescue a kidnapped shape. Students will learn to identify trapezoids, parallelograms, and hexagons by their attributes. Teachers should introduce these lessons as a full class, allowing time for small

groups/pairs to develop strategies and then have students to defend and/or present their strategies for solving these problems.

In these tasks students will:

- Identify the attributes of a shape: such as size, number of sides, number of corners
- Identify shapes by name: square, circle, rectangle, triangle, hexagon, parallelogram, trapezoid
- Identify right angles
- Identify shapes as quadrilaterals and polygons

This task directly targets the following Common Core Standards: 3.G.1

Timeline: 4 days
Key vocabulary: square, circle, rectangle, triangle, hexagon, parallelogram, trapezoid, rhombus, quadrilateral, polygon, right angle

- **Resources:** ***The Case of the Missing Shape*** supplemental packet and Detective Notes (These activities can be found in the ***Supplementary Materials*** binder) and SmartBoard lesson (This can be found on the Elementary Math for Teachers folder on your desktop.)

Significant task 3: Sorting and Comparing Quadrilaterals

In this task students are presented with 2 different activities: ***2-D Shape Sort*** and ***Comparing Quadrilaterals***. In ***2-D Shape Sort*** students work with a partner to sort 2-D shapes into two groups according to their geometric attributes. In pairs, students are asked to explain their thinking and are stretched to consider other options for sorting. In ***Comparing Quadrilaterals*** students choose two quadrilaterals from a set of 2-D shape cards. Students draw each quadrilateral and explain how they are alike and how they are different. Students repeat this again with another pair of quadrilaterals. Teachers should introduce these lessons as a full class, allowing time for small groups/pairs to develop strategies and then have students to defend and/or present their strategies for solving these problems.

This task directly targets the following Common Core Standards: 3.G.1

Timeline: 1 day
Key vocabulary: square, circle, rectangle, triangle, hexagon, parallelogram, trapezoid, quadrilateral, polygon
Resources: ***2-D Shape Sort*** and ***Comparing Quadrilaterals*** instruction sheets and shape cards can be found in the ***Supplementary Materials binder***

Significant task 4: *Mastering the Basic Math Facts in Multiplication and Division* (For more information, see Teacher Notes.)

- Chapter 11 – Multiplying by 8 (pp. 141-149)
- Chapter 12 – Multiplying by 7 (pp. 151-159)

Chapter 11 – Multiplying by 8: Multiplying by 8 results in a product that is double that of multiplying by

4. With the teaching sequence suggested in this curriculum, only two of these facts have not been explored through a different strategy (7 x 8 and 8 x 8).

Big Ideas

- Multiplication by 8 is double multiplication by 4
- Our number system is a system of patterns
- The order of factors does not change the product (the commutative property)

Literature Link: ***Snowmen at Night*** by Caralyn Buehner

Chapter 12 – Multiplying by 7: Multiplying by 7 may be the most difficult for students. Students can break apart the 7 (distributive property) to find that it is the sum of 5 times the factor and 2 times the factor (e.g., 7 x 4 is (5 x 4) + (2 x 4). Although this works, it is more efficient to simply think *commutative property* and reverse the order of the factors. By doing this, students realize that they already know all of the x7 facts except 7 x 7.

Big Ideas

- The distributive property shows us that numbers can be broken apart in varied ways
  e.g., a (b + c) = (a x b) + (a x c)
- Multiplying a factor by itself results in a square number

Literature Link: ***Thunder Cake*** by Patricia Polacco

This task directly targets the following Common Core Standards: 3.OA.1, 3.OA.2

Timeline: 5 days
Key vocabulary: none
Resources: ***Mastering the Basic Math Facts in Multiplication and Division*** book (Chapters 11& 12)

Common learning experiences:

- **Building with Shapes** *OPTIONAL* - Math Trailblazers URG 12, Lesson 1 ***(Tangrams)***, Lesson 2 ***(Building with Triangles)***, and Lesson 3, ***(Building with Four Triangles),*** are optional lessons and can be used as needed or put out as independent activities during the Targeted Instruction block.

- On Core Lessons 97-103 to be done as a whole group activity to reinforce the concepts introduced in this unit.

- Optional Literature Connection: ***Grandfather Tang's Story*** *by Ann Tompert* (Using the Chinese form of storytelling with seven special shapes, Grandfather Tang tells his granddaughter a tale of two foxes that change themselves into progressively fiercer animals to compete for dominance. As he speaks, he rearranges two tangram puzzles to form the shapes of the animals. Tangram patterns are shown throughout and directions for making the tangrams are on the last page.)

Common assessments including the end of unit summative assessment:

End of Unit Summative Assessment - Unit 6: Reasoning About Two-Dimensional Shapes
Unit 6 Scoring Guide

Teacher notes:

- Process standards to highlight through instruction: **make sense of problems and persevere in solving them, reason abstractly** and **quantitatively, construct viable arguments and critique the reasoning of others, and attend to precision.**
- **Targeted Learning:** For students who are having difficulty, targeted learning time can be focused on re-teaching. Refer to your Assessment Reflection form for Unit 5: Understanding Area and Perimeter, to determine student needs.
- **Predictable misconceptions:** Some students may need to be reminded that to be a polygon, a shape must be closed.
- **For Significant Task 4:** The purpose of these lessons is to explore ways to support all students in mastering multiplication and division facts. By focusing on big ideas, strengthening students' understanding of math operations, developing strategic thinking, and providing varied and engaging practice tasks to promote fluency, students will be better equipped to both understand math facts and commit the facts to memory. Whether you are introducing students to basic facts, reviewing facts, or providing remediation for struggling students, these lessons will provide you with insights and activities to simplify this complex, but critical component of math teaching.

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Name of Unit 7: Understanding Fractions	**Length of the unit:** 3 weeks

Purpose of the Unit: To develop an understanding of fractions as numbers through investigating part-whole fractions by working with pattern blocks, solving word problems, playing games, and making and using paper models. Basic fraction concepts are emphasized; procedures are not. A fundamental idea in several activities is that the meaning of a fraction depends on what the whole is. Other important ideas are that the whole must be divided into equal parts, that fractions can have more than one name, and that ordering fractions by size requires attention to both the numerator and denominator. The use of one-half as a benchmark for comparing fractions is emphasized.

Common Core State Standards Addressed in the unit:

3.NF.1: Understand a fraction 1 / *b* as the quantity formed by 1 part when a whole is partitioned into *b* equal parts; understand a fraction *a* / *b* as the quantity formed by *a* parts of size 1 / *b* .

3.NF.2: Understand a fraction as a number on the number line; represent fractions on a number line diagram.

3.NF.2a: Represent a fraction 1 / *b* on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1 / *b* and that the endpoint of the part based at 0 locates the number 1 / *b* on the number line.

3.NF.2b: Represent a fraction *a* / *b* on a number line diagram by marking off *a* lengths 1 / *b* from 0. Recognize that the resulting interval has size *a* / *b* and that its endpoint locates the number *a* / *b* on the number line.

Big Ideas:	**Essential Questions:**
20. Fractions refer to equal sized pieces of a whole. 21. Fractional parts have special names that tell how many parts of that size are needed to make the whole. For example, *thirds* require three parts to make a whole. 22. The more fractional parts used to make a whole, the smaller the parts.	1. What do the numerator and denominator of a fraction tell? 2. What does a fractional name tell you? 3. Why are equal parts important when dealing with fractions?
Students will know: (Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.) 26. fractional parts must be equal-sized pieces of the same whole 27. how many equal parts make a whole 28. as the number of equal pieces in the whole increases, the size of the fractional pieces decreases 29. the numerator of a fraction is the number of equal parts being considered 30. the denominator of a fraction is the number of equal parts that make up the whole 31. the characteristics of a unit fraction (a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts) 32. the properties of a unit whole 33. a fraction is part of a whole 34. a fraction as a number on the number line	**Students will be able to:** (Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.) 1. identify the numerator as the number if equal parts being considered 2. identify the denominator as the number of equal parts that make up the whole 3. read and write a fraction with denominators 2, 3, 4, 6, and 8 4. divide a region or set of objects into fractional parts 5. explain fractions verbally and/or in writing 6. identify fractions on a number line 7. place fractions on a number line 8. show a fraction on a number line by marking off equal lengths from 0 to 1 9. divide a number line between 0 and 1 into equal parts and define the unit fraction

Significant task 1: Parts and Wholes
This task is comprised of 5 lessons from Math Trailblazers URG 13 (Lessons 1, 2, 3, 4, & 5). Teachers should introduce these lessons as a full class, allowing time for small groups/pairs to develop strategies and then have students to defend and/or present their strategies for solving these problems.

In Lesson 1, ***Kid Fractions***, a group of students stands at the front of the class while the teacher presents a fraction based on some characteristic of the group. The rest of the class tries to determine what characteristic the teacher has in mind. Discussion focuses on the relationship between the part and whole and the meaning of the numerator and denominator.

Lesson 2, ***What's 1?*** uses pattern blocks to explore the concept of a unit whole. Students name fractions when given one whole and identify the whole when give the fraction.

In ***Pizza Problems***, Lesson 3, students work in groups to solve problems about sharing pizza. Students cut paper circles to represent the pizza and use them to find what fraction of a pizza each person gets. Answers are recorded in pictures, words and symbols and shared with the class.

Lesson 4, ***Fraction Games***, sends students to FractionLand where they advance along a path by answering questions involving fractions. Students can work in pairs or groups of four. The game's purpose is to practice finding a fraction of a whole number (such as ½ of 16) by using beans or other counters. The second game in this lesson, ***Problem Game***, has students comparing two fractions and saying a number sentence in order to move their pieces. This game is designed to be played with two or more players.

Lesson 5, ***Fraction Problems***, is a set of word problems that builds on the fraction concepts in this task. Students can work on the problems individually, in pairs, or in groups.

In these tasks students will:

- Connect mathematics with real-world situations
- Find a fractional parts of a set
- Identify the fraction for a given quantity when a unit whole is given
- Identify the unit whole when a fraction is given
- Represent fractions using pattern blocks
- Compare and order fractions using the benchmark fraction one-half
- Recognize that fractional parts of a whole must have equal areas
- Use an area model for solving part-whole fractions
- Represent fractions using pictures, words and symbols
- Solve problems involving fractions
- Find fractional parts of whole numbers
- Compare and order fractions using counters
- Solve fraction problems involving time

This task directly targets the following Common Core Standards: 3.NF.1, 3.NF.2

Timeline: 7 days
Key vocabulary: denominator, numerator, hexagon, rhombus, trapezoid, unit whole
Resources:

- Math Trailblazers URG 13 - Lessons 1, 2 (CCSS Activity 17), 3, 4 (CCSS Activity 18), & 5

Significant task 2:
This task begins with an introductory SmartBoard lesson which uses geoboards to aid in fraction understanding. This skill is further explored in Math Trailblazers URG 17, Lesson 1, ***Geoboard Fractions***. Students divide geoboard rectangles into halves, thirds, and fourths in as many ways as possible. Students then record their divisions on *geoboard paper* and share their solutions with the class.

In this task students will:

- Represent fractions using geoboards
- Divide a whole into equal-area parts
- Measure area by counting square units
- Understand that fractional parts of a whole must have equal areas but can have different shapes
- Translate among different representations of fractions (concrete, pictorial, and symbolic)
- Identify congruent shapes

This task directly targets the following Common Core Standards: 3.NF.1
Timeline: 3 days
Key vocabulary: congruent
Resources:

- Math Trailblazers URG 17, Lesson 1
- Introductory SmartBoard lesson – can be found on Elementary Math for Teachers desktop folder

Common learning experiences:

- On Core lessons: 55, 56, 57, 58, 59, 60, 61 & 62
- Optional Literature Connection: ***Gator Pie*** *by Louise Mathews.* (Two alligators consider dividing their pie into halves, thirds, fourths, eighths, and hundredths.)
- Optional Literature Connection: ***Apple Fractions*** *by Jerry Pallota.* (Author Jerry Pallotta and illustrator Rob Bolster use a variety of different apples to teach kids all about fractions in this innovative and enjoyable book. Playful elves demonstrate how to divide apples into halves, thirds, fourths, and more.)
- **Technology Connections:** see links below for a variety of fraction games and practice options
  http://classroom.jc-schools.net/basic/math-fract.html
  http://hoodamath.com/games/fraction.php
  http://www.visualfractions.com/Games.htm

Common assessments including the end of unit summative assessment:

End of Unit Summative Assessment - Unit 7: Understanding Fractions

Unit 7 Scoring Guide

Teacher notes:

- Process standards to highlight through instruction: **make sense of problems and persevere in solving them, reason abstractly and quantitatively, use appropriate tools strategically, attend to precision,** and **look for and make use of structure.**
- **Targeted Learning:** For students who are having difficulty, targeted learning time can be focused on re-teaching. Refer to your Assessment Reflection form for Unit 6: Reasoning About Two-dimensional Shapes, to determine student needs.
- URG 17, Lesson 1, ***Geoboard Fractions*** – the activities in this lesson use an area model to emphasize two points about fractions: (1) The whole must be divided into equal-area parts, but (2) those parts do not have to be congruent. By learning these two points, students will understand part-whole fractions better.
- **Predictable misconceptions:** A source of confusion for some students is that the same symbols are used for all kinds of fractions. For example, the symbol "1/2" can represent part of an object (one-half of a pizza), a part of a collection (one-half of a class), a part of a unit of measure (one-half inch), a ratio (one part milk to two parts flour), a probability (the chance of a fair coin showing heads), part of a distance (one-half of the way to Boston), a pure number (the average of 0 and 1), and even a division (of 1 by 2).
- **Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, 8.**

Students develop an understanding of fractions, beginning with unit fractions. Students view fractions in general as being built out of unit fractions, and they use fractions along with visual fraction models to represent parts of a whole. Students understand that the size of a fractional part is relative to the size of the whole. For example, ½ of the paint in a small bucket could be less paint than 1/3 of the paint in a larger bucket, but 1/3 of a ribbon is longer than 1/5 of the same ribbon because when the ribbon is divided into 3 equal parts, the parts are longer than when the ribbon is divided into 5 equal parts. Students are able to use fractions to represent numbers equal to, less than, and greater than one. They solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators.

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 3 Mathematics

Purpose of the Course (from CCSS): In Grade 3, instructional time should focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

Name of the Unit 8: Reasoning about Fraction Comparisons and Equivalence	**Length of the unit:** 3 weeks
Purpose of the Unit: To develop an understanding of fractions as numbers. Students explore relationships between fractions and the idea that fractional parts of a whole must have equal areas and	

on the concept of equivalence. Students also discover that different fractions can represent the same quantity. Students may even begin to notice patterns in those fractions. Students are encouraged to think about relationships between fractions other than equivalence, including greater than, less than, and comparisons with the benchmarks 0, 1, and ½.

Common Core State Standards Addressed in the unit:

3.NF.3: Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

3.NF.3a: Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

3.NF.3b: Recognize and generate simple equivalent fractions, (e.g., 1 / 2 = 2 /4 , 4 /6 = 2/ 3). Explain why the fractions are equivalent, e.g., by using a visual fraction model.

3.NF.3c: Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1 ; recognize that 6/ 1 = 6; locate 4/ 4 and 1 at the same point of a number line diagram*.

3.NF.3d: Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

3.G.2: Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1 /4 of the area of the shape.*

Big Ideas:	**Essential Questions:**
23. Two equivalent fractions are two ways of describing the same amount by using different-sized fractional parts.	1. How can you compare fractions with the same denominator? 2. How can you compare fractions with the same numerator?
Students will know: (Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.) 35. a whole number can be expressed as a fraction 36. the definition of equivalence 37. two fractions are equivalent (equal) if they are the same size, or the same point on a number line 38. simple equivalent fractions (e.g., ½ = 2/4, 4/6 =2/3 39. two fractions with the same numerator or the same denominator can be compared	**Students will be able to:** (Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.) 1. recognize and generate simple equivalent fractions 2. explain why fractions are equivalent 3. compare fractions by reasoning about their size 4. express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers

40. comparisons are valid only when the two fractions refer to the same whole	5. compare two fractions with the same numerator or the same denominator 6. express the comparison of fractional models by using <, >, or = 7. recognize that comparisons are valid only when the two fractions refer to the same whole 8. verbally explain and in writing all of the procedures for this standard

Significant task 1: Folding Fractions

This task begins with Math Trailblazers Lesson 2, ***Folding Fractions.*** In this lesson, students fold and color sheets of scratch paper to find and to name fractions that are equivalent to one-half, one-third, and one-fourth. Students record the data they generate in a table from the paper-folding activities. After a full class discussion, students analyze the data to identify patterns in equivalent fractions.

Students continue to explore the concept of fraction equivalence by playing ***Capture the Fraction*** in pairs. In this game, students roll 2 dice and decide what fraction the numbers represent. The smaller number is designated as the numerator and the larger number as the denominator. Then the student shades in the correct fraction segments on the *Capture the Fraction recording sheet.* Player two continues the play shading fractional pieces. Once an entire fraction is shaded, the student who completes that move circles, or captures, that figure. They player with the most figures circled, wins.

In this task students will:

24. identify equivalent fractions through paper-folding activities and a game
25. find patterns in equivalent fractions

This task directly targets the following Common Core Standards: 3.NF.3, 3a, 3b, 3.G.2

Timeline: 5 days
Key vocabulary: equivalent fractions
Resources

- Math Trailblazers URG 17 – Lesson 2
- *Capture the Fraction recording sheet* and directions can be found in the ***Supplementary Materials binder***
- On Core Lessons 63 & 64

Significant task 2: Comparing Fractions

This task involves Math Trailblazers Lesson 4, ***Fraction Hex.*** In this lesson, students have more practice in comparing and ordering fractions. Each player places two same color centimeter cubes or other game markers on two matching hexagons with the same number. The goal is to get the two cubes to the matching hexagons on the opposite side of the board. To move, a player spins the spinner. If the spinner shows greater than or equal to, the player can move either of the cubes to an adjacent hexagon

with a fraction that is greater than or equal to his or her current position. If the spinner shows less than or equal to, the player moves one cube to an adjacent hexagon with a fraction that is less than or equal to his or her current position. Students can model the fractions with pattern blocks if a visual is needed. The first player to get both cubes to his or her target hexagons is the winner.

This task directly targets the following Common Core Standards: 3.NF.3, 3a, 3b, 3c, 3d, 3.G.2

Timeline: 5 days for game and On Core lessons
Key vocabulary: fraction greater than 1, compare, greater than (>), less than (<), denominator, fraction circles, unit fraction
Resources

- Math Trailblazers URG 17 – Lesson 4
- On Core Lessons 65-70, 105

Common learning experiences:

- **Technology connections**: see links below for a variety of fraction games and practice options
  http://classroom.jc-schools.net/basic/math-fract.html
  http://hoodamath.com/games/fraction.php
  http://www.visualfractions.com/Games.htm

Common assessments including the end of unit summative assessment:

End of Unit Summative Assessment - Unit 8: Reasoning About Fraction Comparisons and Equivalence
Unit 8 Scoring Guide

Teacher notes:

- Process standards to highlight through instruction: **construct viable arguments and critique the reasoning of others, model with mathematics** and **look for and make use of structure**.

- **Targeted Learning:** For students who are having difficulty, targeted learning time can be focused on re-teaching. Refer to your Assessment Reflection form for Unit 7: Understanding Fractions, to determine student needs.
- **Predictable misconceptions:** Some students may think that larger the numerator, the larger the value of the fraction. Also confusing, when comparing fractions, the larger the denominator, the smaller the fraction which is not always true. Another common misconception in third grade is that fractional parts do not have to be the same size. Also, not referring to the same whole when comparing fractions can be a difficult concept to understand.
- **Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, 8.** Students develop an understanding of fractions, beginning with unit fractions. Students view fractions in general as being built out of unit fractions, and they use fractions along with visual fraction models to represent parts of a whole. Students understand that the size of a fractional part is relative to the size of the whole. For example, ½ of the paint in a small bucket could be less paint than 1/3 of the paint in a larger bucket, but 1/3 of a ribbon is longer than 1/5 of the

same ribbon because when the ribbon is divided into 3 equal parts, the parts are longer than when the ribbon is divided into 5 equal parts. Students are able to use fractions to represent numbers equal to, less than, and greater than one. They solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators.

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 4 Mathematics

Purpose of the Course (from CCSS): In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

Name of the Unit: Unit 1 Comparing and Rounding Through Place Value	Length of the unit: 3 weeks
Purpose of the Unit: In third grade students round to the nearest 10 and 100. In second grade, students read and write numbers to 1000 using base-ten numerals, number names, and expanded form. They also compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons. This unit builds on these previously developed concepts and expands students' base-ten understandings up to one million.	
Common Core State Standards Addressed in the unit: **4.NBT.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.** **4.NBT.3 Use place value understanding to round multi-digit whole numbers to any place.** 4.NBT.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.* 4.OA.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	
Big Ideas: 1. Depending on the situation sometimes it is better to round and sometimes it is better to use exact figures. 2. Numbers can be represented in multiple ways and for a variety of purposes. 3. In the base ten number system numbers to the left of the digit are ten times larger and numbers to the right are ten times less.	Essential Questions: 1. When is it appropriate to round and for what purpose? 2. How can numbers be compared and contrasted? 3. How does a digit's placement in a number affect its value?
Students will know: 1. >, <, = symbols	Students will be able to: 1. compare and order numbers using >, <, =

2. place value names and the values of digits in any place 3. estimation strategies and the benefits of those strategies 4. expanded form 5. standard form	symbols 2. round numbers to any place up to one million 3. read and write numbers in standard form, expanded form, and with base-ten 4. recognize that a digit in one place represents 10 times what it represents in the place to the right 5. solve multistep word problems while assessing the reasonableness of answers using estimation strategies 6. conduct research that builds knowledge through investigation of data related to state demographics

Significant task 1: Comparing Numbers

This task is comprised of multiple parts from Math Trailblazers Unit 6 Lesson 3 and two tasks adapted from the Georgia Department of Education titled Number Scramble and Ticket Master. In this task, students explore place value relationships and build understanding of large numbers, students will represent numbers up to a million with base-ten pieces. Students will build these as a class while the teacher leads a whole class discussion and introduces that idea that a digit in one place represents ten times what it represents in the place to its right. In the final part of this lesson, students play Draw, Place, Read. This can be played as pairs, small groups, or the whole class can play together. As students play, it is important to have discussion around strategies for placing digits and the value of digits in various places.

Number Scramble builds on understandings developed through Draw, Place Read. Students work independently to manipulate the ten digits to complete various activities such as constructing large and small numbers and numbers with specific values in a given place, write numbers in expanded and standard form. For example, “Make a number worth more than two hundred thousand, with a six in the ten thousands place.”

In the final part of this task, Ticket Master, students order and compare 6-digit numbers found on ticket stubs. In part one, students order numbers independently. In part 2 students play Dare to Compare where they read then compare two numbers using >, <, or = symbols.

In this task students will:

- Construct models for numbers up to one million
- Recognize that a digit in one place represents ten times what it represents in the place to the right
- Develop number sense for large numbers
- Order numbers
- Compare numbers using greater than, less than, or equals to symbols
- Write numbers in standard form

- Write numbers in expanded form

This task directly targets the following Common Core Standards: 4.NBT.1, 4.NBT.2

Timeline: 4 days

Key vocabulary: period, place value, ones, tens, hundreds, thousands, ten-thousands, hundred-thousands, millions, greater than, less then, equal to, place value, standard form, expanded form, digit

Resources:

- Please see the "Teacher Notes" section for a change to Math Trailblazers Unit 6 Lesson 3
- Math Trailblazers Unit 6 Lesson 3
- Number Scramble and Ticket Master lessons adapted from Georgia Department of Education

Significant task 2: Using Estimation

This task is grounded in Math Trailblazers Unit 6 Lesson 6 Using Estimation. The context of this lesson involves large numbers of people including visitors to a planetarium and national parks in the US. Through this, students explore concepts related to estimation.

In this task students use number lines to round numbers. They identify the different benchmarks to use when rounding numbers. Students recognize that the benchmarks they choose affect the accuracy and the ease of use of rounded numbers. They estimate sums and differences using rounded numbers and explore when it is appropriate to use an estimate. As an assessment, students respond to a journal prompt about when it is appropriate to use exact vs. rounded numbers.

In this task, students will:

- Round numbers to various place values up to the millions
- Choose appropriate convenient numbers
- Use line models and benchmarks to estimate
- Estimate sums and differences of large numbers
- Write about when it is appropriate to use exact vs. rounded numbers

This task directly targets the following Common Core Standard: 4.NBT.3

Timeline: 4 days

Key vocabulary: place value, ones, tens, hundreds, thousands, ten-thousands, hundred-thousands, millions, digit, round, estimate, about, convenient number, benchmark

Resources:

- Math Trailblazers Unit 6 Lesson 6

Significant task 3: It's in the Numbers!

In significant task 3, students apply the skills they have been developing throughout the unit. Students will have the opportunity to choose seven states from different regions of the United States. Students will conduct research from multiple sources to collect data related to U.S. regional demographics,

including population, precipitation, and area and use the data to draw conclusions about why people might choose to live there. At the end of this investigation, there will be a class discussion focused on the various conclusions students drew about the most desirable region in which to reside. Students will be required to justify their decisions using the information they have gathered, analyzed and evaluated. Throughout this task, students should consider and discuss the question, How do people use data to make decisions?

In this task, students will:

- Determine which place would be the most logical to round to based on data
- Extend their understandings of rounding to whole numbers, and place values greater than hundreds
- Write numbers in expanded form
- Compare numbers
- Read and write whole numbers
- Experience conducting research
- Evaluate the desirableness of a location.

This task directly targets the following Common Core Standards: 4.NBT.2, 4.NBT.3, 4.OA.3

Timeline: 3 days

Key vocabulary: population, precipitation, area, round, compare, place value, standard form, expanded form, digit, less than, greater than, equal to, estimate, ones, tens, hundreds, thousands, ten-thousands, hundred-thousands, millions, reasonableness, convenient numbers.

Resources:

- It's in the Numbers lesson adapted from Georgia State Department of Education
- Computers with internet access
- Atlases, Almanacs, Encyclopedias

Websites:

- http://www.census.gov/schools/facts/
- http://www.ers.usda.gov/statefacts/
- http://www.statemaster.com/index.php
- http://lwf.ncdc.noaa.gov/oa/climate/online/ccd/nrmlprcp.html
- http://www.allcountries.org/uscensus/411_normal_monthly_and_annual_precipitation_selected.html

Common learning experiences:

- On Core 15 Model Place Value Relationships
- On Core 19 Round Numbers
- Significant task 1: Some students may need place value charts to support recording and comparing numbers. Base-ten blocks may be used to model numbers for those students who need this support
- Significant task 2: You may want to have students discuss real life situations where they would want to estimate up and where they would want to estimate down. If students are not ready to

begin rounding large numbers, build up to this. Start by having some students round three digit numbers to the nearest hundred, then four digit numbers to the nearest thousand and so on.

- Significant task 3: Activities such as these lend themselves to extended exploration of analyzing data. For those students who need an extension, have students compare further U.S. demographics and/or countries all over the world. An additional website is offered for the purpose of extending student understanding: http://money.cnn.com/magazines/moneymag/bplive/2007/
- Significant task 3: for some students this task may be too much. Consider limiting the number of regions for which students are responsible (not less than three) so students will be able to round and compare sufficient data while avoiding getting bogged down in the research process. You may also help students organize the task and break it into smaller steps.
- Use Kidspiration for interactive base ten blocks on the computer or smartboard.

Common assessments including the end of unit summative assessment:

- Windsor Public Schools Grade 4 Summative Assessment and Scoring Guide Unit 1 Comparing and Rounding
- Addition and Subtraction with Bar Models Mini Assessment

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and persevere in solving them, construct viable arguments and critique the reasoning of others, and use appropriate tools strategically.
- Targeted Learning: Use basic fact assessments for addition, subtraction, multiplication, and division to determine student needs and focus instruction. Be sure to teach the strategies for learning the basic facts. Students must have understanding of the strategies before attempting and skill/ drill practice.
- Targeted Learning: Targeted learning throughout this unit should focus on students' ability to fluently add and subtract using the standard algorithm as well as using the bar model or thinking blocks as a model for addition and subtraction problems. If students are in need of this skill use On Core Lesson 22 Problem Solving: Comparison Problems along with the addition and subtraction thinking blocks at thinkingblocks.com.
- Arrow cards are a great tool for exploring place value concepts.
- If students need support ordering numbers on a number line consider using http://nlvm.usu.edu/en/nav/frames_asid_334_g_2_t_1.html?from=category_g_2_t_1.html
- In MTB Unit 6 Lesson 3 discussion question 3 asks students to draw and fill in a chart. The middle column uses exponents. Instead of using exponents (a fifth grade skill) create a column where students can show that the value of the base-ten piece is 10 times the value in the preceding row.
- Many students make errors when rounding six digit numbers to the nearest ten-thousand. Misconceptions often result in students rounding the hundred-thousands place, or dropping the hundred thousand. In this case it can be helpful to redirect students to the number line model.
- During the second week of school after activating prior knowledge give students the mini assessment on addition and subtraction with bar models. If students need review of this skill please use targeted learning time for re-teaching.

Curriculum Map for the Intermediate Level
Grade 4 Mathematics

Purpose of the Course (from CCSS): In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

Name of the Unit: Unit 2 Products and Factors	Length of the unit: 4 weeks
Purpose of the Unit: This unit builds on concepts developed in third grade. While in third grade, students find products and quotients for whole numbers within 100. This unit explores products and factors as they relate to multiplication and division. Students also solve multiplicative comparisons. This unit will lead into multi-digit multiplication and division which will be the next skills developed.	
Common Core State Standards Addressed in the Unit: **4.0A.4 Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.** 4.OA.1 Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations. 4.OA.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison. 4.OA.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. 4.NBT.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	
Big Ideas: 4. There are relationships among factors, products, multiples, and divisors. 5. There is a relationship between 2 factors of a product and the dimensions of a rectangle.	Essential Questions: 4. How are products and factors related? 5. What is the relationship between the multiples of a number and the factors of a number? 6. How are the factors of a number and the dimensions of a rectangle related?

Students will know:	Students will be able to:
1. that factors come in pairs 2. numbers greater than one all have at least two factors, one and the number itself 3. a prime number has only 2 factors, 1 and itself; a composite number has more than 2 factors. 4. 1 is neither prime nor composite 5. 2 is the only even prime number 6. square numbers have a square array made by multiplying two of the same factors 7. the relationship between a rectangle with a given area and the factors of that number 8. a rectangular array may be used to represent the product of factor pairs 9. there are multiple strategies to find the factors and multiples of a number such as using arrays, calculators, patterns, divisibility rules 10. understand that a list of multiples is infinite	1. generate all factors of a number using arrays, patterns, and calculators 2. generate a finite list of multiples 3. provide evidence for classifying numbers as prime, composite, square, even, and odd 4. use factors and multiples to solve problems and explain facts of everyday life 5. use mathematical language accurately to express whole number relationships 6. apply the relationship between factors and dimensions/areas of a rectangle 7. compare and contrast characteristics of whole numbers 8. use visual representations to demonstrate understandings of factors and multiples 9. solve multistep word problems involving factors multiples, and divisibility rules 10. interpret a multiplication equation as a comparison (e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5) 11. use mental computation and estimation strategies including rounding to assess the reasonableness of answers 12. identify and describe patterns in the multiples of 2, 3, 5, 6, 9, and 10 13. use divisibility rules to determine if numbers are divisible by 2, 3, 5, 6, 9 and 10 14. make connections between multiplication and division 15. think logically about and discuss comparisons between products

Significant Task 1: Products and Factors

Significant task one is built from lessons in Math Trailblazers Unit 4 and is supplemented with lessons from On Core. The focus is on 4.OA.4 on the topic of products and factors. Concepts are developed over a series of 5 lessons. Students begin with MTB lesson 1, Multiplication and Rectangles. Working in collaborative groups, students build arrays for numbers between 1 and 25. Students share their results and make a whole class chart. Students participate in a class discussion concerning the arrays while looking patterns. The terms multiple, prime numbers, and square numbers are introduced. Please see the teachers note section for an adaption to this lesson. In lesson 2, Factors, students use square inch tiles to identify prime numbers and find factors using rectangular arrays and calculators. Students will use tables to organize data and make the connection to division by writing division sentences. In lesson

3, Floor Tiler, students work in pairs to represent multiplication problems using arrays. Students have to think logically about the factors. Students will use estimation and logical reasoning when deciding which spinner(s) to spin. Students should discuss their reasoning focusing on the size and area they are attempting to cover. Finally, in lesson 5, Product Bingo, students learn about products and factors through a game in small groups. The valuable part of this lesson is the discussion and explanation of mathematical reasoning comparing the different game boards. On Core 12, Prime and Composite Numbers, extends to higher numbers than the Math Trailblazers lessons. To align with 4.OA.4, students must determine if whole numbers between 1 and 100 are prime or composite.

This task directly targets standards: 4.OA.1, 4.OA.4, 4.NBT.5

Timeline: 9 days

Key vocabulary: product, factor, array, multiple, factor, factor pairs, prime, composite, represent, multiplication, equations, variables, multiplicative comparison, additive comparison

Resources:

- On Core 12
- Math Trailblazers unit 4 lessons 1, 2, 3, and 5
- Calculators

Significant task 2: Multiplicative Comparisons

Significant task 2 is all about exploring and solving multiplicative comparisons using various strategies. Students begin by completing Math Trailblazers CCSS Activity 8, Making Comparisons. Students solve real-world problems using equal groups or arrays. Students may use set models to solve multiplicative comparisons in On Core 1. Students will use multiplication and division thinking blocks on thinkingblocks.com to solve multiplicative comparisons. It is important that students have the opportunity to explore and solve problems on this site. Ideally this should be done independently, but it may be done in pairs or small groups if necessary. The front of On Core 2 can be done as a lesson. However, numbers 1 -6 on the back can be used to assess students' abilities to independently solve multiplicative comparison problems.

This task directly targets standards: 4.OA.1, 4.OA.2

Timeline: 4 days

Key vocabulary: represent, multiplication, equations, variables, multiplicative comparison, additive comparison

Resources:

- computers with internet access to thinkingblocks.com
- speakers/ headphones
- Math Trailblazers CCSS Activity 8
- On Core 1 and 2

Significant Task 3: Divisibility Rules

Significant Task Three builds on understandings developed around products and factors. In this task,

students explore ways to determine whether a multi-digit number is evenly divisible by a given number. Students use hundreds charts to look for patterns in multiples of 2, 3, 5, 6, 9, and 10 and connect those patterns to deduce divisibility rules. Students must decide if numbers are divisible by 2, 3, 5, 6, 9, 10 and provide evidence to support their decisions. Students continue to practice applying divisibility rules in On Core 9, Factors and Divisibility. This lesson combines newly developed divisibility concepts with concepts about factors from Significant Task 1. It also has students engage in some real world problem solving. Throughout this task, it is crucial that there is significant discussion around divisibility rules. Students should engage in small group discussion as well as full class discussion. Students should be encouraged to consistently provide proof for their conclusions citing specific divisibility rules and proof that a given number does or does not fit that rule.

This task directly targets standards: 4.OA.4

Timeline: 4 days

Key vocabulary: product, factor, divisible, divisibility rule, multiple, remainder, array, represent, reasonableness, multiplication, equations, ones, tens

Resources:

- Math Trailblazers Unit 7 Lesson 2
- On Core lessons 9
- Calculators

Common learning experiences:

- Math Trailblazers Unit 4 Lesson 6 Multiplying to Solve Problems: This lesson addresses standard 4.OA.3. Students solve real-world multi-step word problems.
- Consider using http://nlvm.usu.edu/en/nav/frames_asid_192_g_2_t_1.html?from=category_g_2_t_1.html under grouping to explore multiplication and area models.
- Consider using http://jmathpage.com/JIMSMultiplicationmodelsmultidigit.html for games that involve factors, products, and multiples.
- Significant task 1: Group students into heterogeneous groups when building arrays for products. Plan numbers given to each group accordingly so that each group has some prime numbers, composite numbers, number with more than two arrays etc.

Common assessments including the end of unit summative assessment:

- Windsor Public Schools Grade 4 Summative Assessment and Scoring Guide Unit 2 Products and Factors

Teacher notes:

- Process standards to highlight through instruction: construct viable arguments and critique the reasoning of others, use appropriate tools strategically, look for and make use of structure, and look for and express regularity in repeated reasoning.
- Targeted Learning: using the Teacher Reflection sheet from the previous assessment, determine student needs and focus instruction on comparing and rounding through place value.

- Targeted Learning: Use basic fact assessments for addition, subtraction, multiplication, and division to determine student needs and focus instruction. Be sure to teach the strategies for learning the basic facts. Students must have understanding of the strategies before attempting and skill/ drill practice.
- Targeted Learning: If there are still students who have not demonstrated the ability to fluently add and subtract using the standard algorithm as well as use the bar model or thinking blocks as a model for addition and subtraction problems focus targeted learning on these skills.
- Unit Math Trailblazers Unit 4 Lesson 1 exponents are introduced in part 2. Please do not go into exponents. This concept will be explored in fifth grade.
- Grade 4 expectations for 4.OA.2 are limited to whole numbers less than or equal to 1,000,000.

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 4 Mathematics

Purpose of the Course (from CCSS): In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

Name of the Unit: Unit 3 Multiplication	Length of the Unit: 6 weeks

Purpose of the Unit: In third grade, students are expected to develop fluency with all math facts for multiplication and division. They have some exposure to two-digit by one-digit multiplication, and multiply one-digit numbers by multiples of ten. In fourth grade, students further explore the concept of multiplication and develop strategies for solving multi-digit multiplication problems of up to four digits by one digit and two digits by two digits. Students use strategies based on place value and the properties of operations such as the all-partials method. **Students do not learn the compact method/ traditional algorithm for multiplication until fifth grade.** In fifth grade, the expectation is for students to expand their understanding of multiplication to the traditional algorithm, and master the skill. Students must also multiply numbers to the hundredths place.

Common Core State Standards Addressed in the unit:

4.NBT.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

4.OA.1 Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

4.OA.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using

drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.[1] [1]Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.

4.0A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

4.0A.4 Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.

4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way*

4.NBT.3 Use place value understanding to round multi-digit whole numbers to any place.

4.NBT.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.

Big Ideas:	Essential Questions:
6. Multiplication involves counting groups of like size and determining how many are in all. 7. Patterns can be used to develop an algorithm. 8. Knowing properties of operations and number patterns allows us to be flexible when working with numbers. 9. Traditional algorithms work for all numbers but are often far from the most efficient of useful methods of computing.	7. How can patterns be generalized? 8. What benchmarks are helpful to estimate? 9. How do operations affect numbers?
Students will know:	Students will be able to:
1. basic facts: addition, subtraction, multiplication and division 2. a letter or variable can stand for an unknown quantity 3. the distributive, associative, and commutative properties of multiplication (students do not need to know the names of terms) 4. multiplication involves equal groups	1. apply the all-partials method of multiplication up to one-digit by four-digit and two-digit by two-digit 2. multiply multiples of 10, 100, 1,000, 10,000 3. solve multi-step problems involving the four operations 4. fluently add 5. write and solve multiplicative comparisons 6. use models such as bar models, area models, arrays, base-ten pieces, base-ten

	shorthand to represent operations 7. use estimation to determine the reasonableness of answers 8. explain calculations, arrays, area models, base-ten models and equations 9. represent unknown quantities with a remainder

Significant task 1: Developing the All-Partials Method

Significant task one is developed from a sequence of lessons from Math Trailblazers and On Core. Teachers should present these lessons as a full class discussion and then allow time for students to defend and/ present their strategies for solving problems.

This task begins with Math Trailblazers Unit 7 Lesson 4, Multiplying by 10s. In this lesson, students use base-ten pieces to develop an understanding of multiplication as repeated addition. Students look for patterns when multiplying a one-digit number by multiples of tens, hundreds, thousands, and ten thousands. Students also use unknown variables in number sentences. This lesson involves the journal prompt: "Why can multiplication problems be 'turned around'? Can addition problems be turned around? How about subtraction problems? What about division problems? Explain." It is important to engage students in a whole class discussion around this prompt. Although some of the problems used to present these concepts are have real-world contexts, some of the problems are simply an opportunity for skill practice and looking for patterns.

Unit 7 Lesson 4 combines well with Math Trailblazers Unit 7 Lesson 7, Multiplying Round Numbers, because it is expanding on the concept of multiplying by multiples of ten. Multiplying Round Numbers uses the context of a garden store to present problems that require multi-digit multiplication with rounded numbers. These lessons may be done in sequence, or Lesson 7 may be done at the conclusion of the task after students have had some practice with the compact method.

In Math Trailblazers Unit 7 Lesson 5, Multiplication, students are introduced as a whole class to the all-partials method for multiplication. Students should use base-ten pieces and base-ten recording sheets to model the mathematics. Be sure to have discussion around questions 1-6 as a whole class. Be sure to discuss models and numbers side by side.

In On Core 25, Multiplying Using the Distributive Property, students work independently or in small groups as they use area models to multiply two-digit by one-digit numbers.

The next lesson in this task is Math Trailblazers Unit 7 Lesson 6, Estimation, incorporate CCSS Activity 16 with Lesson 6. In this lesson, students develop strategies for computing estimates for multiplication. Students explore situations where estimates are appropriate (such as estimating mileage and shopping) and make estimates using convenient numbers. Questions 8-15 should be done in groups. Encourage students to use different strategies to solve problems and to share their strategies in a full class discussion. Discuss what convenient or round number they used in their mental calculations. CCSS activity 16 provides additional practice rounding three-digit whole numbers to the nearest hundred before multiplying.

This task directly targets standards: 4.OA.1, 4.OA.2, 4.OA.5, 4.NBT.3, 4.NBT.4, 4.NBT.5

Timeline: 11 days

Key vocabulary: multiple, product, factor, represent, reasonableness, multiplication, equations, variables, multiplicative comparison, ones, tens, hundreds, thousands, ten-thousands, all-partials method, distributive property, partial product, algorithm, round, estimate

Resources: Math Trailblazers Unit 7 Lessons:4, 5, 6, and 7, Math Trailblazers CCSS Activity 16, On Core Lesson 25

Significant task 2: Application of All-Partials

Significant task 2 requires students to apply the all-partials method for 2-digit by one-digit multiplication. The task is built from Math Trailblazers Unit 7 Lesson 8 A Camping Trip, Math Trailblazers CCSS Activity 17, and On Core Lesson 3, Problem Solving: Multistep Multiplication Problems. MTB Unit 7 Lesson 8 is a series of word problems focused around the context of a camping trip which require estimation and computation. CCSS Activity 17 extension for the camping trip lesson requires students to write stories involving multiplicative comparisons for the three problems presented. On Core Lesson 3 requires students to draw diagrams and perform two or more operations to solve real-world problems. Students should work through these problems in small groups then as a whole class they should share their diagrams and strategies for problem solving.

This task directly targets standards: 4.OA.2, 4.OA.3, 4.NBT.4, 4.NBT.5

Timeline: 3 days

Key vocabulary: represent, reasonableness, multiplication, equations, multiplicative comparison, all-partials method, partial product, round, estimate, diagram

Resources: Math Trailblazers Unit 7 Lesson 8, Math Trailblazers CCSS Activity 17, and On Core Lesson 3

Significant task 3: Expanding the All-Partials Method to Larger Numbers

Significant task three is grounded in several lessons where students learn to adapt strategies theya they have learned previously. Teachers should present these lessons as a full class discussion and then allow time for students to defend and/ present their strategies for solving problems.

In MTB Unit 11 Lesson 1, students use manipulatives to review the concept of multiplication. Students expand their understanding of multiplying by multiples of ten and the all-partials method of multiplying a one-digit by a two-digit number. As students practice these skills it is important to stress the use of estimation to determine the reasonableness of answers. For questions 11-15 it is important to discuss as a class multiplication by multiples of 10 and 100 by looking at the base ten pieces.

In MTB Unit 11 Lesson 2, computations involving one-digit multiplied by multidigit numbers are discussed. Estimation of products is stressed again here as a way of determining the reasonableness of answers. Much of this lesson should be done as individuals or in small groups. Student should discuss their strategies and things they learned from this work. Students should realize that the zeros in their work are a result of the products of the numbers in the tens' hundreds' and thousands' places.

MTB Unit 11 Lesson 4, focuses around the context of a new school being built. Students use base ten models to represent larger products. This will help students understand the all-partials method of two-digit by two-digit multiplication. This lesson should be introduced as a whole class. Students should work on questions 2 and 3 in small groups and then come back as a full class to discuss the strategies before moving on.

On Core 33 uses rectangular area models with partial products to solve two-digit by two-digit multiplication. Finally, in On Core 5 students solve multi-step real-world math problems involving multiplication of two-digit numbers followed by comparison between the resulting products. In this lesson, students use bar models for comparisons. Small group and full class discussion should focus on students' strategies for solving problems.

This task directly targets standards: 4.OA. 3, 4.NBT.3, 4.NBT.4, 4.NBT.5

Timeline: 11 days

Key vocabulary: multiple, product, represent, reasonableness, multiplication, equations, variables, multiplicative comparison, ones, tens, hundreds, thousands, ten-thousands, all-partials method, partial product, round, estimate

Resources: Math Trailblazers Unit 11 Lessons 1, 2, and 4, On Core Lesson 33 and 5

Common learning experiences:

- All students should do the Math Trailblazers CCSS Lesson 14. This lesson uses real-world problems to explore multiplicative comparisons.
- Significant task 1: On Core Lesson 26: Multiplying Using Expanded Form, Lesson 23: Multiply Tens, Hundreds, and Thousands, Lesson 24: Estimate Products, and Lesson 31: Multiplying by Tens provide additional practice for students that need it.
- Significant task 3: As extra practice for those who need it consider using On Core Lesson 27: Multiplying Using Partial Products, Lesson 28: Multiplying Using Mental Math, Lesson 34: Multiply Using Partial Products, and Lesson 32: Estimate Products
- Use http://nlvm.usu.edu/en/nav/frames_asid_192_g_2_t_1.html?from=category_g_2_t_1.html for area models when multiplying multi-digit numbers. You can also access this by going to nlvm.usu.edu then clicking on Number and Operations Grades 3-5 then scrolling down to rectangle multiplication. Click on "lattice" to get arrays larger than 10 by 10. We are not teaching the lattice method, but the visual models created on this site are great! Use the camera capture tool to capture the images you want to use into a SMART Notebook document.
- Use thinkingblocks.com for bar models. These are great for problem solving especially comparison problems.

Common assessments including the end of unit summative assessment:

This unit has 2 assessments one for the middle of the unit and one at the end of the unit.

- Windsor Public Schools Grade 4 Summative Assessment and Scoring Guide Unit 3 Mid Unit Multiplication

- Windsor Public Schools Grade 4 Summative Assessment and Scoring Guide Unit 3 End of Unit Multiplication

Teacher notes:

- Process standards to highlight through instruction: reason abstractly and quantitatively, model with mathematics, attend to precision, and look for and express regularity in repeated reasoning.
- Targeted Learning: Using the Teacher Reflection sheet from the previous assessment, determine student needs and focus instruction on concepts related to products, factors, and divisibility rules.
- According to the CCSS fourth grade students are expected to multiply, "using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models." Therefore, in fourth grade, instruction will focus on these strategies. **Students will NOT be taught the compact method/ traditional algorithm for multiplication. This will come in fifth grade.**
- Throughout the unit, if students are having difficulty lining up place value columns let them use the base-ten recording sheet as a tool. Students may also use graph paper, or lined paper turned sideways to keep numbers lined up in columns.
- Often traditional computations are done from right to left. However, with the all-partials method there is nothing wrong with beginning on the left.
- Grade 4 expectations for 4.OA.2 are limited to whole numbers less than or equal to 1,000,000.

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 4 Mathematics

Purpose of the Course (from CCSS): In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

Name of the Unit: Unit 4 Division	Length of the unit: 3 Weeks
Purpose of the Unit: In third grade, students are expected to develop fluency with all math facts for multiplication and division. In this unit, students will develop strategies grounded in place value, the properties of operations, and the relationship between multiplication and division to find whole number quotients and remainders with up to four digit dividends and one digit divisors. In fifth grade, students expand their use of the area model to find quotients of whole numbers with up to four-digit dividends and two-digit divisors. **Students do not learn the traditional algorithm for division until sixth grade.**	
Common Core State Standards Addressed in the unit:	

4.NBT.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

4.NBT.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.

4.0A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Big Ideas:	Essential Questions:
10. Division is breaking apart into equal size groups. 11. Multiplication and division are inverse operations. 12. Patterns can be used to develop an algorithm. 13. Knowing properties of operations and number patterns allows us to be flexible when working with numbers. 14. Traditional algorithms work for all numbers but are often far from the most efficient of useful methods of computing.	10. How can division be modeled? 11. What are the benefits of representing division in a certain way? 12. How are multiplication and division related? 13. What strategies make solving multiplication and division problems easier?
Students will know: 1. basic facts: addition, subtraction, multiplication and division 2. a letter or variable can stand for an unknown quantity 3. division is equal shares and leftovers are called remainders	Students will be able to: 1. find quotients for problems with up to four-digit dividend and one-digit divisors using strategies based on place value, properties of operations, and/or relationships between multiplication and division 2. build or illustrate calculation for division using equations, rectangular arrays and/or area models 3. calculation using equations, rectangular arrays and/or area models 4. interpret the remainder 5. represent unknown quantities with a remainder

Significant task 1: Base Ten Division

Significant task 1 is developed from two SMART Notebook lessons, Intro to Division with Base-Ten Blocks and Division with Base-Ten Shorthand. Teachers should present these lessons as a full class discussion and then allow time for students to defend and/ present their strategies for solving problems. In this task students are introduced to the concept of division as equal shares. Students are presented with a

problem where 2 children are trying to share a specific number of marbles. Base-ten blocks are used to represent items in the lesson. It is important for students to have experience with the hands on models. The whole class should engage in discussion around how the children in the problem decide how many marbles they will each get. The problems that follow this focus around the context of a summer camp and involve the interpretation of remainders. The class should work the next few problems together before students are ready for independent application. Discussion about the different strategies after each problem is crucial. The teacher should make clear that various approaches taken can be correct. The second lesson builds on these concepts, but transfers students to using base-ten shorthand instead of base-ten pieces.

This task directly targets standards: 4.OA.3, 4.NBT.6, 4.NBT.4

Timeline: 3 days

Key vocabulary: division, divisor, quotient, dividend, remainder, multiply, subtract, add, product, represent, reasonableness, equations, variables, ones, tens, hundreds, thousands, ten-thousands, base-ten

Resources: SMART Notebook lessons: Intro to Division with Base-Ten Blocks and Division with Base-Ten Shorthand.

Significant task 2: The Area Model for Division

Significant task 2 is grounded in two SMART Notebook lessons, Introduction to the Area Model and Area Model with Remainders. In this task students transition from splitting base-ten pieces into equal groups to using base-ten pieces to construct area models. Students use variables and must interpret remainders. This task is meant to provide practice for students. Students will work in small groups and discuss their strategies for finding solutions.

This task directly targets standards: 4.NBT.6, 4.NBT.4

Timeline: 4 days

Key vocabulary: division, divisor, quotient, dividend, remainder, multiply, subtract, add, product, represent, reasonableness, equations, variables, ones, tens, hundreds, thousands, ten-thousands, area model, base-ten

Resources: SMART Notebook lessons: Introduction to the Area Model and Area Model with Remainders

Significant task 3: Abstract Rectangles with the Forgiving Method

Significant task 3 is grounded in the SMART Notebook lesson, Abstract Rectangles with the Forgiving Method. Teachers should present this lesson as a full class instruction and then allow time for students to defend and/ present their strategies for solving problems. In this task, students move from using base-ten pieces to using abstract rectangles. Students learn the forgiving method (an algorithm for division) along aide the abstract rectangles. This helps to connect each step in this algorithm to a model. Students are immediately introduced to the idea that there is more than one way to solve these division problems. Students should share their strategies in whole class discussion.

This task directly targets standards: 4.OA.3, 4.NBT.6, 4.NBT.4

Timeline: 3 days

Key vocabulary: division, divisor, quotient, dividend, remainder, multiply, subtract, add, product, represent, reasonableness, equations, variables, ones, tens, hundreds, thousands, ten-thousands, area model, base-ten, forgiving method, abstract rectangle

Resources: SMART Notebook lesson: Abstract Rectangles with the Forgiving Method

Common learning experiences:

- Significant task 1: Bring your students to the computer lab or give access to computers with Kidspiration. Students can use the program to model division.
-

Common assessments including the end of unit summative assessment:

- Windsor Public Schools Grade 4 Summative Assessment and Scoring Guide Unit 4 Division

Teacher notes:

- Process standards to highlight through instruction: reason abstractly and quantitatively, model with mathematics, attend to precision, and look for and express regularity in repeated reasoning.
- Targeted Learning: Using the Teacher Reflection sheet from the previous assessment, determine student needs and focus instruction on concepts related to multiplication.
- When using the area model, some students get confused by the bits representing the divisor and accidentally add them in with the dividend. It may help to have these students use different colored bits for the divisor, and/ have students use a mat with the division bracket.
- The division terms can be difficult for some students. Teachers should use the proper terms and review vocabulary at the start of each lesson. Consider a word wall.

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 4 Mathematics

Purpose of the Course (from CCSS): In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

Name of the Unit: Unit 5 Fractions	Length of the unit: 6 weeks

Purpose of the Unit: As part of the third grade curriculum, students develop the part-whole concept of fractions. Students represent fractions on number lines, and find simple equivalents for fractions using visual models. Students also express whole numbers and fractions and compare fractions with common numerators and denominators. In this unit, students will further explore fraction concepts. Students will use various strategies to find equivalent fractions and compare fractions with like and unlike denominators. Students will add and subtract fractions with like denominators and multiply fractions by whole numbers. In fifth grade, students move on to adding, subtracting, multiplying, and dividing fractions with unlike denominators.

Common Core State Standards Addressed in the unit:

[1] Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, 100.

4.NF.1 Explain why a fraction *a*/*b* is equivalent to a fraction (*n* × *a*)/(*n* × *b*) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

4.NF.2 Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as ½. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

4.NF.3 Understand a fraction *a*/*b* with *a* > 1 as a sum of fractions 1/*b*.

4.NF.3a Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

4.NF.3b Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*

4.NF.3c Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
4.NF.3d Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.

4.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.

4.NF.4a Understand a fraction *a*/*b* as a multiple of 1/*b*. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).*

4.NF.4b Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)*

4.NF.4c Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*

4.NF.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.[2] *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.* [2] *Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.*

Big Ideas:	Essential Questions:
15. The more fractional parts used to make a whole, the smaller the parts. 16. Two equivalent fractions are two ways of describing the same amount by using different-sized fractional parts. 17. The meanings of each operation on fractions are the same as the meanings for the operations on whole numbers.	14. How can models help us understand fractions and computation with fractions? 15. What are the benefits of representing a relationship in any given way? 16. How does computation with fractions compare to computations with whole numbers?
Students will know:	Students will be able to:
1. comparisons between fractions are only valid when referring to the same size whole 2. why/when two different fractions can be equal 3. composition and decomposition of fractions involves joining and separating unit fractions 4. fraction vocabulary (numerator, denominator, equivalent, etc.) 5. the larger the denominator the smaller the unit piece	1. compare fractions with different numerators and denominators based on benchmarks, finding common denominators, using visual models 2. use the symbols >, =, < to compare fractions 3. justify conclusions about fractions using visual models 4. add and subtract fractions and mixed numbers with like denominators 5. solve word problems for fractions 6. multiply fractions by whole numbers

Significant task 1: Fraction Strips Addition and Subtraction

For significant task 1, teachers should present these lessons as a full class discussion and then allow time for students to defend and/ present their strategies for solving problems.

Significant task 1 is a sequence of lessons in which students begin by creating a set of fraction strips using 3 x 18 inch pieces of construction paper. Students use their fraction strips to show different fractions and find equivalent fractions as is described in Math Trailblazers unit 12 lesson 1. These strips are then used to play the games Fraction Cover Up and Fraction Exchange in pairs. These games allow students to use fractional parts of a whole, recognizing relative sizes and equivalent fractions. Throughout this part of the task, students should discuss ordering fractions, sizes of fractions, equivalent

fractions, and reasoning for all of their conclusions.

In Math Trailblazers Unit 12 Lesson 2 Adding and Subtracting with Fraction Strips, students use the fraction strips they created to add, subtract, and reason about the computation described in real-world problems. Through a journal prompt students explore a common misconception students have about adding the denominators. Students have additional practice with adding fractions using fraction strip models in On Core 56 Write Fractions as Sums.

This task directly targets standards: 4.NF.1, 4.NF.2, 4.NF.3, 4.NF.3a, 4.NF.3b, 4.NF.3c, 4.NF.3d,

Timeline: 7 days

Key vocabulary: fraction, numerator, denominator, equivalent, common denominator, common numerator, improper fraction, mixed number, visual fraction model, less than, greater than, equal to, sum, whole number

Resources: Fraction Kit Games, Math Trailblazers Unit 12 Lesson 1, Math Trailblazers Unit 12 Lesson 2, On Core lesson 56 Write Fractions as Sums

Significant task 2: Comparing and Sorting Fractions

Significant task 2 is developed from three Math Trailblazers lessons, a couple On Core lessons, and an additional resource. Teachers should present these lessons as a full class discussion and then allow time for students to defend and/ present their strategies for solving problems.

In Math Trailblazers Unit 12 Lesson 3 Comparing Fractions, students organize their fraction strips into a chart and use fraction strip charts to compare and order fractions according to their size. Students use fractional concepts such as benchmarks for one-half to reason about comparisons. A journal prompt in this lesson asks students to, “Explain why one-half is a good benchmark to use when comparing the sizes of different fractions.” In Sorting Fractions, students further their use of benchmarks by working with a partner or small group to sort fractions. Fractions are first sorted according to if they are greater than or less than one-half. Next students sort fractions by reasoning if they are near 0 or near 1. Finally students sort fractions into three categories, near 0 near one-half, near 1. This activity should start out as whole group with discussion around how students know if the fraction is greater than or less than one-half. When students move to work with partners, students should continue to support their decisions with reasoning. The teacher can differentiate here when creating sets of fraction cards for students to use in sorting. On Core Lesson 52 Compare Fractions Using Benchmarks, provides additional practice comparing fractions using benchmarks. Students are encouraged to use fraction models such as area models, fraction strips, and number lines to support their reasoning.

In Math Trailblazer Unit 12 Lesson 4 Frabble Game and Bubble Sort, students use a deck of fraction cards to complete two activities. First students play a game called Frabble in small groups in which they order fractions according to their size by strategically placing cards on the table. Then, in an activity called Bubble Sort, each student holds a fraction card and stands in a line. Then, following some simple rules, students rearrange themselves so the cards are in decreasing order. To differentiate, if some students are not ready for the level of reasoning involved in comparing multiple fractions at once in Frabble Game, it may be more appropriate for these students to use the Frabble cards to play War. For students ready for more of a challenge, there is a set of Challenge Frabble Cards available.

In Math Trailblazers Unit 12 Lesson 5 Equivalent Fractions Students find equivalent fraction charts from Lesson 3, write number sentences to represent the equivalent fractions, and look for patterns in the number sentences. Students use these patterns to write an equivalent fraction fro a given fraction. Students develop the algorithm for finding equivalent fractions in this lesson. **This should be students' first exposure to the algorithm.** On Core Lesson 47 Equivalent Fractions provides additional practice with finding equivalent fractions relying on visual models as support. While teaching this lesson, teachers should use the NCTM side listed in the resources section below. This site allows students to create equivalent fractions by breaking whole squares or circles of the same size into a different number of pieces and matching each fraction to its location on a number line. The next lesson, On Core Lesson 48 Generate Equivalent Fractions, has students practice using the algorithm to find equivalent fractions. Students extend this skill farther in On Core Lesson 54 Compare and Order Fractions when they use the algorithm and find common denominators to order sets of three fractions.

This task directly targets standards: 4.NF.1, 4.NF.2, 4.NF.3, 4.NF.3a, 4.NF.3b, 4.NF.3c, 4.NF.3d,

Timeline: 9 days

Key vocabulary: fraction, numerator, denominator, equivalent, common denominator, common numerator, improper fraction, mixed number, visual fraction model, less than, greater than, equal to, sum, whole number

Resources: Math Trailblazers Unit 12 Lesson 3 Comparing Fractions, Sorting Fractions, On Core Lesson 52 Compare Fractions Using Benchmarks, Math Trailblazer Unit 12 Lesson 4 Frabble Game and Bubble Sort, On Core Lesson 47 Equivalent Fractions, http://illuminations.nctm.org/activitydetail.aspx?id=80 , On Core Lesson 48 Generate Equivalent Fractions, On Core Lesson 54 Compare and Order Fractions

Significant task 3: Mixed Numbers, Multiplication, and Application

Significant task three explores the concepts of mixed numbers in fractions, multiplication of a fraction by a whole number and application of fraction skills so that students may solve problems using the concepts and skills they have developed. Teachers should present these lessons as a full class discussion and then allow time for students to work in small groups and pairs where they can defend and/ present their strategies for solving problems.

This task begins with Math Trailblazers CCSS Activity 25 part A. In part A, students use pattern blocks as models to add and subtract mixed numbers and improper fractions. On Core Lesson 58 Add and Subtract Mixed Numbers provides additional practice adding and subtracting mixed numbers with like denominators. Instruction begins by using area models to support thinking.

On Core Lesson 65 Multiples of Unit Fractions prepares students to learn to multiply fractions by whole numbers. This lesson is built on the idea that students know that multiplication is repeated addition. Using this idea, given a fraction, students will write it as a product of a whole number and a unit fraction. Students also write a series of multiples of unit fractions. In the next lesson, On Core Lesson 66 Multiples of Fractions, the skill of writing multiples of unit fractions is applied to writing multiples of other fractions, again using repeated addition. In, CCSS Activity 25 part B, students use multiplication of fractions by a whole number. A fractional hopper and some real-world problems are presented. A number line model is used to reinforce "jumps" of equal sizes. Unit fractions are used in the problems presented in this lesson. In the second part of Math Trailblazers CCSS Activity 24 students multiply

fractions by whole numbers using the set model of a box of doughnuts to support reasoning. In this lesson students move beyond multiplying unit fractions. Students get additional practice in multiplying fractions by whole numbers with the next lessons, On Core Lesson 67 Multiplying a Fraction by A Whole Number Using Models. In this lesson, students work with fraction strips and circles. They apply the concept of multiplication as a number of equal groups and illustrate with models. Math Trailblazers CCSS Activity 27 Part B provides students with the opportunity to solve real-world problems involving multiplication of fractions.

In Math Trailblazers Unit 12 Lesson 7 Solving Problems with Pattern Blocks, students use pattern blocks to solve real-world word problems involving the ordering of fractions and addition of fractions. Using the context of dividing food fairly, students investigate the relationship between the number of equal parts in a whole and the size of the fraction. This task concludes with On Core Lesson 64 Problem Solving: Multistep Fraction Problems. The numbers in some of the problems in this lesson have been modified so that number lines can be used to model (see SMART Notebook document) In this lesson students apply what they have learned about number lines, fractions strips, and other models to solve real world fraction problems.

This task directly targets standards: 4.NF.1, 4.NF.2, 4.NF.3, 4.NF.3a, 4.NF.3b, 4.NF.3c, 4.NF.3d,

Timeline: 9 days

Key vocabulary: fraction, numerator, denominator, equivalent, common denominator, common numerator, improper fraction, mixed number, visual fraction model, less than, greater than, equal to, sum, multiply, whole number

Resources: Math Trailblazers CCSS Activity 25 parts A and B, On Core Lesson 58 Add and Subtract Mixed Numbers, On Core Lesson 65 Multiples of Unit Fractions, On Core Lesson 66 Multiples of Fractions, the second part of Math Trailblazers CCSS Activity 24, On Core Lesson 67 Multiplying a Fraction by A Whole Number Using Models, Math Trailblazers CCSS Activity 27 Part B, Math Trailblazers Unit 12 Lesson 7 Solving Problems with Pattern Blocks, Modified On Core Lesson 64 Problem Solving: Multistep Fraction Problems use SMART Notebook document

Common learning experiences:

- Significant task 1: If students need additional practice with adding and subtracting fractions with like denominators consider using On Core Lesson 55, Add and Subtract Parts of a Whole, On Core Lesson 61 Adding Fractions Using Models, On Core Lesson 62 Subtract Fractions Using Models, and/ On Core Lesson 63 Add and Subtract Fractions.
- Significant task 3: On Core Lesson 68 Multiply a Fraction or Mixed Number by a Whole Number may be used as extra practice for some students. On Core Lesson 69 Problem Solving: Comparison Problems with Fractions may be used as extension for some students.
- Fraction Fairway is a game that students can play in partners or small groups to practice various fraction concepts.
- http://illuminations.nctm.org/activitydetail.aspx?id=80 used to explore equivalent fractions in significant task 2, is also available as a mobile app.

Common assessments including the end of unit summative assessment:

- Windsor Public Schools Grade 4 Summative Assessment and Scoring Guide Unit 5 Fractions

Teacher notes:

- Process standards to highlight through instruction: construct viable arguments and critique the reasoning of others, model with mathematics, use appropriate tools strategically, and look for and make use of structure.
- Targeted Learning: using the Teacher Reflection sheet from the previous assessment, determine student needs and focus instruction on division.
- In significant task 1 Math Trailblazers unit 12 lesson 1 asks students to make fraction strips by folding small strips of paper. Rather than doing that, students should make a set of fraction strips from 3 x 18 inch paper.
- When beginning to add/ subtract with fractions, some students will try to add/ subtract the denominators.
- **The use of models in fractions is crucial.** Models can help students clarify ideas that are often confused in a purely symbolic mode. Sometimes it is useful to do the same activity with two different models. There are three main types of models students will see. These are Length models, region models, and set models.
- As part of this unit, all students should be able to write an equivalent fraction for a given fraction. However, rules should not be taught or used until the students understand what the result means. In a problem-based classroom, students can develop an understanding of equivalent fractions and also develop from that understanding a conceptually based algorithm.

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 4 Mathematics

Purpose of the Course (from CCSS): In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

Name of the Unit: Unit 6 Decimals	Length of the unit: 4 weeks
Purpose of the Unit: Fourth grade is students' first introduction to decimal instruction. This unit begins development of decimal concepts by building on fractional understandings. Students must use decimal notation for fractions, and compare decimal fractions. Students also have to add fractions with denominators 10 and 100. In fifth grade, students read, write, compare, and round decimals to thousandths. Students are also expected to perform all four operations with decimal numbers to hundredths.	
Common Core State Standards Addressed in the unit: **4.NF.6 Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.**	

4.NF.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.

4.NF.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.[2] *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.* [2] *Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.*

Big Ideas:	Essential Questions:
18. Decimal numbers are simply another way of writing fractions. 19. The base-ten place value system extends infinitely in two directions: to tiny value as well as to large values. 20. In the base ten number system numbers to the left of the digit are ten times larger and numbers to the right are ten times less.	17. How do fractions relate to decimals? 18. How does a digit's placement in a number affect its value?
Students will know: 6. decimals are another way of writing fractions 7. similar models can be used to represent both fractions and decimals 8. fractions with different denominators can be equivalent 9. decimal comparisons are only valid when two decimals refer to the same size whole	Students will be able to: 1. read, write, compare decimals to hundredths 2. express a fraction with a denominator 10 as a fraction with denominator 100 3. add two fractions with denominators 10 and 100. 4. use decimal notation for fractions with denominators 10 or 100 5. locate decimals on a number line diagram 6. compare two decimals to hundredths 7. use the symbols >, =, < to record decimal comparisons

Significant task 1: What Are Decimals?

Significant task one is built from two Math Trailblazers lessons with additional tools added in. Teachers should present these lessons as a full class discussion and then allow time for students to defend and/ present their strategies for solving problems. In Math Trailblazers Unit 10 Lesson 2 Tenths, students work with base-ten pieces to build their understanding of tenths using both common fraction and decimal fractions. When students complete the Tenths Helper part of this lesson, it is important to stop at 0.9 and discuss what is going to come next. Some students will suggest that 0.10 will be next. This discussion will provide a chance to clear up any misconceptions while using base-ten pieces to support reasoning. This lesson also involves the journal prompt, "Compare 1.3 meters and 1.3 with base-ten blocks. How are 1.3 m and 1.3 flats similar? How are they different?" This prompt should be discussed as

a whole class or in small groups before student attempt to complete it independently.

In Math Trailblazers Unit 10 Lesson 3 Hundredths, students work with base-ten pieces to build their understanding of decimals through hundredth using both common fractions and decimal fractions. This lesson includes the game Hundredths, Hundredths, Hundredths in which students work with a partner build numbers using base-ten pieces and record the fraction and decimal for the number. Students may use groups of base-ten pieces that require regrouping. As warm ups during day one of the Hundredths lesson, teachers should introduce and use the hundredths disk using the warm up problems in the SMART Notebook lesson. On days 2 and 3 of the Hundredths lesson teachers should use the Decimal Place Value Board as a warm up. Math Trailblazers CCSS Activity 22 A is an extension to the Hundredths lesson. It provides the opportunity to practice comparing decimals to hundredths using greater than, less than, and equal to.

This task directly targets standards: 4.NF.6, 4.NF.7

Timeline: 7 days

Key vocabulary: tenths, hundredths, whole number common fraction, decimals fraction, decimal, numerator, denominator, greater than, less than, equal to, visual fraction model

Resources: Math Trailblazers Unit 10 Lesson 2 Tenths, Math Trailblazers Unit 10 Lesson 3 Hundredths, SMART Notebook lesson for Unit 10 Lesson 3, hundredths disk, Decimal Place Value Board, Math Trailblazers CCSS Activity 22 A

Significant task 2: Working with Decimals

Significant task 2 has been built from a variety of resources including various games, Math Trailblazers and supplemental On Core lessons. This task helps students to build various interwoven skills including finding equivalent fractions for tenths and hundredths, adding tens and hundredths, reading, writing, and comparing decimals. Teachers should present these lessons as a full class discussion and then allow time for students to defend and/ present their strategies for solving problems. Throughout the games and small group activities in this unit, teachers should be moving amongst the student groups observing, coaching discussion, and keeping an observation log of skills students have attained or on which students need additional instruction.

This task begins with Math Trailblazers CCSS Activity 22 B. This activity builds on skills developed in the fractions unit. Students rename fractions with the denominator 10 to fractions with the denominator 100 so that tenths and hundredths can be added. Students have continued practice with this concept with On Core Lesson 71 Add Fractional Parts of 10 and 100. In this lesson, it is important that students recognize the 10 to 1 relationship that exists between tenths and hundredth. This understanding will simplify the work of writing fractions with denominator of 10 as fractions with denominator 100. A real-world connection is made between fractions and money with On Core Lesson 74 Relate Fractions, Decimals, and Money. This is another lesson that reinforces the 10 to 1 relationship.

In On Core Lesson 75 Compare Decimals, students have the opportunity to compare decimals using greater than, less than, and equal signs using number lines as models. In Math Trailblazers Unit 10 Lesson 5 Decimal Hex, students move two tokens to travel across a game board by correctly comparing two decimal fractions or a decimal and a common fraction. This game is played in partners. Students should explain to the partner how they know if the number they are moving to is greater than or less

than the number they are currently on. Race for the Flat is another game played it partners. It allows students to roll a dice with tenths and a dice with hundredths. Students may choose to roll one or both die. Students use base-ten pieces to get a whole. This game is great for reading, writing, and comparing decimals Students need to reason about the size of decimals as they decide which dice to roll. Double digit decimals is a game that involves, building, reading, and comparing decimals using logical reasoning about the sizes of digits in certain place values. This game can be played as a whole class, in small groups, or in pairs. It is suggested to play a couple rounds as a whole class and then play in small groups. Students should be expected to explain their reasoning for why they put digits in certain places, and how they know which number is the greatest. Decimal War should be played in partners. It provides students with practice comparing decimals. Cards that go to thousandths are available for those students who are ready for this extension, but fourth grade students are not expected to be able to compare decimals to thousandths. The final activities in this task are the decimal models activities students use logical reasoning in three increasingly more difficult activities as they match numbers to representations and reason if they are near zero, near one half, or near one whole. Then the visuals are taken away and students have to reason if numbers to hundredths are near zero, near one half, or near one whole. The final piece has students add two decimals and determine if they are near zero, near one half, or near one whole.

This task directly targets standards: 4.NF.5, 4.NF.6, 4.NF.7

Timeline: 9 days

Key vocabulary: tenths, hundredths, whole number common fraction, decimals fraction, decimal, numerator, denominator, greater than, less than, equal to, visual fraction model

Resources: Math Trailblazers CCSS Activity 22 B, On Core Lesson 71 Add Fractional Parts of 10 and 100, On Core Lesson 74 Relate Fractions, Decimals, and Money, On Core Lesson 75 Compare Decimals, Math Trailblazers Unit 10 Lesson 5 Decimal Hex, Race for the Flat,

Common learning experiences:

- Significant task 1: If students need additional practice with comparing tenths use CCSS Activity 21 Part A. If students need practice relating decimal tenths to fractional tenths with models use On Core Lesson 72 Relate Tenths and Decimals.
- Math Trailblazers Unit 10 Lesson 3 in significant task 1 includes an optional assessment activity titled, Linda's Base-Ten Pieces. This activity is scored using a rubric.
- Significant task 2: The following are suggestions for additional practice. On Core Lesson 70 Equivalent Fractions and Decimals, On Core Lesson 73 Relate Hundredths and Decimals
- I Have, Who Has? Decimals is great to play as a whole class as a quick warm up to lessons
- Decimal Match is another great warm up where students match numbers to decimal models.
- Roll for a Whole is a similar game to Race for a Flat and may be substituted.
- Double Digit Decimals is another great game for reading, writing, and comparing decimals, it also gets students ready to add decimals using models. This extension may be appropriate for some students.
- Ordering Decimals is a game that can be played independently or students can play side by side. Students roll two die, create a decimal number and then using estimation and logical reasoning place it between .01 and 1.0.

- Decimal arrow cards are a great tool for exploring decimal place value concepts.

Common assessments including the end of unit summative assessment:

- Windsor Public Schools Grade 4 Summative Assessment and Scoring Guide Unit 6 Decimals

Teacher notes:

- Process standards to highlight through instruction: reason abstractly and quantitatively, attend to precision, and look for and make use of structure.
- Targeted Learning: using the Teacher Reflection sheet from the previous assessment, determine student needs and focus instruction on fractions.
- When introduced to decimals, some students have difficulty with reading decimals. It helps to make the connection to fractions and have a place value chart to which students can refer.
- When ordering decimals, some students have difficulty distinguishing between tenths and hundredths. For example, students may think 0.4 is smaller than 0.09 because they are only paying attention to the non-zero digit. The use of models helps to minimize this misconception.

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 4 Mathematics

Purpose of the Course (from CCSS): In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

Name of the Unit: Unit 7 Patterns and Measurement	Length of the unit: 4 weeks

Purpose of the Unit: In this unit, students will explore and solve problems involving line plots as well as various customary and metric units of measure in length, weight/ mass, liquid measures, time, and money. In third grade, students were expected to find arithmetic patterns, worked on measurement, told and wrote time to the nearest minute. This unit prepares students for fifth grade standards on volume, solving multistep problems using the four operations and fractional information in line plots, as well as conversions of various measures.

Common Core State Standards Addressed in the unit:

4.MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. ***For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), …***

4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid

volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

4.MD.4 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*

Big Ideas:	Essential Questions:
21. Patterns can be used to develop an algorithm. 22. Relationships can be represented as tables, graphs, and equations. 23. Estimation of measures and the development of personal benchmarks for frequently used units of measure help students increase their familiarity with units, prevent errors in measurements, and aid in the meaningful use of measurement. 24. The choice of measurement tool depends on the measurable attribute and the degree of precision required.	19. How can patterns be generalized? 20. What are the benefits of representing a relationship in any given way? 21. How do you decide which measurement systems to use? 22. How are different measures related?
Students will know:	Students will be able to:
10. patterns exist in mathematics and the real-world 11. how to measure in fractional parts of inches 12. relative sizes of customary and metric measures within one system of units including km, m, cm, kg, g, lb, oz, l, ml, hr, min, sec, gallons, quarts, pints, cups, dollars and cents	7. generate number and shape patterns 8. identify features of patterns that are not explicit in the pattern itself 9. create and interpret a line plot using measurements in fractions of units 10. use and accurately read various measurement instruments 11. find measurement equivalents and record them in a two-column table 12. solve word problems that involve converting units of measure into smaller units

Significant task 1: Patterns

Significant task one focuses on patterns and is built from Math Trailblazers Unit 15 Lesson 4, Function Machines, and a task adapted from Georgia Department of education titled Earth Day Project. In Function Machines, students will be introduced to functions through a vignette and an activity, Guess My Rule. This lesson will begin as a whole group lesson with significant time spent discussing strategies students use to find rules. As students are ready, grouping will change to independent and small group work. Students will record findings in a data table and explore different ways to describe the patterns. In the task Earth Day Project, students are presented with a real-world situation involving a set of data. The context of the task is a fourth grade class collecting cans for a recycling project. Using the data, students determine the pattern formed by the numbers in the data set. They extend the pattern and use the data to make predictions, and solve problems. Students engage in small group and full class discussion around strategies for finding relationships in the t-chart.

This task directly targets the following standard: 4.OA.5

Timeline: 5 – 6 days

Key vocabulary: function, function machine, input, output, pattern, prediction, values, relationship, rule, term, odd, even, sequence

Resources: Math Trailblazers Unit 15 Lesson 4, Earth Day Project Task

Significant task 2: Length: Measuring Mania

Significant task 2 involves length measures. In this task, Measuring Mania adapted from the Georgia Department of Education, students work individually for the first part of the task. The second part of the task may be done in small groups. In the task, students develop a deeper understanding of linear measurement. Students will explore relationships in measurement lengths to the nearest one-half, one-fourth, and one-eighth of an inch. Students will then create and interpret a line plot. Students will be expected to justify their thinking in writing as well as oral dialogue in small groups as well as whole class discussions.

This task directly targets standards: 4.MD.1 and 4.MD.4

Timeline: 2 days

Key vocabulary: half-inch, quarter-inch, eighth-inch, line plot, data, length, measure

Resources: Measuring Mania task

Significant task 3: Weight

Significant task three is grounded in four smaller tasks: Worth the Weight; A Pound of What?; Exploring and Ounce; Too Heavy? Too Light?. Each of these tasks explores customary and metric measures of weight and mass. It is suggested that these tasks are completed as stations. Students will engage in the hands on measurement part of the tasks in small groups followed by whole class discussions of discoveries and conclusions. In Worth the Weight, students will experiment with gram and kilogram weights. Students will select objects to weigh, estimate their weight, and then use a spring scale to determine the actual weight. In A Pound of What?, students will be involved in a kinesthetic activity that helps them experience how heavy a pound is and develop a conceptual understanding of a pound. Students will then use that experience to estimate the weight of everyday items. At the end of the first

two activities there will be a full class discussion focusing on benchmarks for grams, kilograms, and pounds, as well as things that are appropriate to measure in these units, strategies for how students determined these, and new understandings that were developed through exploration. In Exploring an Ounce, Students will construct an ounce and investigate its uses in weight and measurement. In Too Heavy? Too Light? Students will solve real-world problems of different units but within the same system. Conversion of units will need to be used. At the end of the final two activities there will be a full class discussion focusing on how you can estimate an ounce, strategies for choosing appropriate measures for weight/ mass, as well as strategies for solving each problem in Too Heavy? Too Light?.

This task directly targets standards: 4.MD.1 and 4.MD.2

Timeline: 4 days

Key vocabulary: gram, kilogram, pound, ounce, balance, scale, weight, reference weight, prediction, more than, less than, equal to, estimate, actual

Resources: Four tasks adapted from Georgia Department of Education: Worth the Weight; A Pound of What?; Exploring and Ounce; Too Heavy? Too Light?

Significant task 4: Liquid Measures

Significant task four is grounded in two tasks, Capacity Line-Up and Gallon Man. In the first part of this task, students explore estimation and measurement of capacity and volume with real-world tools. Students will participate in exploratory activities in small groups to compare the capacity of different containers using liters and milliliters. In the second part of significant task four, students will explore conversions between liquid measures. Students will generate conversion tables for various liquid measures. Student will create and use nonlinguistic representations to solve problems. At the end of this task there will be a full class discussion focusing strategies for comparing the volume of similar items.

This task directly targets standards: 4.MD.1 and 4.MD.2

Timeline: 2 days

Key vocabulary: liter (l), milliliter (ml/ mL), gallon, quart, pint, cup, graduated cylinder, volume, capacity, conversion table

Resources: Capacity Line-Up adapted from Georgia Department of Education, Gallon Man lesson and SMART Notebook document

Significant task 5: Time and Money

Significant task five is built from On Core lesson 85, Problem Solving: Elapsed Time, On Core 84, Problem Solving: Money, and a Basketball task. Throughout this significant task, students will work flexibly moving between individual and small group problem solving with whole class discussion of solutions. In On Core 85 students use diagrams to determine elapsed time for real-world problems. In the Basketball task, students will create a schedule for a basketball league. In On Core 84, students use the four operations to solve problems involving money. In some cases, students will not yet know how to use a standard algorithm to solve problems involving decimals. When this occurs students will use other problem solving strategies such as acting out the problem.

This task directly targets standards: 4.MD.1 and 4.MD.2

Timeline: 4 days

Key vocabulary: hours, minutes, seconds, diagram, money, dollars, cents

Resources: On Core lesson 85 Problem Solving: Elapsed Time, On Core 84 Problem Solving: Money, and Basketball task

Common learning experiences:

- Students will create a chart of benchmark measures throughout this unit.
- Significant task one: On Core lessons 13 and 14 are optional resources. After a preassessment you may use these if you determine that your students are not yet prepared to do the Function Machines Lesson.
- Online resources: Function for machines, http://www.learningtoday.com/corporate/files/games/Algebra_Functions_L3_V1_T4a.swf or http://www.mathplayground.com/functionmachine.html For a more challenging function machine, try http://www.amblesideprimary.com/ambleweb/mentalmaths/functionmachines.html Use http://nlvm.usu.edu/en/nav/frames_asid_185_g_2_t_1.html?from=grade_g_2.html for number patterns.
- Significant task two: as a launch consider using: "Example 2: Stacking Data Using Line Plots" (1:56) video clip from discoveryeduction.com
- Significant task 3: As launches for this task consider using Brainpop videos: Customary Units; Metric Units; Metric vs. Customary
- Significant task 4: Consider using Brainpop Jr. video: Cups, Pints, Quarts, and Gallons to launch the Gallon Man part of this task.
- I Have, Who Has? Measurement is a great game to play as a warm up once students have familiarity with a variety of measurement concepts.

Common assessments including the end of unit summative assessment:

- Windsor Public Schools Grade 4 Summative Assessment and Scoring Guide Unit 7 Patterns and Measurement

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and persevere in solving them, construct viable arguments and critique the reasoning of others, use appropriate tools strategically, and attend to precision.
- Targeted Learning: using the Teacher Reflection sheet from the previous assessment, determine student needs and focus instruction on decimal concepts.
- Each school has a set of nonfiction texts on measurement that would be fabulous for read alouds. The following are titles and the concepts addressed: Tracking Time – Measuring Time; Timing Races – Measuring Time; Olympic Technology – Elapsed Time; Hosting the Olympic Summer Games – Elapsed Time; All About Sharks – Units of Measure; Life in the Ocean Layers –

Units of Measure; Natural Measures – Measuring Objects; At the Fire Station – Measuring Objects

- Be sure that students understand how to use and read each measurement tool before students begin working on their own.
- Estimation of measures and the development of benchmarks for frequently used units of measure help students increase their familiarity with units, prevent errors in measurements, and aid in the meaningful use of measurement.
- Some students initially believe that measuring in larger units will result in a greater answer.
- Prior to the work with measurement, as part of this unit, students will explore number and shape patterns. Understanding patterns will help with measurement conversions.
- In third grade, students were expected to find arithmetic patterns. Students also worked on measurement concepts in third grade. Students needed to tell and write time to the nearest minute, as well as solve problems involving intervals of minutes. Students learned to measure and estimate measures involving grams, kilograms, and liters and solve one step problems involving these units. Finally, students learned to show measurement data on a line plot that had been marked in appropriate numbers being whole numbers, halves, or quarters.
- Some students may benefit from using the app, Convert Anything.
- The distinction between mass and weight is not made until middle school, when students begin their study of gravity. Therefore, the emphasis of this unit should be placed on measurement. In the classroom, teachers should just use the term, "weight".

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 4 Mathematics

Purpose of the Course (from CCSS): In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

Name of the Unit: Unit 8 Geometry	Length of the unit: 4 weeks

Purpose of the Unit: In third grade, students reason with shapes and attributes. Students are expected to recognize area as an attribute and understand the concepts of area measurement as related to multiplication and addition. Students also find perimeter of polygons in third grade. In this unit students will apply area and perimeter formulas, recognize lines of symmetry, students will explore and measure angles as well as draw and identify lines angles, and classify shapes by their properties, of their lines and angles. In fifth grade, students classify two dimensional figures into categories.

Common Core State Standards Addressed in the Unit:

4.MD.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems. ***For example, find the width of a rectangular room given the area of the flooring and the***

length, by viewing the area formula as a multiplication equation with an unknown factor.

4.G.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

4.G.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

4.MD.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

4.MD.5a An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles.

4.MD.5b An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.

4.MD.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

4.MD.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

4.G.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Big Ideas:	Essential Questions:
25. What makes shapes alike and different can be determined by an array of geometric properties. 26. Area and perimeter are related to each other.	23. How can two-dimensional figures be described? 24. How are area and perimeter related?
Students will know:	**Students will be able to:**
13. classification of two-dimensional figures 14. angles are geometric shapes 15. an angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle.	13. apply area and perimeter formulas in real world and mathematical problems 14. draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines and identify these in two-dimensional figures 15. classify two-dimensional figures based on the presence or absence of parallel or

16. an angle that turns through 1/360 of a circle is called a “one-degree angle,” and can be used to measure angles 17. an angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees 18. recognize angle measures as additive 19. when an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts 20. how to use a protractor to measure angles	perpendicular lines, or the presence or absence of angles of a specified size 16. recognize right triangles as a category, and identify right triangles 17. measure angles in whole-number degrees using a protractor 18. sketch angles of specified measure 19. solve addition and subtraction problems to find unknown angles on a diagram 20. recognize and draw lines of symmetry for two-dimensional figures

Significant task 1: Symmetry

Significant task one uses the symmetry packet. In this task, students fold two-dimensional figures on lines of symmetry and draw lines of symmetry in other figures. Students should work independently on this task. The teacher should then allow time for students to defend and/ present their solutions.

This task directly targets the following standard: 4.G.3

Timeline: 1 day

Key vocabulary: line symmetry, symmetric

Resources: Symmetry Packet

Significant task 2: Area and Perimeter

Significant task 2 is grounded in a couple of investigations from Math Trailblazers and supplemental lessons from On Core. Teachers should present these lessons as a full class discussion and then allow time for students to defend and/ present their strategies for solving problems. The task begins by using Math Trailblazers Unit 2 Lesson 2 Investigating Area and Perimeter. This lesson is set in the context of a fictional city called Antopolis. In this lesson students work with partners and use string to measure the perimeter of objects. This provides a brief and concrete review of the idea that perimeter is a measurement of length. Students then use square inch tiles to find the area and perimeter of irregular figures and a fountain in Antopolis. Finally, students design a playground for Antopolis with a specified area and perimeter. Students then communicate the process they used to solve the problem. Their writing is scored using a rubric.

Students then complete On Core Lesson 88, Area, which requires students to apply the area formula. The next On Core Lesson 89, Area of Combined Rectangles, requires students to separate combined rectangles, use information to determine the measures of unknown side lengths so that area can be determined. Full class discussion should focus on strategies students used for finding sides of shapes and determining area and perimeter. In On Core Lesson 91, Problem Solving-Find the Area, students solve real-world multi-step problems involving area. This task concludes with a return to the fictional city of Antopolis in Math Trailblazers Unit 2 Lesson 4 Helipads for Antopolis. In this task, students design helipads for the Antopolis Airport. After designing several helipads (rectangles) with a perimeter of 14

inches, students determine which helipad has the maximum area. Students must explain how they have found the maximum-area design. This lesson should begin with whole class discussion, however, students should work independently to find helipads and defend their solutions.

This task directly targets the following standard: 4.MD.3

Timeline: 6 days

Key vocabulary: area, perimeter, unit of measure, units, square units, length, width, rectangle, square

Resources: Math Trailblazers Unit 2 Lesson 2 Investigating Area and Perimeter, Math Trailblazers Unit 2 Lesson 4 Helipads for Antopolis, On Core Lesson 88: Area, On Core Lesson 89: Area of Combined Rectangles, On Core Lesson 91: Problem Solving-Find the Area

Significant task 3: Shapes, Line, and Angles

Significant task 3 focuses on various concepts related to geometry such as shapes, lines, and angles. The task was built from a variety of lessons from different sources. Teachers should introduce these lessons as a full class discussion within the lessons there area suggestions for grouping.

This task begins with a brief review of polygons and introduces geometric concepts such as parallel lines through the use of the Geometry Packet. Students should be reminded to provide reasoning and proof in their discussions.

For the next part of this task Math Trailblazers Unit 2 Lesson 6 Angles is used. In this lesson, angles are introduced. Acute, right, and obtuse angles are discussed. Students use angle circles and corners of paper to compare angles and identify angles in shapes. This lesson is followed by Math Trailblazers Unit 2 Lesson 7 Angles in Pattern Blocks coupled with Math Trailblazers CCSS Activity 2. Activity 2 can be used as a warm up as students identify angles in triangles and identify the category of right triangles. Students must prove their answers. In lesson 7 students further their understanding of angles by investigating angles in pattern blocks. Students build shapes from other shapes and angles from smaller angles. Students calculate angles rather than measure them at this point. In Math Trailblazers Unit 9 Lesson 1 Lines, students are introduced to geometric vocabulary about lines and line segments through the context of city streets. They use the terminology to talk about and solve problems about geometric shapes. There should be a lot of whole class discussion supported by reasoning throughout this lesson. Two On Core Lessons that build on these concepts are On Core 98 Lines, Rays, and Angles and On Core 99 Parallel and Perpendicular Lines. After a whole class introduction, students should work on these lessons independently or in partners. Math Trailblazers CCSS Activity 18 is an extension to the lesson on lines. In this lesson, students draw geometric concepts including specifically labeled, lines, rays, line segments, parallel and perpendicular lines.

Math Trailblazers Unit 9 Lesson 2 What's Your Angle?, provides students first introduction to measuring and drawing angles with a protractor. Many of these problems are presented through the context of a playground. Each student should have his/ her own protractor for this lesson. This lesson proposes the journal prompt, "Explain why the measure of an angle does not depend on the length of the angle's sides." This prompt should be discussed as a class before students write independently. The SMART Notebook Lesson Join and Separate Angles Intro should be used to introduce On Core Lesson 96 Join and Separate Angles. In this part of the task, students continue their exploration of angles by working with segmented angles. Students measure angles and add to find the sum of angles. Many of these

instances mirror real-life situations involving angles measurements. Students discover in this lesson that angles are flexible and can be decomposed and renamed.

This task directly targets the following standards: 4.MD.5abc, 4.MD.6, 4.MD.7, 4.G.1, 4.G.2

Timeline: 13 days

Key vocabulary: angle, endpoint, ray, protractor, degrees, side, vertex, mid point, points, line, line segment, ray, right angle, acute angle, obtuse angle, perpendicular line, parallel line, intersect, two-dimensional figures, plane figure, right triangle, degree

Resources: Geometry Packet, Math Trailblazers Unit 2 Lesson 6 Angles, Math Trailblazers Unit 2 Lesson 7 Angles in Pattern Blocks, Math Trailblazers CCSS Activity 2, Math Trailblazers Unit 9 Lesson 1 Lines, On Core Lesson 98 Line Rays and Angles, On Core Lesson 99 Parallel Lines and Perpendicular Lines, Math Trailblazers CCSS Activity 18, Math Trailblazers Unit 9 Lesson 2 What's Your Angle?, SMART Notebook Lesson Join and Separate Angles Intro, On Core Lesson 96 Join and Separate Angles

Common learning experiences:

- Significant task 1: If students need additional practice with symmetry the following are supplemental resources that can be used to differentiate instruction: On Core Lesson 102 Line Symmetry; On Core Lesson 103 Find and Draw Lines of Symmetry; Math Trailblazers Unit 9 Lesson 3 Symmetry; Math Trailblazers Unit 9 Lesson 4 Journey to Flatopia
- Significant task 2: If students need additional practice with area and perimeter teachers may use: On Core Lesson 87, Perimeter and On Core Lesson 90, Find Unknown Measures
- Significant task 3: If students need additional practice with area and perimeter teachers may use: On Core Lesson 87 Perimeter, On Core Lesson 90 Find Unknown Measures, On Core Lesson 95 Measure and Draw Angles, On Core Lesson 100 Classify Triangles, On Core Lesson 101 Classify Quadrilaterals
- The song, Cool Geometry is great to sing with students throughout the unit and particularly significant task 3. The song uses music and kinesthetic movements to reinforce vocabulary related to geometry.
- Brainpop videos that relate to this unit and would be good to initiate lessons are: Parallel and Perpendicular Lines; Angles; Polygons
- When measuring and drawing angles, teachers should use the angle tools in SMART Notebook to model.

Common assessments including the end of unit summative assessment:

- Windsor Public Schools Grade 4 Summative Assessment and Scoring Guide Unit 8 Geometry

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and persevere in solving them, reason abstractly and quantitatively, use appropriate tools strategically, attend to precision

- Targeted Learning: using the Teacher Reflection sheet from the previous assessment, determine student needs and focus instruction on patterns and measurement.
- Protractors are new tools for fourth grade students. With so many numbers and the zero line in different places on various protractors, some students will make errors in using this tool. Carefully monitor students' use of protractors to be sure they are using them correctly.
- When thinking about angles, some students believe that the length of the sides affect the size of the angle. This misconception should be discussed. Teachers can use different size angle circles, different sized scissors, etc. to model two angles of the same size with different length sides.
- Each school has two nonfiction texts on area and perimeter that would be fabulous to use as read-alouds throughout this unit. They are titled, *Towns and Cities* and *Amusement Parks.*

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 5 Mathematics

Purpose of the Course (from CCSS): In Grade 5, instructional time should focus on three critical areas: (1)developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

Name of the Unit: Unit 1 Patterns in the Base-Ten System	Length of the unit: 4 weeks
Purpose of the Unit: This unit builds on the base-ten unit taught in Grade 4 and the CCSS 4.NBT.4. for adding and subtracting whole numbers. Students learned to read and write multi-digit whole numbers, write expanded form, compare two multi-digit numbers using >, =, and < symbols, and used place value understanding to round multi-digit whole numbers to any place. In fifth grade they will continue to recognize the magnitude of a number, explain patterns and fluently multiply multi-digit numbers.	
Common Core State Standards Addressed in the unit: **5.NBT.1: Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.** **5.NBT.2: Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.** **5.NBT.5: Fluently multiply multi-digit whole numbers using the standard algorithm.**	
Big Ideas: 1. In the base ten number system numbers to the left of the digit are ten times larger and numbers to the right are ten times less. 2. Multiplying and dividing by powers of ten is related to place value.	Essential Questions: 1. How does a digit's placement in a number affect its value? 2. How is place value connected to multiplying and dividing by powers of 10?
Students will know: 1. expanded form 2. the relationship of powers of ten to place value 3. place value related to decimals 4. attributes of exponents 5. the standard algorithm for multiplication of multi-digit numbers 6. estimation strategies of	Students will be able to: 1. read, write, order, compare, and round big numbers to a million 2. write numerals in expanded form 3. describe patterns when multiplying/dividing by powers of ten 4. describe patterns in the placement of the decimal point when multiplying or dividing by a power of ten 5. use whole-number exponents to denote powers of ten

multiplication	6. fluently multiply whole numbers 2 digits by 4 digits using the standard algorithm 7. estimate products when multiplying multi-digit numbers

Significant task 1: Big Numbers and Place Value

Significant Task 1 is a review of the base-ten number system through the population of states. This task will begin with students reading a play about children who work together to solve a problem about big numbers. Teachers will check students understanding of big numbers using a place value chart. In partners students will discuss and complete questions based on a population chart and then order the big numbers on a number line. In groups of three, students will practice reading large numbers by playing the Spin and Read Number Game.

The second part of this task is divided into three lessons. Lesson 1 uses base-ten pieces to review our number system and find as many different ways to group a specified amount of bits and record their groups both numerically and pictorially. Lesson 2 uses the base-ten pieces to model addition and Lesson 3 models subtraction. The teacher will continue to direct students for addition and subtraction using base-ten boards and recording sheets. Students will work in small groups or pairs solving addition and subtraction problems. Class discussion should center on the different ways of mentally computing and estimating addition and subtraction problems.

To conclude this task, students will read and write whole numbers through the hundred millions and recognize the 10 to 1 relationship among place value positions. There are On Core lessons that can be used for this direct instruction. After the direct instruction, individual guided practice will be provided.

In this task the students will:

- explore standard, expanded form, and word form and discuss a period is a group of three digits within a number separated by a comma
- read, write, estimate, compare, order and round numbers to the millions
- write large numbers in expanded form
- use place value charts and number lines
- find as many different ways to group a specified amount of bits and record their groupings both numerically and pictorially
- use the base-ten pieces to estimate
- estimate the difference before solving the problems
- connect the base ten pieces and the standard algorithm to solve subtraction of large numbers
- use a place value chart and recognize patterns to write numbers that are 10 times as much as or 1/10 of any given number

This task directly targets the following Common Core Standard: 5.NBT.1

Timeline: 6 – 7 days
Key vocabulary: billion, million, ten million, hundred million, digit, place-value, expanded form, standard form, exponent, powers of 10, product

Resources**:** Math Trailblazers: URG 2: Big Numbers: Lesson 1: Reading and Writing Big Numbers; URG 2: Base Ten Number Systems Lesson 3: (see URG 2: L3 pgs. 79-88 for worksheets), On Core Lessons 7 & 8

Significant task 2: Multiplying and Estimating Products and Using Exponents

In grade 4 students were introduced to 1 digit by 4 digit multiplication using the all-partials and the compact method. The students were also introduced to the area model for multiplication using base-ten blocks and the pictorial representation, computational estimation and exponents. The students developed strategies for multiplying numbers with ending zeros and estimating products.

This task will begin with the teacher directing students to read a vignette, "Reach for the Stars" about multiplication. Students will work with a partner or in small groups using calculators to solve multiplication problems. Next, the students will work independently to complete multiplication problems using paper and pencil methods.

The teacher will introduce exponents and the concept of scientific notation using On-Core lessons. Students will work in pairs or independently on On-Core lessons.

In this task the students will:

- describe the patterns that will help them multiply numbers with ending zeroes, and estimate products involving money
- review the use of exponents and scientific notation
- read, write and say numbers displayed in scientific notation on a calculator.
- modeling multiplication using base-ten pieces
- practice different multiplication methods using all-partials method and compact method
- estimate products using convenient numbers
- multiply numbers with ending zeroes
- represent large numbers with exponents and various types of multiplication problems
- use a basic fact and a pattern to multiply mentally by multiples of 10, 100, and 1,000
- review scientific notation and write exponents to show powers of 10

This task directly targets the following Common Core Standard: 5.NBT.2, 5.NBT.5

Timeline: 9 – 10 days
Key vocabulary: product, compact multiplication method, partial product, all-partials multiplication method, convenient numbers, estimate, multi-digit numbers, algorithm, fewest pieces rule, exponents, scientific notation
Resources: URG 2: Big Numbers : Lesson 5: Multiplication; URG 2: Lesson 6: Estimating Products: Emphasize "10" is a convenient number; URG 2: Lesson 8: Exponents and Large Numbers: Part 1 only; On-Core teacher's guide and student workbook lessons 10 and 11 ; Daily Practice Problem worksheets; Supplemental worksheets from Patterns R Us (Common Core Georgia Performance Standards Frame)

Common Learning Experiences:

- Smart Exchange: Playing with Place Value
- Smart Exchange: Exponents
- Use On-Core pages 7, 8, 10, 11 that will reinforce concepts your students may need for extra practice

Common Assessments:
Windsor Public School Grade 5: Summative Assessment and Scoring Guide: Patterns in the Base Ten System

Teacher notes:

- Process standards to highlight through instruction: reason abstractly and quantitatively, and construct viable arguments and critique the reasoning of others.
- Targeted Learning: use time to reinforce knowledge and skill developed in this unit and multiplication and division facts.
- Significant task 1: Big Numbers and Place Value: Intervention: The teacher and students will continue to use the base-ten pieces and transfer to the base-ten shorthand method until the students have a solid understanding and are comfortable with regrouping large numbers correctly. Next, students will complete addition and subtraction with regrouping using the paper and pencil method. The teacher will monitor the student's ability to add and subtract large numbers. If needed, students may use any of the three methods to solve addition and subtraction problems.

- Significant task 2: Multiplying and Estimating Products and Using Exponents: Intervention: Students having difficulties should continue to use base-ten pieces, use the all-partials method and work in small groups with the teacher's assistance
- Some students will be able to extend their multiplication to 2-digit x 3-digit multiplication using the compact method and solve word problems involving multiplication.
- Some students do not regroup correctly, often forgetting to cross out the number in the 10's or 100's column resulting in too large an answer.
- Students subtract larger numbers from smaller numbers instead of regrouping from the column to the left.
- Students have difficulties with regrouping with a zero in the tens column, forgetting to continue to the 100's column to take 1 away.
- Some students will need extended time using manipulatives as an intervention.
- As an extension of the unit, some students will be able to multiply a number by 0.1 and answer the following questions. What happens when you multiply that same number by 0.01? Can a conjecture be made based on the results? Students write their conjecture. Students share their conjecture with a partner. Are the two conjectures the same?

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 5 Mathematics

Purpose of the Course (from CCSS): In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole

numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

Name of the Unit: Unit 2 Division	Length of the unit: 4 weeks
Purpose of the Unit: In Grade 4 students learned the area model of multiplication and division based on place value and the relationship between multiplication and division. The students found whole number quotients and remainders with up to four digit dividends and one digit divisors. In this unit grade the focus is on division using four digit whole number dividends and two-digit divisors using rectangular arrays and area models. In this unit students will continue to explore the area model of division using base-ten pieces with a dividend to the thousands divided by one and two digit divisors. **In grade 6 students will develop the standard algorithm for division.**	
Common Core State Standards Addressed in the unit: **5.NBT.6: Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.**	
Big Ideas: 3. Division is breaking apart into equal size groups. 4. Multiplication and division are inverse operations. 5. Patterns can be used to develop an algorithm. 6. Flexible methods of computation involve taking apart and combining numbers in a wide variety of ways. 7. Traditional algorithms work for all numbers but are often far from the most efficient of useful methods of computing.	Essential Questions: 1. How can division be modeled? 2. What are the benefits of representing division in a certain way? 3. How are multiplication and division related? 4. What strategies make solving multiplication and division problems easier?
Students will know: 1. place value relationships 2. the commutative property 3. distributive property 4. estimation strategies for division 5. the grouping method for division 6. the area model of multiplication and division	Students will be able to: 8. use strategies based on place value to solve division problems 9. use properties of operations to understand how operations are related 10. use estimation to know when a quotient is reasonable 11. use concrete models and/or drawings to show how to solve division by grouping 12. use base-ten pieces and abstract rectangles to show/explain the process of division 13. understand that addition/subtraction and multiplication/division are inverse

	operations 14. divide up to four-digit dividends by two-digit divisors using area models

Significant task 1: Base-ten Division

Significant task 1 is grounded in base-ten division using manipulatives to show division by grouping. Students will begin as a whole class reviewing the vocabulary terms for the names of the parts of a division example. The full class lesson will focus on solving division problems using base-ten pieces by grouping. Students will then work in partners grouping the base-ten pieces to solve the division problems. The task will end with the teacher demonstrating how to change the base-ten division problems into base-ten shorthand and the students completing base-ten division shorthand independently.

In this task the students will:

- review the division vocabulary terms
- divide base-ten pieces into equal groups with one digit divisors
- transfer from base-ten pieces to base-ten shorthand dividing up to 4 digits by 1 digit

This task directly targets the following Common Core Standard: 5.NBT.6

Timeline: 4 days
Key vocabulary: dividend, divisor, quotient, remainder
Resources: Williamstown Elementary School supplemental unit on Area Model for Multiplication and Division; Smart Notebook lessons from the Elementary Math for Teachers Folder

Significant task 2: Base-ten Area Model Division

Significant task 2 is grounded in division using base ten pieces using the area model. Students will draw an area model for division and numerically "record" the steps. This task begins with an area model rectangle with square units to represent the dividend. Numbers are placed in the rectangle to show the total number of units divided by the divisor number. The numbers in the model look similar to the long division algorithm. This task begins with a Smart Notebook lesson using Kidspiration 3 demonstrating the use of base-ten pieces. The teacher will then direct students to work in pairs or individually solving area model division problems.

In this task, students will:

- build an area model division problem using Kidspiration 3
- build an area model division problem using base-ten pieces up to 4 digits by 2 digits
- build an area model division problem using base-ten shorthand up to 4 digits by 2 digits

This task directly targets the following Common Core Standard: 5.NBT.6

Timeline: 4 days
Key vocabulary: dividend, divisor, quotient, remainder
Resources: Williamstown Elementary School supplemental unit on Area Model for Multiplication and Division; Smart Notebook lessons from the Elementary Math for Teachers Folder; Kidspiration 3; computers

Significant task 3: Abstract Rectangles for Division

Significant task 3 involves students moving away from the pictorial representation to the abstract representation of division. Students have had experiences with the base-ten manipulatives and will now move to the abstract representation. The students will not be solving division with the standard algorithm in grade 5, but will be exposed to the abstract rectangle representation and the standard algorithm being demonstrated side by side. The teacher will introduce the lesson as a whole group using Smart Notebook lessons and then students will work in pairs or independently solving division problems. The teacher will close the lesson with a full class discussion focusing on the strategies the students used to solve division using abstract rectangles.

In this task, students will:

- partition the dividend into two compatible numbers
- work as a class solving abstract rectangle problems for up to 4 digit by 2 digit
- work independently on division problems using the abstract rectangle method
- relate multiplication to division
- understand the concept of the remainder

This task directly targets the following Common Core Standard: 5.NBT.6

Timeline: 4 days
Key vocabulary: dividend, divisor, quotient, remainder
Resources: Williamstown Elementary School Supplemental Unit on Area Model for Multiplication and Division; Smart Notebook lessons from the Elementary Math for Teachers Folder;
MTB DAB pages 153 & 155 worksheets

Common learning experiences:

Technology Links:

- view a video solving division problems using base-ten pieces by grouping: see Grade 5: Smart Notebook Lesson: Unit 2 Lesson 1: slide #2
- view a video on abstract rectangles for division: L:\Grade 5\NEW! Smart Notebook Lessons\Unit 2 Division\Abstract Rectangles.doc

Area Models for Multiplication and Division
http://www.learner.org/courses/learningmath/number/session4/part_b/index.html

Common assessments:
Windsor Public School Grade 5: Summative Assessment and Scoring Guide: Division

Teacher notes:

- Process standards to highlight through instruction: **model with mathematics, use appropriate tools strategically, attend to precision**, and l**ook for and make use of structure.**
- Targeted Learning: using the Teacher Reflection sheet from the previous assessment, determine

student needs and focus instruction on multiplication.

- Significant task 2: Base-ten Area Model Division: Intervention: Students will work with the teacher in a small group using base-ten pieces to reinforce the area model concept concentrating on 2 digit divided by 1 digit and then progressing to 3 digit divided by 1 digit. Students will work independently with concrete base-ten blocks until they are comfortable with physically setting up the problem, but can also show the numerical long division process. They should also write the four number sentences the model describes.
- In this unit teacher should not instruct students in the traditional algorithm. The division algorithm will be introduced in grade 6.
- For students who have learned the algorithm outside of school should still model using the visual representation.

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 5 Mathematics

Purpose of the Course (from CCSS): In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

Name of the Unit: Unit 3 Decimals	Length of the unit: 6 weeks

Purpose of the Unit: In grade 4 students have been taught decimals to the hundredths with base–ten pieces. In this grade students expand their understanding of place value to read, write, compare, and round decimals, to explain the patterns of zeroes and exponents in a product, and to add, subtract, and multiply decimals using models and drawings. **Standard algorithms for operations on decimals are developed in grade 6.**

Common Core State Standards Addressed in the unit:

5.NBT.2: Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

5.NBT.3: Read, write, and compare decimals to thousandths.

5.NBT.7: Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

5.NBT.3a: Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1 /10) + 9 \times (1/100) + 2 \times (1/1000)$.

5.NBT.3b: Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

5.NBT.4: Use place value understanding to round decimals to any place.

Big Ideas:	Essential Questions:
8. The base-ten place value system extends infinitely in two directions: to tiny value as well as to large values. 9. In the base ten number system numbers to the left of the digit are ten times larger and numbers to the right are ten times less. 10. Exponents are used to represent repeated multiplication. 11. Knowing properties of operations and number patterns allows us to be flexible when working with numbers.	3. How does a digit's placement in a number affect its value? 4. How does computation with decimals compare to computations with whole numbers? 5. How is place value connected to multiplying and dividing by powers of 10?
Students will know:	**Students will be able to:**
7. decimal place value 8. pattern of zeroes in multiplication of powers of 10 9. strategies to read, write, compare, and round decimals 10. how to add, subtract, multiply and divide decimals using place value strategies and/or drawings (standard algorithms are done in grade 6)	15. read, write, and compare, and round decimals to thousandths 16. explain patterns of zeroes when multiplying by powers of 10 17. read and write decimals to thousandths using base ten numbers in expanded form 18. compare decimals to the thousandths using symbols 19. use concrete models and drawings to add, subtract, multiply and divide decimals

Significant Task 1: Investigating Decimals

Significant Task 1 is comprised of three lessons involving decimals. The teacher will introduce decimal arrow cards, model shading in decimal grids and reading a decimal place value chart with the whole class referring to the Smart Notebook lessons. Students will then work in pairs or independently answering questions related to the grids and place value chart. The lesson will end discussing patterns that the students noticed and the relationship between the values on the chart.

Lesson 1: ***Decimal Models*** begins with students using area models to review tenths, hundredths and introduce thousandths. The students will use place value charts to help them read and write decimals and use square grids as models to round and compare decimals. ***Decimal Arrow Cards****:* The class will use commercially made decimal arrow cards to understand the concept of decimal place value. The cards are used to understand the concept of the tenths, hundredths, and thousandths place. They can also be used to order and compare decimals.

In this task the students will:

- shade decimal grids for tenths, hundredths, and thousandths
- use a decimal place value chart to help them read and write decimals
- develop a number sense for decimals
- look for patterns in the decimal place value chart
- explain why 0.4 = 0.40
- recognize that the place value system continues indefinitely in both directions.
- make decimal numbers to the thousandths using arrow cards
- order decimals
- compare decimals
- relate decimal numbers to the pictorial grid

Lesson 2: ***Comparing and Rounding Decimals*****:** Teachers may refer to the Smart Notebook lesson to introduce comparing and rounding decimals. The students will use square grids to model rounding and comparing decimals. The lesson will also use benchmarks and place value charts to compare and round decimals to the nearest whole number, tenths, and hundredths.

In this task the students will:

- use benchmarks to order decimals
- use place value charts to compare decimals
- choose tools to help them order and compare decimal and discuss strategies
- round decimals

This task directly targets the following standards: 5.NBT.2, 5.NBT.3; 5.NBT.3a; 5.NBT.3b; 5.NBT.4

Timeline: 8 days
Key vocabulary: estimating; decimal; tenths; hundredths; thousandths; period; expanded form; standard form
Resources: MTB: Lesson 1: Unit 7 Lesson 2: *Decimal Models*; Lesson 2: MTB: Unit 7: Lesson 3; *Score One* game; Daily Practice Problem ***Digits Game****;* On-Core #14; CCSS: Activity, #13; Decimal Arrow Cards; Discovery Assignment Book pages 106 – 109, DAB Working with Decimals: page 99 (Part 6) homework; DAB: The Swim Meet page 100 (problem solving) homework;

Significant task 2: Grid Work

In Unit 7: Lesson 4: ***Adding and Subtracting Decimal:*** The teacher will demonstrate the lesson using Smart Notebook, then calling on students to demonstrate filling in a grid to add and subtract decimals. Then the students will practice adding and subtracting decimals using paper and pencil. The teacher will demonstrate how to write the problem vertically in conjunction with the grid.

Intervention: The teacher will work with a small group of students practicing adding and subtracting decimals using the grid model.

This task directly targets the following standards: 5.NBT.7

Timeline: 2 days
Key vocabulary: estimating; decimal; tenths; hundredths; thousandths; period; expanded form; standard form

Resources: Smart Notebook lessons in the teacher folder; Math Trailblazer Unit 7: Decimals and Probability; DAB: pages 113 – 118, ; Decimal Arrow Cards; base-ten blocks; Estimating Decimals: Supplemental materials Van De Walle; Estimating Sums and Estimating Difference

Significant task 3: The Carpet Caper

In Unit 7: Lesson 5: ***Multiplying Decimals with Area;*** The teacher will begin the lesson with the students reading a vignette on the Multiplying Decimals with Area in the student guide. The students in the vignette will be estimating the area of a carpet. Each student uses a different strategy to estimate the area of the carpet. The students will work in four small groups and use centimeter grid paper to solve the problems on page 249. Each group takes a different area in the house to estimate and calculate. The four areas are the: closet, upstairs hall, bedroom, and bedroom closet. Students will work together to solve the problem and then present their results to the whole class through the use of a document camera or the Smartboard. In conclusion, the students should construct viable arguments and critique the reasoning of others after each group's presentation.

This task directly targets the following standards: 5.NBT.7

Timeline: 2 days
Key vocabulary: estimating; decimal; tenths; hundredths; thousandths;
Resources: On Core pages: 45 & 48 use for pictorial representations

Common learning experiences:

- The students will also work in pairs on the ***Score One*** game and/or the Daily Practice Problem ***Digits Game***.
- Students will work independently on Discovery Assignment Book activity pages shading in grids comparing and rounding decimals.
- CCSS Activity #11 and #14 (optional)
- On Core pages: #9, 12, 13, 14, 15, 16, 30, 31, 32, 33, 34, 36, 41, 51 (optional)
- DAB page 111 Connect the Dots (optional)
- CCSS Activity #12: Multiplying Decimals with Area
- DAB page 123 Decimal Quiz (optional as a formative assessment)
- K–5MathTeachingResources.com; Multiplying a Decimal by a Power of 10 (worksheet)
- On Core pages:
- DAB page 130: A Birthday Party (problem solving)
- DAB pages 137 & 139 *Three in A Row* game (optional)

Common assessments including the end of unit summative assessment:
Windsor Public School Grade 5: Summative Assessment and Scoring Guide: Decimals

Teacher notes:

- Process standards to highlight through instruction: use appropriate tools strategies, attend to precision, look for and make use of structure, and look for and express regularity in repeated reasoning.

- Targeted Learning: Using the Teacher Reflection sheet from the previous assessment, determine

student needs and focus instruction on division.

- Intervention: Significant Task 1: Investigating Decimals: *Lesson 2: Comparing and Rounding Decimals*: The teacher will work with a small group of students using decimal arrow cards to review ordering and comparing decimals, students who need reinforcement of the decimal model grids, and reading the place value chart.

- Intervention: Significant task 2: Grid Work: The teacher will work with a small group of students practicing adding and subtracting decimals using the grid model.

- Students need to see the area model on centimeter grid paper before completing the paper and pencil method

- Use On-Core lessons to see worksheets that will reinforce concepts your students may need for extra practice.

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 5 Mathematics

Purpose of the Course (from CCSS): In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

Name of the Unit: Unit 4 Algebraic Concepts	Length of the unit: 4 weeks

Purpose of the Unit: In grade 4 numerical expressions are taught using the unknown quantity through multi-step word problems. Grade 5 introduces the use of parentheses and brackets to order numbers for the four operations. Students plot ordered pairs on a coordinate plane in the first quadrant using real world problems. In Grade 6 the focus is on using variables to represent numbers and write expressions when solving real-world or mathematical problems.

Common Core State Standards Addressed in the unit:

5.OA.1: Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

5.OA.2: Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 +921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.

5.G.2: Represent real world and mathematical problems by graphing points in the first quadrant of the

coordinate plane, and interpret coordinate values of points in the context of the situation.

5.OA.3: Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.

5.G.1: Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).

Big Ideas:	Essential Questions:
12. Knowing properties of operations and number patterns allows us to be flexible when working with numbers. 13. Patterns can be used to develop an algorithm. 14. Relationships can be represented as tables, graphs and equations.	6. Why is it important to follow an order of operations? 7. How can patterns be generalized? 8. What are the benefits of representing a relationship in any given way?
Students will know:	Students will be able to:
11. grouping symbols: parentheses, brackets, or braces 12. the order of operations 13. the attributes of the coordinate (Cartesian) grid and procedures/notation to plot points	1. understand the use of parentheses, brackets, or braces 2. generate, interpret, and write two numerical patterns using two given rules 3. understand x and y axis and their direction from the origin 4. graph ordered pairs on a coordinate plane

Significant task 1: Developing Order of Operation

This task begins with the students understanding order of operation through the use of inch tiles. Knowing the rules helps students to communicate more accurately as they gain fluency in manipulating symbolic relationships. The students will derive the rules for order of operations on their own during the task. The lesson begins with the teacher writing an equation on the board and having students building with their tiles, the equation in two ways and then comparing and discussing why there needs to be a specific order to build the equation. In groups of 4, students will complete another task using

tiles, paper, and pencils. Here the students will be provided with the rules for simplifying numeric expressions. As a whole class discuss the possible solutions and the order in which solutions were evaluated.

The next part of this task is taken from the grade 4 Math Trailblazers. The students explore and compare order of operations through the use of 2 calculators. Students will be given several examples to explore using the two different types of calculators. Students are to determine and discuss which calculator follows the order of operation rules. The teacher will reconvene the students to discuss the differences in the two calculators. In groups of 2 or 3 students will play the *Operation Target* game. The goal of the game is to use each of the four digits just once. The students can use operations more than once or not at all. On day two students will continue to work independently on worksheets to practice the skill.

In this task, students will:

- construct tile models for order of operation problems
- write expressions to represent each model
- discuss how their group and the other groups evaluated their solutions
- discuss how parentheses are used within the order of operations
- use calculators to determine order of operations
- play Operation Target to practice ordering digits

This task directly targets the following standard: **5.OA.1, 5.OA.2**

Timeline: 3 days
Key vocabulary: variable; algebraic expression; function table; brackets; braces; operation, order of operation
Resources: color tiles; 1 sheet copy paper; pencils; Grade 4 MTB Unit 7: Lesson 1; Order of Operation Student Guide Pages 180 – 183; 2 calculators: 1 that follows the order of operations and 1 that does not; Grade 5 MTB Unit 4: Lesson 5 Part 2;

Significant task 2: Fluency with Order of Operations

In this significant task students will work in small groups, pairs and individually to become fluent in the application of the order of operations to simplify numeric expressions. This task is more computational focused and as such lends itself to differentiation. Using the various resources identified, teachers should release students to work on more challenging expressions while working with students who need small group instruction. This task is four days leaving additional time during targeted learning to continue building fluency with the application of the order of operations to simplify numeric expressions. Students are encouraged to check the accuracy of their work with a calculator and to model their thinking through recording their steps in the computation process.

In this task, students will:

- write expressions to represent each model
- discuss how their group and the other groups evaluated their solutions
- discuss how parentheses are used within the order of operations
- use calculators to determine order of operations
- fluently apply the order of operations to simplify numeric expressions

This task directly targets the following standard: **5.OA.1, 5.OA.2**

Timeline: 4 days

Key vocabulary: variable; algebraic expression; function table; brackets; braces; operation, order of operation

Resources: Various On-Core/Math Trailblazer's resources identified in the Common Learning box found below; calculators

Significant task 3: Cartesian Grid

This task is broken into two lessons that both focus on the development of Cartesian graphing which is the foundation to future work in Algebra. The focus of this development is building the structure, vocabulary and becoming precise with the notation and process for plotting points.

Lesson 1: This task will be the first time that students will be introduced to the use of Cartesian coordinates. The students will be using a map of the Great Barrier Reef off the coast of Australia. The first quadrant is introduced and the three other quadrants are explored. The students are only responsible for mastering the first quadrant. The students will use coordinates to locate objects, find locations on maps, or plot points on graphs. The teacher will use a Smart Notebook lesson to introduce the Cartesian coordinates. The students can work in pairs or independently to complete the Great Barrier Reef Game where students "hide" a pod of whales, a shipwreck, migrating turtles, and a flock of birds on a sheet of grid paper. Students use a table to record their attempts, as well as recording them on their game mat.

Lesson 2: This lesson is called the Mountain Rescue Mission. This game will help reinforce students' understanding of the coordinate system. The coordinate geometry use numeric methods to represent a location. The two teams will be moving from the coordinate (0,0) to (10, 10) in order to win the game. Teachers will begin by showing a map to see the lines of latitude and longitude and explain that these are used in the same method as a quadrant grid. This is played by dividing the class into two teams and moving throughout the grid by rolling dice and rescuing the victim with the shortest pathway.
In sixth grade students will learn the four quadrants.

In this task, students will:

- be introduced to coordinate grids
- use coordinates to locate objects
- find location on maps
- plot points using ordered pairs in the first quadrant
- play the Great Barrier Reef game
- play the Mountain Rescue Mission game
- become mathematical problem solvers
- reason mathematically

This task directly targets the following standard: **5.G.1, 5.G.2**

Timeline: 6 days
Key vocabulary: coordinate plane; quadrant; ordered pair; origin; axes; Cartesian coordinates;

Resources: Grade 5 MTB: Unit 10: Lesson 2: Great Barrier Reef Game; Mountain Rescue Mission: Activity 17 from http://www.uen.org/Lessonplan/preview?LPid=6168

Common learning experiences:

http://lessonplanspage.com/mathciorderofoperationsphotostory68-htm/ : This is a lesson plan for students to illustrate real world order of operations problems using PowerPoint and Photo Story. Students could work on these during targeted instruction.

http://www.learningwave.com/wonline/numbers/ordofops.html: addition instruction to practice order of operations

http://www.nzmaths.co.nz/resource/four-fours-challenge?parent_node= provides teachers with additional student center lessons to develop the concept of order of operations

http://lessonplanspage.com/mathciorderofoperationsphotostory68-htm/: a lesson plan website for students to illustrate real world order of operations problems using PowerPoint and Photo Story

Grade 5 MTB: DAB pages 162 Part 4 and DAB pages 71 Part 2 (optional)
On-Core lessons: pages 1, 2, 3 (optional) review 5.OA.1; 5.OA.2
On-Core lessons: pages 4, 5, 6 (optional) review of 5.OA.3
Unit 8: Applications: Lesson 7; Review Problems Page 281 #6 (homework)
On-Core on pages 94 and 95
MTB: DAB: pages 162 (part 3) and 191 (part 6)

For order pairs students can read the book "Fly on the Ceiling" by Dr. Julie Glass. (see 5th grade binder for supplemental materials)

Students can play "Battleship"

For extension:

- Students can explore the complexities of order of operations by creating and solving their own numerical expressions and defend their solutions in writing.
- Students are given a target number and ask them to create complex expressions equivalent to the number. Encourage students to continually expand the expression.

Common Assessments:
Windsor Public School Grade 5: Summative Assessment and Scoring Guide: Algebraic Concepts

Teacher notes:

- Process standards to highlight through instruction: attend to precision, look for and make use of structure, and look for and express regularity in repeated reasoning.
- Targeted Learning: using the Teacher Reflection sheet from the previous assessment, determine student needs and focus instruction on operations with decimals.
- Intervention: Significant task 1: Developing Order of Operation: Intervention**:** For students who are having difficulty, targeted instruction time can be focused on re-teaching. The teacher needs to provide more opportunities for students to explore order of operations using color tiles and then practice following the order of operation rules.
- Intervention: Significant task 2: Fluency with Order of Operations: Intervention: For students who are having difficulty, teachers should work in small groups to practice understanding of the operation rules. At this time, students should put the rules into a journal so they have a guide while practicing the problems.
- Intervention: Significant task 3: Cartesian Grid**:** Intervention: For students who are having difficulty, teachers should work in small groups to practice understanding how to plot points in the first quadrant. Examples of plotting points in the first quadrant are in On-Core on pages 94 and 95.
- Teachers should spend extra time devoted to the x and y axes. Students often mix up the two axis and then the coordinates are backwards.
- Teachers will need to spend time on the vocabulary since this will be difficult for students. Using journals, concentration games, word walls, etc. would be beneficial.
- It is important for the students to attend to precision with graphing the coordinates. Students need to use the symbols/notation ex: (2,3) when recording points and plot the points accurately. Teacher should use various forms of formative assessment to monitor each of these concepts.

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 5 Mathematics

Purpose of the Course (from CCSS): In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

Name of the Unit: Unit 5 Adding & Subtracting Fractions	Length of the unit: 7 weeks
Purpose of the Unit: In Grade 4 students compare, add, subtract and solve for equivalent fractions with like denominators through the use of paper folding, pattern blocks to model fractions. In Grade 5 the students will be using pattern blocks, number lines, and rectangles on dot paper to define a whole unit, represent fractions as a whole, and add and subtract fractions with unlike denominators. This unit will be exploring number sense, estimation and reasonableness to add and subtract fractions with unlike	

denominators using models or equations.

Common Core State Standards Addressed in the unit:

5.NF.1: Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. ***For example, 2/3 + 5/4 = 8/12 + 15/ 12 = 23 /12. (In general, a/b + c/d = (ad + bc) / bd.)***

5.NF.2: Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. ***For example, recognize an incorrect result 2 / 5 + 1 / 2 = 3 / 7 , by observing that 3 / 7 < 1 / 2 .***

5.MD.2: Make a line plot to display a data set of measurements in fractions of a unit (1 / 2 , 1 / 4 , 1 / 8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*

Big Ideas:	Essential Questions:
1. Benchmarks are helpful in estimation. 2. Operations can be modeled with a visual representation. 3. The meanings of each operation on fractions are the same as the meanings for the operations on whole numbers.	9. What benchmarks are helpful to estimate? 10. How can models help us understand fractions and computation with fractions? 11. How does computation with fractions compare to computations with whole numbers?
Students will know: 14. how to find equivalent fractions 15. how to find common denominators 16. strategies to solve addition and subtraction of fractions with unlike denominators 17. how to use benchmark fractions and number sense to estimate the reasonableness of answers 18. attributes of line plots to display information	Students will be able to: 20. compute sums and differences of fractions with unlike denominators using an area model and the standard algorithm 21. estimate using benchmark fractions and number sense to assess reasonableness of answers 22. make a line plot to display a data set which will include measurements in fractional units

Significant task 1: Introduction to Fractions
This task is comprised of lessons from Math Trailblazers URG 3 and URG 5. **Unit 3** lessons begin with

whole class discussions and then students will work in small groups or independently using pattern blocks to solve problems involving finding equivalent fractions. ***Unit 5*** lessons also begin with whole class discussions and then students will work in small groups or independently to review and expand their knowledge of fraction concepts to include models for finding common denominators. The students can use these models to develop procedures for comparing fractions with unlike denominators.

MTB: Unit 3: Fractions and Ratios

Lesson 3: ***Equivalent Fractions***: In Part 1, students explore fractions using pattern blocks and a number line model. Students look for patterns to develop procedures for finding equivalent fractions. In Part 2 students will be introduced to fractohopper using a number line and in Part 3 using number lines to find equivalent fractions. In conjunction with the pattern block models the students will write number sentences showing pairs of equivalent fractions. At the end of the lesson the teacher should direct a class conversation to describe strategies and methods for finding equivalent fractions.

Lesson 4: ***Comparing Fractions***: Students compare and order fractions using the benchmarks of 0, ½, 1 and more than 1. Students order sets of fractions with common denominators and sets of fractions with common numerators. Number lines provide a visual model for students as they order fractions according to size. As a whole class discussion, teachers should focus on the various strategies the students used for ordering fractions.

MTB: Unit 5: Investigating Fractions:

Lesson 1: ***Geoboard Fractions***: Students explore fractions and mixed numbers using geoboards and rectangles on dot paper. The terms denominator and numerator are reviewed. Given a rectangle representing one whole, students show different ways to represent fractions of the whole and fractions greater than one. In Part 1, No-Diagonal Rule, teachers will work with a small group of students while the rest of the students complete the geoboard fractions activity pages introducing the No-Diagonal Rule. In Part 2, Denominators: Dividing the Whole into Equal Parts, students work in pairs and discuss how the area of the rectangle chosen for one whole determines the denominator you can show dividing the whole. In Part 3, Numerators: Using Equal Parts of the Whole, students explore 3 x 4 rectangles and practice modeling fractions as a whole class lead by the teacher. In Part 4, Fractions Greater Than One, students will work in small groups modeling mixed number and improper fractions using rectangles on dot paper.

Lesson 2: ***Parts and Wholes:*** Students compare fractions modeled with pattern blocks from Unit 3 to fractions modeled with rectangles on dot paper in Unit 5. Then given a fraction, they show one whole and other fractional parts of the whole. The teacher will model fractions using the Smart Board lessons and ask students to model the same fractions using rectangles on dot paper and with pattern blocks. Students work in pairs to model fractions to complete activities from the student guide.

Lesson 3: ***Using Dot Paper Rectangles:*** Students practice writing fraction sentences using dot paper rectangles in a game called “Fraction Cover-All”. The students write equivalent fractions using dot paper rectangles. This lesson prepares students to find common denominators in order to compare, add and subtract fractions.

Lesson 4: ***Using Common Denominators:*** Teachers begin this lesson demonstrating fractions on centimeter dot paper. Students compare fractions using common denominators. The students can pair

up to complete the activities for modeling pairs of fraction on centimeter dot paper and represent the fractions with symbols.

The students will:

- review vocabulary
- use pattern blocks to model equivalent fraction
- describe patterns in number sentences
- use fractohoppers on a number line
- describe methods for finding equivalent fractions
- compare and order fractions using the benchmarks of 0, ½, 1 and more than 1
- compare fractions using common denominators
- order sets of fractions with common denominators and sets of fractions with common numerators
- explore fractions and mixed numbers using geoboards and rectangles on dot paper
- show different ways to represent fractions of the whole and fractions greater than one

This task directly targets the following Common Core Standard: 5.NF.1; 5.NF.2

Timeline: 10 days
Key vocabulary: denominator, numerator, improper fractions, proper fractions, equivalent fractions, benchmarks, reciprocal
Resources: URG: Unit 3 Fractions & Ratios: Lesson 3 & 4; URG: Unit 5 Investigating Fractions: Lessons 1-4; Fraction Cover All game page 157 of student guide; 5 pieces of centimeter dot paper for each student; set of six index cards with the numbers ½, 1/3, ¼, 1/6, 1/12, 1/12; Assessment #1 Fractions and Ratios; DAB: 35 – 39

Significant task 2: Estimating with Fractions
This task is developed with materials from the ***Connected Math Program (CMP2)*** using lessons from ***Bits and Pieces II: Investigations 1: Estimating With Fractions***. The focus of these two lessons is using benchmarks to determine if the sum is nearest to 0, ½, 1 and estimation strategies to discover if the sum is an overestimate or underestimate. The lessons begin as a whole class. Then students will move to small groups or partners to play the games. As the students play the games they should be critiquing and questioning the reasoning of their opponent's answers and strategies.

Lesson 1.1: ***Getting Close:*** In this lesson, students play a game based on estimating sums of fractions and decimals. Decimal and fraction cards are mixed to help students build flexibility in moving between representations. While playing the game, students practice making estimates and explore estimation strategies. The last part asks students to decide if a situation calls for an underestimate or overestimate of the fraction sum. This lesson focusing on review of whole-number benchmarks by drawing a number line. When students are comfortable with estimating the placement of a single number then the students are asked to estimate the sum of two numbers and decide whether the sum is closest to 0, 1, or 2. Students should be writing sentences to show their estimated sums and thinking about strategies for using benchmarks.

Lesson 1.2: ***Estimating Sums:*** In this lesson students will be playing the "Getting Close" game. The students have to estimate to decide what number the exact sum was nearest to. Students practice estimating in realistic situations for which they have to decide whether they need an overestimate or an overestimate.

The students will:

- Use benchmarks and fraction relationships to develop estimation strategies for finding sums
- Develop ways to model sums, differences, products, and quotients
- Use estimation skills and exact solutions to make a decision
- Look for rules to generalize patterns in numbers
- Use their knowledge of fractions and equivalence of fractions to develop algorithms for adding, subtracting, multiplying and dividing fractions
- Recognize when addition, subtraction, multiplication or division is the appropriate operation to solve a problem
- Make decisions about whether an overestimate or underestimate will suffice
- Practice estimating in realistic situations

This task directly targets the following Common Core Standard: 5.NF.1; 5.NF.2

Timeline: 7 days
Key vocabulary: fraction, numerator, denominator, equivalent fractions, common denominators,
Resources: Bits & Pieces II: Investigation 1: Lesson 1.1, 1.2

Significant task 3: Adding and Subtracting Fractions

This task is also developed with materials from the ***Connected Math Program (CMP2)*** using lessons from ***Bits and Pieces II: Investigations 2: Adding and Subtracting Fractions***. Teachers should introduce these lessons as a full class, break students into small groups to carry out the activities for buying and selling land, using recipes and then write an efficient algorithm. Full class discussion should focus on group strategies to solve the various problems and wide variety of strategies that may have been used.

Lesson 2.1: ***Land Sections: Writing Addition and Subtraction Sentences***, students use area model in the context of buying and selling land to reason about how to add and subtract fractions.

Lesson 2.2: ***Visiting the Spice Shop: Using Addition and Subtraction***, students continue to work on addition and subtraction, using spice recipes as a context.

Lesson 2.3: ***Just the Facts***, students use fact families to explore the relationship between addition and subtraction.

Lesson 2.4: ***Designing Algorithms for Addition and Subtraction,*** students encounter addition and subtraction problems grouped into categories based on how they are solved. Students are asked to decide what each group has in common and then write an efficient algorithm for adding and subtracting fractions.

The students will:

- use number sentences to express sums and differences
- explore the use of fractions as operators (e.g., 2/3 of 640 acres)
- write number sentences to represent situations for adding and subtracting fractions and mixed numbers
- explore the inverse relationship between the addition and subtraction of fractions
- develop and use efficient strategies for adding and subtracting fractions and mixed numbers

- develop an efficient algorithm for adding and subtracting fractions

This task directly targets the following Common Core Standard: 5.NF.1; 5.NF.2

Timeline: 7 days
Key vocabulary: equivalent fractions, common denominators, number sentence, fact family, algorithm,
Resources: Bits & Pieces II: Investigation 1: Lesson 2.1, 2.2, 2.3, 2.4

Significant task 4: Sacks of Flour

This task is comprised of one lesson taken from K–5MathTeachingResources.com that focuses on measurement involving a line plot to display a data set of measurements in fractions of a unit (1 / 2 , 1 / 4 , 1 / 8). Teachers should introduce this lesson as a full class to describe the task. Students will then break into small groups to carry out the activities for solving the problem of redistributing the flour equally among ten bags. Students should make sense of the fraction data set problem and persevere in solving it.

The students will:

- order the fraction numbers from smallest to greatest
- create a number line
- label the x-axis
- plot the measurements on a line plot
- answer the question about redistributing the flour equally
- explain their thinking

This task directly targets the following Common Core Standard: 5.MD.2

Timeline: 2 days
Key vocabulary: redistribute, kilogram (kg), line plot, x-axis
Resources: K-5MathTeachingResources.com: Sacks of Flour, 1 inch graph paper

Significant task 5: Building Procedural Fluency for Adding and Subtracting Fractions

This task is comprised of ten lessons from On-Core Mathematics. The focus is on adding and subtracting fractions with unlike denominators. Using the observations from the previous tasks and on-going observations from this task, teachers should group students with like abilities and differentiate through the duration of the task. It is more important for students to progress at their pace and master the essentials before moving on to the next level of difficulty. Teachers should use small group instruction to provide re-teaching so that all students are able to add and subtract fractions, estimate sum and differences with both fractions and mixed numbers and add mixed numbers. Some students should be stretched to problem solve and subtract mixed numbers with regrouping as well. However, not all students will gain fluency with subtracting mixed numbers with regrouping at this grade level.

The students will:

- use a common denominator to write equivalent fractions
- add and subtract fractions with unlike denominators with regrouping and mixed numbers
- find patterns and unknown terms
- understand the properties for addition
- estimate sums and differences

- problem solve for adding and subtracting fractions

This task directly targets the following Common Core Standard: 5.NF.1; 5.NF.2

Timeline: 5-8 days
Key vocabulary: mixed numbers, reducing fractions, improper fractions,
Resources: On-Core Mathematics: Grade 5 supplemental resource pages 52 - 61

Common learning experiences:

- Discovery Assignment Book (DAB): pages 73, 74, 77, 78
- On-Core Mathematic pages: Lesson 52 to 61
- K-5MathTeachingResources.com

Common assessments including the end of unit summative assessment:

Windsor Public School Grade 5: Summative Assessment and Scoring Guide: Unit 5: Adding and Subtracting Fractions

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and persevere in solving them, **construct viable arguments and critique the reasoning of others, and model with mathematics.**
- Targeted Learning: using the Teacher Reflection sheet from the previous assessment, determine student needs and focus instruction on operations with algebraic concepts.
- **There will be 5-8 days for students to build procedural fluency in task 5. Teachers should move through the first four tasks understanding that additional time will be available at the end of the unit for this procedural fluency development. Students are not expected to be fluent as they develop the understanding during task 2 and 3.**
- Not all students will gain fluency with subtracting mixed numbers with regrouping at this grade level. Additional time developing this skill will be done in grade 6.
- **Significant task 4 need not be done immediately after task 3. It could be done while working on task 5 to give students a break from the procedural fluency developed in task 5.**
- Students should not be taught the **"butterfly method"** of adding and subtracting fractions. The standard states solving fractions with unlike denominators using models or equations. The National Council of Teachers of Mathematics (NCTM) specifically recommends that the **"butterfly method"** not be used as it prohibits the development of flexible number sense when computing with multiple fractions.
- Teachers should keep observation notes throughout these significant tasks to inform their

instruction for Significant Task 5.

- Targeted Learning: For students having difficulty, targeted learning time can be focused on re-teaching the previous Algebraic Concepts unit or review for finding a common denominator.
- Intervention: Significant Task 2: Students may struggle with deciding if they are overestimating or underestimating. Suggest the student do their estimate first and then decide if they overestimated or underestimated.
- Intervention: Significant Task 2: students need a firm understanding of factors and finding common denominators before beginning to add and subtract factors with unlike denominators.
- Intervention: Significant Task 3: teachers should be monitoring their students to ensure accurate labeling of the land sections and correctly writing number sentences.
- Intervention: Significant Task 3: teachers should be encouraging students to share their strategies for learning the fact families for fractions.
- Intervention: Significant Task 4: If teachers feel the students need more practice in line plots they should spend another day on Fractions on a Line Plot problem solving activity which can be found in their supplemental resources for unit 5.
- Intervention: Significant Task 5: teachers should choose On-Core Mathematics lessons based on the data collected in Significant Tasks 1, 2, and 3, to reinforce the concept of adding and subtracting of unlike denominators.

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 5 Multiplication and Division of Fractions

Purpose of the Course (from CCSS): In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

Name of the Unit: 6: Multiplying and Dividing with Fractions	Length of the unit: 5 weeks

Purpose of the Unit: In Grade 4 students will explore multiplication of fractions by repeated addition and understand how to multiply a fraction by a whole number. In Grade 5 students will solve problems by using visual models to multiply and divide fractions and to interpret multiplication of fractions by comparing the size of a product to the size of one factor. Students will also develop the algorithm for multiplication of fractions. In grade 6, students will develop the standard algorithm to divide fractions.

Common Core State Standards Addressed in the unit:

5.NF.4: Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

5.NF.4a: Interpret the product (*a/b*) × *q* as *a* parts of a partition of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a* × *q* ÷ *b*. *For example, use a visual fraction model to show (2/3) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) ×(c/d) = ac/bd)*

5.NF.4b: Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

5.NF.6: Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

5.NF.7: Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

5.NF.7a: Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3

5.NF.7b: Interpret division of a whole number by a unit fraction, and compute such quotients. ***For example, create a story context for 4 ÷ (1/5) , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.***

5.NF.5: Interpret multiplication as scaling (resizing).

5.NF.5a: Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

5.NF.5b: Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a) / (n \times b)$ to the effect of multiplying a/b by 1.

5.NF.7c: Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3 –cup servings are in 2 cups of raisins?*

Big Ideas:	Essential Questions:
15. Benchmarks are helpful in estimation. 16. Operations can be modeled with a visual representation. 17. The meanings of each operation on fractions are the same as the meanings for the operations on whole numbers.	12. What benchmarks are helpful to estimate? 13. How can models help us understand fractions and computation with fractions? 14. How does computation with fractions compare to computations with whole numbers?

Students will know: 1. strategies to estimate products and quotients of fractions 2. strategies and models for multiplying and dividing fractions 3. standard algorithm for multiplication of fractions	Students will be able to: 23. use area model to multiply and divide fractions solve problems involving multiplication of fractions and mixed numbers 24. interpret multiplication as scaling 25. explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number 26. explain why multiplying a given number by a fraction less than 1 results in a product less than the given number 27. relate multiplying the numerator and denominator of a fraction by the same number to the effect of multiplying a fraction by 1 28. use the standard algorithm to multiply fractions

Significant task 1: Multiplying with Fractions
This task is also developed with materials from the ***Connected Math Program (CMP2)*** using lessons from ***Bits and Pieces II: Investigations 3: Multiplying with Fractions***. Teachers should introduce each lesson using the Smart Notebook and then have students work in small groups or pairs. While students are working the teacher circulates among groups asking students about their estimation strategies and reasoning. Full class discussion should highlight the strategies groups develop to solve the problems. By the end of this task, students will have developed the standard algorithm to multiply fractions.

Lesson 1: ***How Much of the Pan Have We Sold?***
Students work with an area model for fractions in the context of brownie pans. The students will be learning that the models represent the product of two fractions and finding a fraction of a number means multiplication. Teachers should allow the student to find ways to make sense of the problem using the models. The students do not need to develop a deep understanding of the algorithm at this stage. Instead, get them to think about what it means to find a "part of a part".

Lesson 3: ***Modeling More Multiplication Situations***
In this lesson students explore estimation in situations where fractions and mixed numbers are multiplied. Students develop strategies for multiplying mixed number built on their previous work and use estimation to check the reasonableness of their answers.

Lesson 4: ***Changing Forms***
Two multiplication strategies are explored in this lesson. One strategy introduced involves changing the form of mixed numbers and whole numbers so students can operate in the same way as when both

factors are fractions. This will allow the students to draw on a computational strategy they have already explored. The second strategy is an application of the distributive property.

Lesson 5: ***Writing a Multiplication Algorithm***
This problem allows students to look at problems and find something in common in order to develop an algorithm.

In this task, students will:

- learn vocabulary for multiplication of fractions
- use models to represent the product of two fractions
- be introduced to a linear model
- explore estimation in situations where fractions and mixed numbers are multiplied
- use strategies which involve changing the form of mixed numbers and whole numbers
- develop and use algorithms for multiplying fractions
- estimate products of fractions

This task directly targets the following standard: 5.NF.4a

Timeline: 7 days
Key vocabulary: products, area model, mixed number, improper fractions, distributive property; algorithm, reciprocal
Resources: Bits and Pieces II: Multiplication of Fractions 3.1, 3.3, 3.4, 3.5; smart board; student notebooks; graph paper, white boards

Significant task 2: Servings at the Fifth Grade Ice Cream Party (multiplication of fractions)

Students will solve story problems about ice cream cake servings at a fifth grade party and goal targets for a contest. There are a variety of problems and students will incorporate the use of fraction bars and number lines. Students will be estimating the products that results from taking parts of parts. Students will begin to develop the following generalization: when you multiply two whole numbers, neither of which is zero, your product is always equal to or greater than each of the factors; when you multiply a fraction less than 1 by another fraction less than 1, the product is always less than either factor.

In this task, students will:

- decompose fractions additively and related repeated addition to multiplication ($4 \times 1/3 = 1/3 + 1/3 + 1/3 + 1/3$)
- relate partitioning and sharing contexts to fractions (division of numerator by the denominator)
- understand that the resulting product of two fractions less than one is less than either factor
- understand that the resulting product of a whole number and a fraction less than one will be greater than the fraction and less than the whole number factor
- interpret and create visual models for multiplying fractions (number lines and fraction bars)

This task directly targets the following standard: 5.NF.3; 5.NF.4; 5.NF.6

Timeline: 2 days
Key vocabulary: factor, product, fraction, fraction less than one, fraction bars, number lines
Resources: Activity sheets for “Servings at the Fifth Grade Ice Cream Party”; colored pencils, graph paper, fraction bars

Significant task 3: Dividing With Fractions

This task is also developed with materials from the ***Connected Math Program (CMP2)*** using lessons from ***Bits and Pieces II: Investigations 4: Dividing with Fractions*** focusing on division of fractions using area model of division. Teachers should introduce each lesson using the Smart Notebook and then have students work in small groups or pairs. Teachers can put student work on the document camera. Teachers should be encouraging the students to construct viable arguments and critique the reasoning of others.

Lesson 1: ***Preparing Food***
Students will divide whole numbers by fractions to decide how many pizzas can be made with given amounts of cheese. Students are encouraged to draw pictures or diagrams to model the problems. Students should *Think-Pair-Share* and then share with the whole class. Students could put their pictures or diagrams on the document camera to share. The teacher should encourage the students to write number sentences that represent their pictures and reflect how they solved the problems.

Lesson 2: ***Fundraising Continues***
Students divide fractions by whole numbers to determine shares. Students work individually and then compare then in pairs to compare solutions and strategies. This activity builds on their experiences from Lesson 1 and encourages students to see a pattern. Students firm up their understanding by writing problems that fit the computation.

Lesson 3: ***Summer Work***
Students divide to find the number of bows that can be made with given amounts of ribbon. Students should be reminded that they have ways of thinking that can be applied to these problems even though they are a bit different. Students should continue to have conversations about the strategy of drawing a diagram.

In this task, students will:

- learn vocabulary for division of fractions
- use models to represent division situations (a whole number divided by a fraction)
- explore estimation in situations where fractions and mixed numbers are multiplied
- develop and use strategies which involve dividing a whole number by a fraction, a fraction by a whole number, and a fraction by a fraction
- understand when division is the appropriate operation
- explore the inverse operations of multiplication and division

This task directly targets the following standard: 5.NF.7; 5.NF.7a; 5.NF.7b

Timeline: 7 days
Key vocabulary: grouping, sharing, inverse
Resources: Bits and Pieces II: Division: 4.1, 4.2, 4.3; calculators, student journals, graph paper, white boards

Common learning experiences:

- In task 2: Students in need of an extension could solve an alternative task: instead of 1/3 of 1/2 , they could look at 1/6 or 1/3 of ½.
- After significant task 1 and at any time in the remainder of the unit time should be spent developing procedural fluency of multiplication of fractions using the standard algorithm. This is limited to multiplication only at this grade level and should be differentiated in a similar way to the last unit. Resources include: On-Core lessons 64-72

Common assessments including the end of unit summative assessment:

Windsor Public School Grade 5: Summative Assessment and Scoring Guide: Multiplying and Dividing with Fractions

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and persevere in solving them, construct viable arguments and critique the reasoning of others, model with mathematics.
- Targeted Learning: using the Teacher Reflection sheet from the previous assessment, determine student needs and focus instruction on operations with fractions.
- Students should only do division of fractions using the area model since all of the standard algorithms for division (whole numbers, decimals, and fractions) are developed in grade 6.
- Significant task 1: Intervention: Teachers should take small groups of children to reinforce them area model method for multiplication. The students should continue to draw area models using white boards or centimeter grid paper.
- Significant task 2: Intervention: The teacher will work with students who need the help in navigating through the ice cream activity.
- Significant task 2 can be done at any time after task 1.
- Significant task 3: Intervention: Teachers should take small groups of children to review vocabulary and continue to draw area models of division. Lesson 4.3 goes beyond the expectation for this grade level and will stretch for most students.
- These students will need review of multiplication of fractions, use of number lines and bar models, decomposition of fractions additively. It is recommended these students use different colored pencils.
- Teachers should review adding and subtracting fractions during Targeted Learning.
- Teachers should be using the document camera to model the mathematical problems.

Windsor Public Schools
Curriculum Map for the Intermediate Level
Grade 5 Mathematics

Purpose of the Course (from CCSS): In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations

with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

Name of the Unit: Unit 7 Classifying 2-Dimensional Figures	Length of the unit: 3 weeks
Purpose of the Unit: Students will have had exposure to 2-dimensional figures in 4th grade focusing on perpendicular and parallel lines, points, symmetry, lines, right triangles, etc. This unit will extend their prior knowledge to categorizing these shapes and their properties.	
Common Core State Standards Addressed in the unit: **5.G.4: Classify two-dimensional figures in a hierarchy based on properties.** 5.G.3: Understand that attributes belonging to a category of two dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*	
Big Ideas: 18. Characteristics allow us to name and categorize shapes. 19. What makes shapes alike and different can be determined by an array of geometric properties.	Essential Questions: 15. How can two-dimensional figures be described? 16. How can you describe angles in shapes?
Students will know: 19. classification of triangles by the length of their sides as either scalene, isosceles, or equilateral 20. classification of triangles by the size of their angles as either acute, obtuse, or right 21. classification of angles as either right, acute, or obtuse 22. classification of quadrilaterals 23. how to measure length with accuracy 24. hierarchy diagrams	Students will be able to: 29. accurately identify and classify scalene, isosceles, and equilateral triangles 30. accurately identify and classify acute, obtuse, and right triangles by the size of their angles 31. classify 2 – D figures based on a hierarchy of properties 32. understand that attributes belonging to a category of 2-D figures also belong to all subcategories of that category 33. measure length of the sides of triangles to determine the type of triangle 34. identify quadrilaterals 35. build triangles on a geoboard 36. sort and classify quadrilaterals 37. how to create a hierarchy diagram

Significant task 1: Classifying Triangles
This task is comprised of a variety of resources including one lesson from Math Trailblazers and a four day lesson from Bridges to Mathematics. These lessons focus on geometry specifically classifying triangles by the length of their sides and the size of their angles. The lessons should be introduced as a whole class and students can work in small groups, pairs or independently to complete the tasks.

In **Math Trailblazers, Unit 6, Lesson 1: Geometry**, students review angles and estimate angles using benchmarks. The protractor is introduced and demonstrated by the teacher using the Smartboard so students understand the size of the angles, such as acute, obtuse, and right.

In **Bridges to Mathematics,** students will begin a hands-on lesson building and recording four different triangles on their geoboards. Then they classify their triangles, first by angle size and then by side length. The teacher will begin this unit using the virtual geoboard on the Smartboard while students use their geoboard at their seats. Students may then work in pairs to classify their own triangles. The teacher then pulls the students back as a whole class to share and compare some of the triangles they created. Students should strategically use appropriate tools such as geoboards. Students can complete the independent worksheet 1 & 2: More Geoboard Triangles and Color & Construct Triangles.

In this task students will:

- review and estimate angles using benchmarks
- be introduced to a protractor
- understand the size of angles
- learn the names of triangles
- classify triangles
- use appropriate tools

This task directly targets the following Common Core Standard: 5.MD.1

Timeline: 6 days

Key vocabulary: angle, straight angle, protractor, vertex, right angle, obtuse angle, acute angle, scalene triangle, isosceles triangle , equilateral triangle

Resources: MTB: URG 6: Geometry; Bridges to Mathematics: Grade 5 Supplement C1; Activity 1; Triangles Record Sheet, Types of Triangles, Smartboard Geoboard, class set of geoboards and rubber bands, class set of rulers, smartboard protractor, Word Resource Cards: acute angle, obtuse angle, right angle. Memory Game to reinforce vocabulary terms.

Significant task 2: Sorting and Classifying Quadrilaterals
This task is comprised of a four day lesson from Bridges to Mathematics. These lessons focus on Sorting and Classifying Quadrilaterals. The lessons should be introduced as a whole class utilizing the Smartboard and then students can work in small groups/pairs to complete the tasks. After the initial lesson is complete students work independently to make sense of problems and persevere in solving the activities in the unit.

Bridges to Mathematics: Sorting and Classifying Quadrilaterals: **Lesson 1**: **C1- Activity 2**: Students review what they have learned about quadrilaterals as a whole class and use the information to sort and classify quadrilaterals in a variety of ways. The teacher poses several questions to the students to review

the terms with the class. This is a good time to ask questions and have students "Turn & Talk" and share their ideas with the class about the characteristics of the quadrilaterals. Next, Different Kinds of Quadrilaterals worksheet is displayed on the Smartboard. Students are asked to jot their answers to the 5 questions in their journals, students are asked to be prepared to explain and justify each answer. The teacher should hold a class discussion around the 5 questions. Next students will work in pairs to label and cut out a set of paper quadrilaterals. The students will be labeling and sorting these quadrilaterals. The students will then sort the shapes onto a Venn Diagram.

Classifying Quadrilaterals: Set C1: Independent Worksheet #3 and #4: In these two activities students are asked to sort and classify quadrilaterals. These activities can be done in small groups or partners. The students should be discussing why they sorted and classified the quadrilaterals in a specific way and explaining their reasoning. The teacher can have the whole class do both activities or split the class into two groups each completing one of the activities and then sharing out their results.

In this task students will:

- review the properties of quadrilaterals
- learn the characteristics of quadrilaterals
- turn & talk about the characteristics of quadrilaterals
- explain and justify their answers
- label paper quadrilaterals
- sort quadrilaterals

This task directly targets the following Common Core Standard: 5.MD.1

Timeline: 6 days

Key vocabulary: perpendicular, parallel, square, rectangle, rhombus, trapezoid, polygon, quadrilateral, triangle

Resources: Bridges to Mathematics: Grade 5 Supplement C1, Activity 2; scissors, Paper Quadrilaterals worksheet, rulers, protractors

Significant task 3: Quadrilateral Hierarchy

This task focuses on the hierarchy of quadrilaterals. It is comprised of On-Core page 100 as the introduction to hierarchy diagrams and one task from Georgia Department of Education adapted from K-5 Math Teaching Resources. This task can be completed in pairs or individually depending on the skill level of the each student.

This task **Quadrilateral Hierarchy Diagram** focuses on the students' understanding that the attributes of two-dimensional figures belong to a category and can be classified in a hierarchy based on properties. The students will create a Hierarchy Diagram using the terms: quadrilaterals, parallelogram, non-parallelograms, rectangle, square, rhombus, trapezoid, kite and other 2-dimensional figures. Students will cut out the quadrilaterals and place each figure in the appropriate place on the diagram. The students will list the properties specific to each quadrilateral. Students will be making sense of the attributes of the shapes to create the hierarchy diagram. When the task is complete the teacher should have a full class discussion focusing on the reasoning behind the student decisions.

In this task students will:

- understand the attributes of 2 – dimensional figures
- categorize shapes into a hierarchy
- list the properties of specific quadrilaterals
- create a hierarchy diagram using shapes and the names of shapes

This task directly targets the following Common Core Standard: 5.MD.2

Timeline: 2 days

Key vocabulary: hierarchy, perpendicular, parallel, square, rectangle, rhombus, trapezoid, polygon, quadrilateral, triangle, kite

Resources: Quadrilateral Hierarchy Diagram: Georgia Department of Education; construction paper 9 x 11 or larger for hierarchy, glue sticks, markers, scissors, one set of shapes worksheet per student

Common learning experiences:

Signifcant task 1: Bridges to Mathematics Extension: Students complete the independent worksheet 1: More Geoboard Triangles

Significant task 2: Sorting and Classifying Quadrilaterals Extension: Students complete the challenge problem-solving activity, problem #5.

Significant task 2: Sorting and Classifying Quadrilaterals Extension: The Logic of Quadrilaterals is an extension activity for those students who are ready to work independently. Once the students have completed the activity they should work in a small group to discuss their outcomes.

Grandfather Tang's Story by Ann Tompert - This literature book helps students to recognize, describe, and perform transformations of 2-Dimensional figures. Teachers can read the book aloud outside of math time and students can complete the activities during targeted learning.

Additional re-teaching materials: On-Core 97 & 98

Common assessments including the end of unit summative assessment:
Windsor Public School Grade 5: Summative Assessment and Scoring Guide: Classifying 2–D Figures

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and persevere in solving them, reason abstractly and quantitatively, use appropriate tools strategically

- Targeted Learning: using the Teacher Reflection sheet from the previous assessment, determine student needs and focus instruction on operations with fractions.
- While students create their quadrilateral hierarchy diagram, they should be encouraged to use their notes for the definition of the shapes.
- Students may use the protractors to determine the types of triangles (acute, obtuse, right) but do not need to have mastery of measuring angles in Grade 5.

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 5 Mathematics

Purpose of the Course (from CCSS): In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

Name of the Unit: Unit 8 Volume and Measurement	Length of the unit: 3 weeks

Purpose of the Unit: This unit focuses on both volume and measurement. The students will be gaining procedural fluency through problem solving with converting time, length, capacity, and weight and also develop the concept of volume. Students have had experience in third and fourth grade exploring both concepts. In grade 6 students will further develop the standard algorithm for volume of rectangular prisms.

Common Core State Standards Addressed in the unit:

5.MD.1: Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05m), and use these conversions in solving multi-step, real world problems.

5.MD.3: Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

5.MD.3a: A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.

5.MD.5: Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

5.MD.5a: Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.

5MD.4: Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.

5.MD.5b: Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems.

5.MD.5c: Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

Big Ideas:	Essential Questions:
1. The choice of measurement tool depends on the measurable attribute and the degree of precision required. 2. Estimation of measures and the development of personal benchmarks for frequently used units of measure help students increase their familiarity with units, prevent errors in measurements, and aid in the meaningful use of measurement. 3. Volume is the amount of space inside a three-dimensional object measured in unit cubes.	1. How do you decide which measurement systems to use? 2. How do time, mass, and volume relate to each other? 3. How is the volume of a figure measured?
Students will know: 25. how to convert customary unit of length, capacity, and weight 26. place value of the metric system 27. how to solve elapsed time by converting units of time 28. volume measure the space inside a 3-d figure	Students will be able to: 1. convert customary units of length, capacity, and mass 2. solve multi-step problems using conversion of customary and metric measurement 3. convert by using multiplication or division by a power of 10 4. use converting to solve elapsed time problems 5. measure volume by counting unit cubes 6. solve problems involving volume of a right rectangular prism with whole number side lengths 7. show volume is the same as multiplying height x area of base 8. find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts

Significant task 1: Measurement: Converting

In Grade 4 students have explored and solved problems involving customary and metric units of measure in length, weight/ mass, liquid measures, time, and money. This task is comprised of seven lessons from the **On-Core** mathematics series. Teachers should focus on presenting each lesson as a whole class and then allowing time for small groups/pairs to complete the activity pages. Students have had experience in previous grades and have familiarity with these terms and experience working with measurement tools. Students should attend to precision while solving the problems of conversion. Teachers can choose to complete this task at any time during the three week unit. It is important to connect the procedures of converting to place value for metric conversions and not to present these as a "trick." Students may believe that converting customary units is like converting metric units; using the base-ten system. They will need to be reminded of equivalent measures in customary units if they are confused.

In this task students will:

- compare, contrast, and convert customary units of length
- compare, contrast, and convert customary units of capacity
- compare, contrast, and convert customary units of weight
- convert measurement units to solve multistep problems
- compare, contrast, and convert metric units
- solve problems about customary and metric conversions using the strategy *make a table*
- convert units of time to solve elapsed time problems

This task directly targets the following Common Core Standard: 5.MD.1

Timeline: 5 days

Key vocabulary: conversion/convert, metric measurement, customary measurement, liquid volume, mass, length, kilometer(km), meter(m), centimeter(cm), kilogram(kg), gram(g), liter(L), milliliter (mL), inch(in), foot(ft), yard(yd), mile(mi), ounce(oz), pound(lb), cup(c), point(pt), quart(qt), gallon(gal), hour, minute, second

Resources: Grade 5: On-Core Lessons and On-Core Teacher's Guide Lessons 78-85

Significant task 2: Introducing Volume

This activity is grounded in the **Bridges in Mathematics program: Set D2: Activity 1**: In this activity students are learning efficient methods for finding the volume of cubes and rectangular solids. It is comprised of four days of learning vocabulary, determining volume in three-dimensional shapes, selecting appropriate strategies and tools for solving problems that involve estimating or measuring volume, and measure necessary attributes of shapes to use volume formulas to solve problems. Students will be sharing their strategies and solutions for estimating and accurately finding the volume of shapes and will be asked to explain how they solved each problem.

In this task students will:

- determine volume in a 3 dimensional shape
- understand a cube is the standard unit for measuring volume
- select appropriate units, strategies, and tools for solving problems that involve estimating or

measuring volume
- measure attributes of shapes to use volume formulas to solve problems

This task directly targets the following Common Core Standard: 5.MD.3a

Timeline: 4 days

Key vocabulary: volume, base, formula, height, square units, area, unit cubes, cubic units

Resources: Bridges in Mathematics Grade 5 Supplement: Set D2: Activity 1: pages D2.1 – D2.5

Significant task 3: More Paper Boxes

This activity is also grounded in the **Bridges in Mathematics program: Set D2: Activity 2:** This activity is an extension of Significant task 2. Students will be working together to generate efficient methods, including the standard formula by using paper boxes and centimeter cubes to find the volume of rectangular solids. The students will be assigned partners to Construct Box A and B and asked to estimate the number of centimeter cubes it will take to completely fill the boxes. The teacher directs a class discussion to write a general formula (not necessarily the algorithm) for finding the volume of a rectangular solid.

In this task students will:
- determine volume in a 3 dimensional shape
- select appropriate units, strategies, and tools for solving problems that involve estimating or measuring volume
- measure attributes of shapes to use volume formulas to solve problems

This task directly targets the following Common Core Standard: 5.MD.3b

Timeline: 4 days

Key vocabulary: volume, base, formula, height, square units, area, unit cubes, cubic units

Resources: Bridges in Mathematics Grade 5 Supplement: Set D2: Activity 2: pages D2.7 – D2.14

Significant task 4: Rolling Rectangular Prisms

In this task taken from Georgia Department of Education, students will draw and label rectangular prisms and roll a die to determine the measurements to calculate its volume. There are two parts to this task. It combines finding the volume, applying the formula, and converting cubic meters to cubic centimeters. This task is introduced as a whole class lesson by the teacher and then students can partner or complete the task independently.

In this task students will:
- review and estimate angles using benchmarks
- understand the size of angles
- learn the names of triangles
- classify triangles
- use appropriate tools

This task directly targets the following Common Core Standard: 5.MD.1, 5.MD.3, 5.MD.5

Timeline: 4 days

Key vocabulary: volume, base, formula, height, square units, area, unit cubes, cubic units

Resources: Resources: Supplemental worksheets from Rolling Rectangular Prisms (Common Core Georgia Performance Standards Frame)

Common learning experiences:

- On-Core lessons pages 78 – 84 for classwork, intervention, targeted learning, or homework.
- **Extension for Task 2 & 3:** students can extend their learning by using the notation for volume of a cube ***is s x s x s = s^3,*** where ***s*** is the length of one edge of the cube. Students can compare the notation to the formula for finding the volume of a rectangular prism and asked: "How are the two alike?" and "How are they different?"
- **Extension for Task 2 & 3:** worksheets 1: Volume Review and 2: The Camping Trip will give students more practice selecting and using appropriate units and formulas to determine length, area, and volume.
- On-Core lessons pages 87 - 92 for intervention, targeted learning, or homework

Extension Activities for Task 4: Rolling Rectangular Prisms

- Students may use both dice to increase the size of their rectangular prisms
- Students may convert metric units of measure to millimeters

Additional Extensions:

- Read ***Counting on Frank*** by Rod Clement a book about counting and measuring. This read aloud can be done before or after this task 2.
- Complex Rectangular Prisms: slide presentation and worksheets: http://learnzillion.com/lessons/1809-find-the-volume-of-complex-rectangular-prisms
- Exploring Volume K – 5 : TeacherResources.com
- Building Rectangular Prisms with Given Volume: TeacherResources.com
- Ordering Rectangular Prisms by Volume: TeacherResources.com
- 3 – Dimensional Structure: TeacherResources.com
- Roll a Rectangular Prism: TeacherResources.com
- Interactive Volume Activity: http://illuminations.nctm.org/ActivityDetail.aspx?id=6
- Investigating Volume Lesson: http://teachers.net/lessons/posts/3636.html

Common assessments including the end of unit summative assessment:

Windsor Public School Grade 5: Summative Assessment and Scoring Guide: Volume and Measurement

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and persevere in solving them, reason abstractly and quantitatively, and attend to precision.
- Targeted Learning: using the Teacher Reflection sheet from the previous assessment, determine student needs and focus instruction on volume and remain fraction concepts.
- Teachers can use lightweight cardboard or cardstock to construct the boxes.

Windsor Public Schools
Curriculum Map for the Secondary Level
English 10: World Literature

Purpose of the Course:
This course focuses on analyzing and writing about texts from various world cultures. Students will study different genres of literature and make cultural connections. Expository, analytical and persuasive writing are emphasized.

Name of the Unit:	**Length of the unit**:
UNIT1: Many Places…Many Voices	15-18 Blocks
Purpose of the Unit:	
To develop an understanding about why people tell stories and to analyze the techniques writers use to build engagement when sharing their ideas and messages.	

Common Core State Standards Addressed in the unit:

RL.9-10.5
Analyze how an author's choices concerning how to structure a text create such effects as mystery, tension, or surprise.

W.9-10.3a
Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator and/or character.

Create a smooth progression of experiences or events.

W.9-10.3b
Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.

W.9-10.3c
Use a variety of techniques to sequence events so that they build on one another to create a coherent whole.

L.9-10.3a
Write and edit work so that it conforms to the guidelines in a style manual appropriate for the discipline and writing type.

Big Ideas:	**Essential Questions:**
-People from around the world communicate their message in a variety of ways. -Authors use cultural, global, and personal experiences to form a narrative.	-Why do we tell stories? -What makes a good story? -How do people from different places tell stories in different ways or with different intentions? -What techniques do authors use to engage readers?
Students will know: -how people from around the world communicate their messages; -the techniques authors use to engage readers and the reasons for those choices; -the importance of cultural, global and personal experiences. **Refer to the links below**: Depth of Knowledge LA	**Students will be able to:** 1. Analyze authors' choice in creating texts. 2. Discuss how an author tells his/her story through the narrative. 3. Understand the importance of the writing process. 4. Organize and develop a story/narrative. 5. Present a fluent story. 6. Use comprehensive editing and revision tools. 7. Select relevant textual evidence. 8. Define the following terms: - plot structure - story elements - pacing - point of view - annotations - inference - symbolism - conflict - diction - syntax - plot - figures of speech - images - characterization - motivation - inference - plausibility - thesis - analysis - MLA citation

Significant task 1: *Annotation Connections*

The teacher should explain the following to the students:

> *Highlighting and annotating a text is like having a conversation with a book. It allows active readers to ask questions, comment on meaning, make inferences, and mark events in passages they want to revisit. The annotation of a text can also take place during a discussion that is focused on a certain textual passage. Annotation can be a permanent record of the reader's intellectual conversation with the text.* See: The Annotation Guide.

Students should be given one page from a text and asked to mark the text and write notes about the reading. The teacher will then display an annotated version of the same text and explain briefly about the annotations and margin notes. The teacher may ask students to respond to: "How does annotating improve our ability to understand a text and its quality?" Students will then be given a pre-assessment—Annotating Text: Talking to the Page. Before collecting the survey, class will discuss what they marked on the text and the methods they used to mark them.

Students will then be given a new text from the unit and the following guidelines for annotations. In pairs, the students will read the text aloud. They will mark their texts. Additionally, students will indicate passages from the text that reflect on the following questions or statements that are related to the author's choices.

- What do I notice about the text?
- Identify any character changes and possible causes.
- What connections to people or experiences can I make?
- What other texts, authors or ideas might I compare this to?
- What generalizations can I make about the text or author so far?
- What techniques does the author use to engage readers, and why?
- What was the author trying to achieve? Was he/she successful?

The annotations will guide students in monitoring their reading and increase their reading comprehension. Students will then write a well-developed 1-page (minimum) Reading Response reflecting on the characters, plot, conflict and their thoughts about the story, again, as related to the author's choices.

Teachers should explain to students that they also have the option to highlight the text for the following:

- images;
- details that evoke emotional responses in the reader;
- unfamiliar or unusual words (diction);
- comparisons and their effects on the reader;
- important plot events and/or conflicts;
- interesting sentence structure (syntax);
- or other literary elements, figures of speech or literary techniques.

Timeline: 2-3 Blocks

Key vocabulary:

- annotations
- inference
- symbolism
- conflict
- diction
- syntax
- plot
- figures of speech
- images

Resources:

- "Haircut" (Ring Lardner)
- "Fastest Runner on 61st Street" (James T. Farell)
- "The Catbird Seat" (James Thurber)
- "Secret Life of Walter Mitty" (James Thurber)
- "Appointment in Samarra" (John O'Hara)
- "Godfather Death" (Brothers Grimm)
- "The Open Window" (Saki)
- "The Lottery" (Shirley Jackson)
- "The Bass, the River, and Sheila Mant" (W.D. Wetherell)
- "The Cold Equations" (Tom Godwin)
- "The Pedestrian" (Ray Bradbury)
- "The Red Convertible" (Louise Erdrich)
- "The One Who Walks Away from Omelas" (Ursula K. Le Guin)
- "Hair" (Malcolm X)
- "The Rights to the Streets of Memphis" from Blackboy (*Richard Wright)*
- Highlighting and Annotating Tips
- Active Reading: Questions to Consider and Use
- Jim Burke's Tools and Texts Bookmarks
- all hyperlinked resources

Significant task 2: *Character Analysis and Sketch*

PART 1

Students will complete a written analysis to understand how character development contributes to story quality and author's intentions. The analysis will be of a character of their choice from one of the texts read in this unit. Students will analyze character traits and motivation and the relationship between plot and character.

Teachers will define terms and methods of characterization (see: key vocabulary below), study plot structure and story elements, and evaluate a character's development through the stories read in class. Students will then complete the following tasks in preparation for the character analysis:

- Create a Character Chart that shows the methods of characterization within the story. Examples of words and actions, physical appearances, interactions with other characters, and dialogue will help convey the character's personality.

In preparation for a Character Analysis Essay, teachers will facilitate discussions on the following topics; students can keep journals, or use sticky notes to track their findings:

- inferences and conclusion in regards to character motivation and action;
- how the character's actions and motivations impact the plot (structure);
- "plausibility" of the character.

Using the key vocabulary, character chart and other pre-writing preparations, students will complete a multi-paragraph essay in which they analyze and explain the character's development and significance to the plot and theme. Students will explain how the story's elements and structure contribute to the total understanding of the story. Students will need to develop a focused thesis in which they identify their reasons for their position. Students will then need to incorporate textual evidence (direct quotations) to support their points, using MLA citation. In using the writing process, students will brainstorm using graphic organizers and then complete multiple drafts while focusing on the use of proper writing mechanics. Teachers can reference Implementing the Writing Process in the resources section. Students will practice peer-editing and revision before submitting a final draft.

PART 2

Students will complete a Personal Character Sketch. They will answer a series of questions about themselves from a virtual Personality Trait Questionnaire. Students will choose a number of the responses to develop their sketches. Students will write a one page sketch of themselves using their chosen responses.

The character sketch will require students to incorporate description of themselves to effectively create a plausible representation of themselves as a "character." Not only will students identify the traits that describe them, but they will also need to add explanation to support their proposed character traits. These will include physical, intellectual and emotional characteristics. Students will include their own cultural background and details about their heritage. From their personal research, students will choose information to build on the character sketch.

This one page character sketch will be used in preparation for the short story common summative assessment in which students will use themselves as a character (protagonist or antagonist) in a fictional story and use their knowledge of what makes a good story to create realistic and synthetic characters.

Timeline: 7-8 Blocks

Key vocabulary:

- characterization
- plot elements
- motivation
- inference
- plausibility
- thesis
- analysis
- MLA citation
- trait
- sketch

Resources:

- http://www.outofservice.com/bigfive/
- Implementing the Writing Process
- all hyperlinked resources
- "Haircut" (Ring Lardner)
- "Fastest Runner on 61st Street" (James T. Farell)
- "The Catbird Seat" (James Thurber)
- "Secret Life of Walter Mitty" (James Thurber)
- "Appointment in Samarra" (John O'Hara)
- "Godfather Death" (Brothers Grimm)
- "The Open Window" (Saki)
- "The Lottery" (Shirley Jackson)
- "The Bass, the River, and Sheila Mant" (W.D. Wetherell)
- "The Cold Equations" (Tom Godwin)
- "The Pedestrian" (Ray Bradbury)
- "The Red Convertible" (Louise Erdrich)
- "The One Who Walks Away from Omelas" (Ursula K. Le Guin)
- "Hair" (Malcolm X)
- "The Rights to the Streets of Memphis" from Blackboy (*Richard Wright)*
- *Baghdad Burning: Girl Blog from Iraq* (Riverbend)
- *A Long Way Gone* (Ishmael Beah)
- *The Other Side of the Sky* (Farah Ahmedi)
- *A Separate Piece* (John Knowles)
- *Looking for Alaska* (John Greene)

Significant task 3: *Elements of Narrative Mini-Lesson*

In this task, the teacher will assist students in designing and implementing a mini-lesson on the elements of narrative (see: key vocabulary for the recommended elements). Students will select their texts or passages from any of the unit resources. The teacher will guide this process by providing a certain number of options and by "narrowing down" the amount of text being used for the lesson.

Students will create an actual mini-lesson that they will teach to their peers. The teacher will distribute a Lesson Plan Template and will model how to complete it. (The teacher may choose to model an entire lesson.) Each lesson will include some or all of these elements: an objective, a visual aid, key vocabulary, a focus passage(s), and an "assessment." The 21st Century Rubrics will be used to grade student performance on oral communication.

Timeline: 2-3 Blocks

Key vocabulary:
- conflict (man v. man, man v. self, man v. nature, man v. society)
- setting
- subject
- theme

Resources:
- "Haircut" (Ring Lardner)
- "Fastest Runner on 61st Street" (James T. Farell)
- "The Catbird Seat" (James Thurber)
- "Secret Life of Walter Mitty" (James Thurber)
- "Appointment in Samarra" (John O'Hara)
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- "The Rights to the Streets of Memphis" from Blackboy (*Richard Wright)*
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- *A Long Way Gone* (Ishmael Beah)
- *The Other Side of the Sky* (Farah Ahmedi)
- *A Separate Piece* (John Knowles)
- *Looking for Alaska* (John Greene)
- all hyperlinked resources

Common learning experiences:
- guest authors to come in and meet with students
- book talks with media specialists

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment (Summer Reading):
1. Analyze your summer reading book, in 1-2 pages, by addressing and supporting responses to the

following questions:

- How successful was the author in creating a high quality story, especially in regard to the development of the story's characters?
- What text can be used to support your thinking about the story's quality?
- How do people from different places tell stories in different ways or with different intentions?

The Story Analysis Rubric will be used to grade this assignment; it will also be used for the Post-Test.

Mid-Unit Assessment:

2. Students will be asked to evaluate one of the story's read during the unit. Students will choose a story and explain how successful the author was in creating a good story by answering these questions:
   - How successful was the author in creating a high quality story, especially in regard to the development of the story's characters?
   - What text can be used to support your thinking about the story's quality?
   - How do people from different places tell stories in different ways or with different intentions?

   The student must be able to use textual evidence for support to explain their thinking. Students will also need to reference any story elements and literary terms learned during the unit. The Story Analysis Rubric will be used to grade this assignment.

   The teacher will also include: multiple choice, true/false, matching questions to assess students' knowledge of the literary elements, terms and application of short story characters and plot.

Unit Post-Assessment:

3. Students will write a story in which three characters (including the students as one of these "characters") interact with each other through a particular situation in a particular setting. Students will choose the setting, topic, subject and characters from the provided Word Bank List.

   Students will also be required to select a conflict: man vs. man, man vs. self, man vs. nature, man vs. society and develop the conflict over the course of their story. Additionally, students will employ learned story techniques and story elements within their story. These will have been pre-taught throughout the unit. Students will be assessed on their ability to demonstrate narrative writing skills. From within this narrative, students will have the opportunity to reveal their ability to identify, develop, and express a theme that is both complex and meaningful.

   Students will have the option of using Microsoft Word, Storyboard, Digital Storytelling, Techno Tales, or other digital media to present their story. Students will be scored according to the Narrative Writing Rubric.

Teacher notes:

Core Literary Resources:

Short Stories:

- "Haircut" (Ring Lardner)
- "Fastest Runner on 61st Street" (James T. Farell)
- "The Catbird Seat" (James Thurber)
- "Secret Life of Walter Mitty" (James Thurber)
- "Appointment in Samarra" (John O'Hara)
- "Godfather Death" (Brothers Grimm)

- "The Open Window" (Saki)
- "The Lottery" (Shirley Jackson)
- "The Bass, the River, and Sheila Mant" (W.D. Wetherell)
- "The Cold Equations" (Tom Godwin)
- "The Pedestrian" (Ray Bradbury)
- "The Red Convertible" (Louise Erdrich)
- "The One Who Walks Away from Omelas" (Ursula K. Le Guin)

Fiction:
- *A Separate Piece* (John Knowles)

Non-fiction:
- "Hair" (Malcolm X)
- "The Rights to the Streets of Memphis" from Blackboy (*Richard Wright)*
- *Baghdad Burning: Girl Blog from Iraq* (Riverbend)
- *A Long Way Gone* (Ishmael Beah)
- *The Other Side of the Sky* (Farah Ahmedi)

Rubrics:
- 21st century school wide rubrics
- Discussion Rubric
- Narrative Scoring Guide
- Story Analysis Rubric

Key Vocabulary:
- plot structure
- story elements
- pacing
- point of view
- annotations
- inference
- symbolism
- conflict
- diction
- syntax
- plot
- figures of speech
- images
- characterization
- motivation
- inference
- plausibility
- thesis
- analysis
- MLA citation

Windsor Public Schools
Curriculum Map for the Secondary Level
English 10: World Literature

Purpose of the Course:
This course focuses on analyzing and writing about texts from various world cultures. Students will study different genres of literature and make cultural connections. Expository, analytical and persuasive writing are emphasized.

Name of the Unit:	**Length of the unit:**
UNIT 2: Clash of Cultures and Values	10-12 Blocks
Purpose of the Unit: Explore the term "culture," understand how an author's experiences are reflected in their works, and develop appreciation for the beliefs and values that are exhibited in our world.	

Common Core State Standards Addressed in the unit:

RL.9-10.6
Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature.

RI.9-10.6
Determine an author's point of view or purpose in a text;

Analyze how an author uses rhetoric to advance that point of view or purpose.

W.9-10.2c
Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.

W.9-10.3c
Use a variety of techniques to sequence events so that they build on one another to create a coherent whole.

W.9-10.3e
Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.

SL.9-10.1d
Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Big Ideas:	**Essential Questions:**
- In the process of surviving an oppressive environment, innocence and childhood can be lost. - Authors illustrate competing belief systems through their characters and plot. - Our lives, our cultures, are composed of many overlapping stories. If we hear only a single story about another person or country, we risk a critical misunderstanding.	- Why is it important for people in different cultures to construct narratives about their experiences? - How do beliefs, ethics or values influence different people's behavior? - What is the danger of "the single story"? - To what extent are we all witnesses of history and messenger of humanity? - What is the relationship between our stories and our identities?
Students will know: - the importance of a country's cultural background; - how point of view and cultural experience are reflected in a piece of literature; - the bias that can occur in telling or believing "the single story." Refer to the links below: Depth of Knowledge LA	**Students will be able to:** 1. Analyze research to create a coherent product. 2. Use transitions effectively to link ideas. 3. Define or review the following: - inquiry - summary - diction - syntax - memoir - personal narrative - biography - qualify - refute - justify - summarize - annotation - annotated Bibliography

Significant task 1: *Key Line Journal Entries*

Key Line Journal Entries require close reading and analysis of texts. Students use them to identify significant sections from the reading. In this task, the teacher will show students how to choose key lines from the text and to explain why the passages are important when considering the Essential Questions and Big Ideas of the unit. For example, students may choose passages that reveal a character's or narrator's cultural experiences, values, beliefs, or identities. Once students choose their passages, they will need to explain the significance and also give a personal response offering their own insight and commentary about the passage. A Model Key Line Journal should be available to students.

This task will prepare students for their common and summative assessments, in which they will need to explicate a short story by analyzing and identifying key passages and narrative techniques.

Teachers will determine number of entries based upon length of the core text(s) used during the duration of

the unit, however, a minimum of 6 entries will be required. Using their selected passages, students will then write a brief Key Line Reflection on the importance of one of the unit's Essential Questions. A 5 Level Rubric will be used to grade this part of the task.

Timeline: Ongoing

Resources:
- Key Line Journal Entry
- Active Reading: Questions to Consider and Use
- Jim Burke's Tools and Texts Bookmarks
- all hyperlinked resources
- *The Book Thief (*Markus Zusak)
- *Things Fall Apart* (Chinua Achebe)
- *In the Time of the Butterflies* (Julia Alvarez)
- *The Power of One* (Bryce Courtenay)
- *Maus* (Art Spiegelman)
- *When the Legends Die* (Hal Borland)
- *Sarah's Key* (Tatiana de Rosnay)
- *Night* (Eli Wiesel)
- *A Long Way Gone* (Ishmael Beah)
- *I am Nujood, Age 10 and Divorced* (Nujood Ali)
- *Breaking Night* (Liz Murray)
- *Aria: Memoir of a Bilingual Childhood* (Richard Rodriguez)
- *The Other Side of the Sky* (Farah Ahmedi)
- *Baghdad Burning: Girl Blog from Iraq* (Riverbend)
- *Lipstick Jihad* (Azadeh Moaveni' s)
- *Falling Leaves* (Adeline Yen Mah)
- "Chixchulb" (TC Boyle)
- "The Shawl" (Cynthia Ozick)
- "The Flowers" (Alice Walker)
- "Conversion of the Jews" (Philip Roth)
- *I Want to Live!* (Thom Jones)
- "The Last Butterfly" (Pavel Friedmann)
- "Hip Hop Becoming a World Wide Language for Youth Resistance" from *An Anthology for Reading Apprenticeship*

Significant task 2: *R.A.F.T*

In this task, teachers will assist students in analyzing a particular point of view or cultural experience reflected in a text. Using R.A.F.T., students will assume a ROLE (point of view), for a particular AUDIENCE; they will also implement a specific FORMAT to convey a TOPIC. The possible topics will be outlined by the teacher and are derived from the unit's Essential Questions and Big Ideas. Suggested topics include the following:
- surviving an oppressive environment
- the danger of telling or believing "the single story"
- responsibility to humanity
- responsibility for sharing accounts of events

A C.R.I.S.S. RAFT Resource for teachers is available.

The goal of this task is for students to be able to personalize their understanding of the themes, points of view, and cultural experiences reflected in the texts they are reading in class.

To supplement this task, the teacher can lead the class through an exercise in which they brainstorm possible

roles, audiences, formats, and topics. Students are expected to submit a writing proposal, which must be approved by the teacher, prior to beginning the first draft. A 5 Level Rubric will be used to grade this assignment.

Timeline: 3-4 blocks

Resources:
- RAFT Explanation
- RAFT Chart
- All hyperlinked resources
- *The Book Thief (*Markus Zusak)
- *Things Fall Apart* (Chinua Achebe)
- *In the Time of the Butterflies* (Julia Alvarez)
- *The Power of One* (Bryce Courtenay)
- *Maus* (Art Spiegelman)
- *When the Legends Die* (Hal Borland)
- *Sarah's Key* (Tatiana de Rosnay)
- *Night* (Eli Wiesel)
- *A Long Way Gone* (Ishmael Beah)
- *I am Nujood, Age 10 and Divorced* (Nujood Ali)
- *Breaking Night* (Liz Murray)
- *Aria: Memoir of a Bilingual Childhood* (Richard Rodriguez)
- *The Other Side of the Sky* (Farah Ahmedi)
- *Baghdad Burning: Girl Blog from Iraq* (Riverbend)
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- *Falling Leaves* (Adeline Yen Mah)
- "Chixchulb" (TC Boyle)
- "The Shawl" (Cynthia Ozick)
- "The Flowers" (Alice Walker)
- "Conversion of the Jews" (Philip Roth)
- *I Want to Live!* (Thom Jones)
- "The Last Butterfly" (Pavel Friedmann)
- "Hip Hop Becoming a World Wide Language for Youth Resistance" from *An Anthology for Reading Apprenticeship*

Significant task 3: *Annotated Bibliography*

Students will select a world location that is suffering from an oppressive government, religion or other societal issue. Students will then create a thesis, using a Thesis Generator about why it is important to be aware of and understand the issues, cultures, beliefs, and/or conflicts in other countries. The teacher should also instruct the students about the importance of creating a thesis that can be refuted, qualified and/or justified (see: key vocabulary below). Teachers may use the following resources to help students develop their thesis statements:
- *Tools & Texts for 50 Essential Lessons* by Jim Burke
- Purdue Owl: http://owl.english.purdue.edu/owl/resource/560/01/

Using Noodletools, EasyBib and library resources, students will research their chosen location and find evidence to support their thesis. Students will create 3 annotated bibliography entries that support their thesis and provide information for the summative assessment.

Students will have the option to use a database, book, and website to research information. Students will complete the Annotation Criteria and Summary Worksheet in order to evaluate the validity of the source and summarize the information.

Teachers will work with the Library Media Specialist who will instruct students on the strategies for research, citations, and format.

Timeline: 4-5 blocks

Key vocabulary:
- summarize
- annotation
- annotated Bibliography
- qualify
- refute
- justify

Resources:
- Noodletools
- Easybib
- GaleNet
- EBSCO Host
- ICONN
- EBCO host
- CountryWatch
- CountryWatch Youth Edition
- CultureGrams
- Daily Life Through History
- Popular Culture Universe
- World Folklore & Folklife
- World History: The Modern Era
- Free Online Images
- In-text Citation Guide
- MLA Style Guide - 7th edition
- Notes by Source
- Notes by Subtopic
- Notes with Evaluation Criteria for Books
- Notes with Evaluation Criteria for Databases
- Notes with Evaluation Criteria for Websites
- Evaluating Sources
- Website Evaluation

Common learning experiences:
- Students will visit the Library Media Center to develop effective research strategies

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment:

1. Students will first be given a list of most of the unit's essential questions. These questions include:

    - Why is it important for people in different cultures to construct narratives about their experiences?
    - How do beliefs, ethics or values influence different people's behavior?
    - To what extent are we all witnesses of history and messenger of humanity?

- What is the relationship between our stories and our identities?

Using a Thesis Generator (without any pre-teaching), the student must create a thesis statement that answers one of these questions. The student will then need to brainstorm how they could (1) support or (2) refute their own statement. This pre-assessment will allow the teacher to understand the level of student preparation for Significant Task 3.

Unit Post-Assessment:
Using the research conducted in Significant Task 3, students will choose a location that is suffering from an oppressive government, religion or other societal issue. Then, through the creation of multiple pieces of writing, they will depict the cultural, historical, and ethical implications of living in this place. The teacher and/or media specialists can guide students in choosing an appropriate location.

Teachers will instruct students to follow these steps and will offer support, as needed:

1. Students will choose from 3 formats: a journal, scrapbook, or blog or other digital media. Students can also get approval for other formats as appropriate to the assignment.

2. Before writing their pieces, students will research and collect information on the following aspects of their location:
   - an article about or from the country
   - a poem by a poet originating from selected country or region
   - a story (fiction) that relates to the country, region, culture or theme
   - photographs" or other visual depictions of the place
   - identify three striking differences between traditions of the country and the US
   - two positive aspects of the country or culture
   - two negative aspects of the country or culture
   - any relevant demographic information
   - MLA works cited page

   The teacher will provide options for Graphic Organizers for this step.

3. Students will write a specific number of pieces for their journal, scrapbook, or blog (as required by the teacher). The teacher will use a Project Rubric and/or the 21st Century Rubrics to grade this portion of the assessment.

4. Students will then choose two of the unit's essential questions, and using their own pieces from their journal, scrapbook, or blog (or text), students will answer the chosen essential questions through a thorough written Analysis Essay. A 5 Level Rubric will be used to grade this part of the assessment.

5. The written analysis will follow MLA documentation and reference both the information and texts covered throughout the unit.

Teacher notes:

Core Literary Resources:
- *The Book Thief (*Markus Zusak)
- *Things Fall Apart* (Chinua Achebe)
- *In the Time of the Butterflies* (Julia Alvarez)
- *The Power of One* (Bryce Courtenay)
- *Maus* (Art Spiegelman)
- *When the Legends Die* (Hal Borland)
- *Sarah's Key* (Tatiana de Rosnay)
- *Night* (Eli Wiesel)

- *A Long Way Gone* (Ishmael Beah)
- *I am Nujood, Age 10 and Divorced* (Nujood Ali)
- *Breaking Night* (Liz Murray)
- *Aria: Memoir of a Bilingual Childhood* (Richard Rodriguez)
- *Baghdad Burning: Girl Blog from Iraq* (Riverbend)
- *Lipstick Jihad* (Azadeh Moaveni' s)
- *Falling Leaves* (Adeline Yen Mah)

Short Stories:
- "Chixchulb" (TC Boyle)
- "The Shawl" (Cynthia Ozick)
- "The Flowers" (Alice Walker)
- "Conversion of the Jews" (Philip Roth)
- *I Want to Live!* (Thom Jones)

Poems:
- "The Last Butterfly" (Pavel Friedmann)

Essays:
- "Hip Hop Becoming a World Wide Language for Youth Resistance" from *An Anthology for Reading Apprenticeship*

Other:
- Ted Talks "Chimamanda Adichie: The Danger of the Single Story"
- Windsor High School's 21st Century Rubrics
- Virtual Travel Blogs
- CountryWatch
- CountryWatch Youth Edition
- CultureGrams
- Daily Life Through History
- Popular Culture Universe
- World Folklore & Folklife
- World History: The Modern Era
- Free Online Images
- In-text Citation Guide
- MLA Style Guide - 7th edition
- Notes by Source
- Notes by Subtopic
- Notes with Evaluation Criteria for Books
- Notes with Evaluation Criteria for Databases
- Notes with Evaluation Criteria for Websites
- Evaluating Sources
- Website Evaluation

Key Vocabulary:
- inquiry
- summary
- diction
- syntax
- memoir
- personal narrative
- biography
- qualify
- refute
- justify

- summarize
- annotation
- annotated Bibliography

Windsor Public Schools
Curriculum Map for the Secondary Level
English 10: World Literature

Purpose of the Course:

This course focuses on analyzing and writing about texts from various world cultures. Students will study different genres of literature and make cultural connections. Expository, analytical and persuasive writing are emphasized.

Name of the Unit:	**Length of the unit:**
UNIT 3: *And Justice for all…?*	10-12 Blocks

Purpose of the Unit:

To understand that power creates unequal relationships between people and that society has developed preconceived notions regarding "who belongs." Students will develop insight into the degrees of power within certain societies and cultures, and will understand that power is a social structure. This unit is an introduction to a subsequent unit on these concepts in the 11th grade year.

Common Core State Standards Addressed in the unit:

RL.9-10.1
Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

RI.9-10.1
Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

W.9-10.1a
Introduce precise claim(s);

Distinguish the claim(s) from alternate or opposing claims;

Create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence.

W.9-10.1c
Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

W.9-10.1e
Provide a concluding statement or section that follows from and supports the argument presented.

SL.9-10.6
Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

Big Ideas:	**Essential Questions:**
- Absolute power corrupts absolutely - Authors write about perspectives of justice across cultures and over time. - Situations arise due to misunderstandings of justice causing cultural conflicts.	- How does power corrupt? - How does culture influence people's understanding of justice?
Students will know: - how misunderstandings of justice cause cultural conflicts; - the importance of defending what is "right;" - the ways in which power corrupts. **Refer to the links below:** Depth of Knowledge LA	**Students will be able to:** 1. Cite textual evidence to support analysis. 2. Develop inferences drawn from the text. 3. Make and support claims with evidence to defend characters' intentions. 4. Define the following terms: - allusion - justice - tragedy - tragic flaw - foreshadowing - dramatic irony - claim/counter-claim - injustice - perspective - culture - reflect - autobiography - biography

Significant task 1: *Dialectical Journals*

Students will learn to read actively-through journaling- by creating double entry journal responses. Students will interact with the text by making personal responses, asking questions and analyzing or/and evaluating important passages from the text for essential idea. (Teacher will have already pre-taught the essential skills necessary for appropriate and meaningful connections and responses.)

Dialectical journals are journals in which a reader records a mental conversation with the text, in which they analyze it and make inferences about it. Students will use these entries to identify explicit and implicit information by doing the following:
- summarize and question
- read closely for images, details, diction, patterns
- write analysis and make connections

- connect method to purpose, effect, meaning to make choices about evidence
- make inferences about characters, symbols, etc.
- write analysis, justify assertion

See: *Laying the Foundation Grade 10* –Dialectical Journals Foundation Lesson

The class will proceed by reading the first few paragraphs of a short selection together. The teacher will then model an appropriate double journal entry. The teacher will choose a passage and model a response. The students will then continue to read the selection independently and will create 8+ journal responses. Students must include a variety of personal reactions, connections, and evaluative responses relating to the essential questions and big ideas. Each type of response must be used at least twice.

Timeline: Ongoing

Key Terms:
- inference
- analysis
- explicit
- implicit
- foreshadowing
- dramatic irony

Resources:
- all hyperlinked resources
- various selections from the *Anthology for Reading*
- various selections from Joseph Campbell
- *Macbeth* (William Shakespeare)
- *Hamlet* (William Shakespeare)
- *The Metamorphosis* (Franz Kafka)
- *The Stranger* (Albert Camus)

Significant task 2: *(Auto)Biographical Analysis*

While engaging in the unit readings, students will select a character that is in an unjust situation due to cultural conflict or a power struggle. Using sticky notes or other methods, students will track this character's actions and dialogue.

In an (Auto)Biographical Analysis, students will first explain the character's perspective about culture and justice by answering these questions:
- Why is the character involved in a cultural conflict? (Identify the conflict.)
- How much power does this character possess? Why?
- Why is this character a target of injustice?
- What can this character do to make other characters better understand his/her perspective?
- What are the character's motivations, when considering his/her culture and power standing?

The students must support these findings with accurately cited text.

Within the conclusion of the analysis, students will then answer the above questions about themselves. Students should consider their own cultural perspectives and unique situations that connect to the concepts of "justice" or "injustice." The teacher should invite the students to discuss their findings as a whole class. The 5 Level Rubric will be used to grade this task.

Timeline: 5-6 Blocks

Key vocabulary:

- justice
- injustice
- perspective
- culture
- reflect
- autobiography
- biography

Resources:
- all hyperlinked resources
- various selections from the *Anthology for Reading*
- various selections from Joseph Campbell
- *Macbeth* (William Shakespeare)
- *Hamlet* (William Shakespeare)
- *The Metamorphosis* (Franz Kafka)
- *The Stranger* (Albert Camus)

Significant task 3: *Debate*

Students will participate in a classroom debate to formulate claims about the topics of: corruption, power, justice, injustice, and misunderstanding. Students will first choose a position regarding whether or not justice was served regarding the actions taking place within the plot of a core text. Students will generate a claim based on their position and identify 3-5 specific examples from the text to support the position.

The teacher will quickly review all students' claims and will choose a compelling one, with which to accomplish this task. The teacher will then divide students into two groups—one must defend the chosen claim while the other must challenge it. Students will develop an opening statement stating their position and will briefly summarize the textual evidence that supports this position. Students should also prepare for the debate by identifying counterclaims to their respective position.

Prior to the debate, the teacher should set guidelines and expectations. This includes protocols for opening statements rebuttals, and closing statements.

The teacher will choose another compelling claim for debate. The students can go through the debate process until the teacher feels that most students have mastered the skill of making and defending a claim.

Finally, students will submit an exit slip stating which claims and correlating support they believe were the strongest. Teachers will use the 21st Century Rubrics to measure students' aptitude at presenting and communicating.

Timeline: 2-3 Blocks

Key vocabulary:
- claim
- counterclaim
- rebuttal
- opening statement
- closing statement

Resources:
- all hyperlinked resources
- Purdue Owl: http://owl.english.purdue.edu/owl/resource/560/01/
- various selections from the *Anthology for Reading*
- various selections from Joseph Campbell

- *Macbeth* (William Shakespeare)
- *Hamlet* (William Shakespeare)
- *The Metamorphosis* (Franz Kafka)
- *The Stranger* (Albert Camus)

Common learning experiences:

- Watching clips from *The Great Debaters*
- Reading opening and closing arguments from famous trials
- Reviewing Atticus Finch's opening and closing arguments from *To Kill a Mockingbird*
- Analyzing visual representations of injustice and/or power
- Reading and presenting poetry selections connected to the unit themes

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment:

Students will first be given a short, controversial article to read and annotate; the teacher can decide if he/she offers the students some choice in which one(s) to use. Articles can be acquired from *America Now* (Robert Atwan) or any other collection of recent periodicals. Teachers can also find articles in *Upfront Magazine*. Students will then complete 3 Dialectical Journal entries that will require them to analyze and/or evaluate important lines or passages.

Students will then write a Mini-Analysis, in which they must (1) take a position regarding the issue presented in the article and (2) generate a claim based on their position. Within this assessment, students will be required to (3) identify two specific examples from the article to support their claim and (4) identify one counter claim. The 5 Level Rubric will be used to grade the Mini-Analysis, but not the journal.

This pre-assessment will allow the teacher to understand the level of student preparation for Significant Tasks 1& 3.

Unit Post-Assessment(s):

Students will make interdisciplinary connections to the text by identifying and/or creating images, poetry and lyrics that relate to overall concepts of the unit. Students can choose from either of these assessments, as a way of demonstrating their understanding of the Big Ideas and the mastery of the designated skills. Both assignments are graded with the 5 Level Rubric.

1. Using their unit resources, students will first find 6 important passages and/or quotations on which to focus. These items should come from the core text(s) studied in the unit.

2. Next, students will search to find artwork to illustrate the meaning behind the selected passages and/or quote. Students will have the option to create their own visual representations, or they can use images from magazines, newspapers, catalogs, and/or approved online sources. Students will write an explanation for each, explicitly linking the text passages with the images.

3. Students will write a reflection in which they express what they learned about the text through the creation of their project. Students must answer the following questions in their Reflection Essay:
   - What surprised you about your learning or thinking in this unit?
   - In what ways has your understanding of a character influenced your ideas about justice and power?
   - What conclusion can you draw about the idea that absolute power corrupts absolutely?

OR

1. Students will find or write two poems, or two songs (or one of each), as a way explaining their character's motivations, actions and position in terms of the "power" they possess. Students should highlight and annotate words and phrases on copies of their texts to indicate connections and parallels. As students locate and/or draft their poems and songs, they should peer evaluate and edit in pairs or small groups. Students will be asked to share some of the songs and poems they found or created.

2. Students will write a reflection in which they express what they learned about the text through the creation or discovery of their poems or songs. Students must answer the following questions in their Reflection Essay:
   - What surprised you about your learning or thinking in this unit?
   - In what ways has your understanding of a character influenced your ideas about justice and power?
   - What conclusion can you draw about the idea that absolute power corrupts absolutely?

Teacher notes:

Core Literary Resources:
- various selections from the *Anthology for Reading*
- various selections from Joseph Campbell
- *Macbeth* (William Shakespeare)
- *Hamlet* (William Shakespeare)
- *The Metamorphosis* (Franz Kafka)
- *The Stranger* (Albert Camus)
- *America Now* (Robert Atwan)
- *Upfront Magazine*

Other:
- *Laying the Foundation Grade 10* –Dialectical Journals Foundation Lesson
- www.poetry365.com
- www.poetryoutloud.org
- www.poetry180.com
- www.sing365.com
- Purdue Owl: http://owl.english.purdue.edu/owl/resource/560/01/

Rubrics:
- 5 Level Rubric
- Windsor High School's 21st Century Rubrics

Key Vocabulary:
- allusion
- justice
- tragedy
- tragic flaw
- foreshadowing
- dramatic irony
- claim/counter-claim
- injustice
- perspective
- culture
- reflect
- autobiography

- biography

Windsor Public Schools
Curriculum Map for the Secondary Level
English 10: World Literature

Purpose of the Course:

This course focuses on analyzing and writing about texts from various world cultures. Students will study different genres of literature and make cultural connections. Expository, analytical and persuasive writing are emphasized.

Name of the Unit:	**Length of the unit:**
UNIT 4: A Question of Truth	15 Blocks

Purpose of the Unit:

Understand how is truth is interpreted differently within a variety of cultures, historical events and societal beliefs.

Common Core State Standards Addressed in the unit:

RI.9-10.9
Analyze seminal U.S. documents of historical and literary significance (e.g., Washington's Farewell Address, the Gettysburg Address, Roosevelt's Four Freedoms speech, King's "Letter from Birmingham Jail"), including how they address related themes and concepts.

RL.9-10.2
Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.

W.9-10.1d
Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

W.9-10.2c
Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.

L.9-10.1a
Use parallel structure.

L.9-10.5a
Interpret figures of speech (e.g., euphemism, oxymoron) in context;

Analyze their role in the text.

L.9-10.5b

Analyze nuances in the meaning of words with similar denotations.

L.9-10.3
Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Big Ideas:	**Essential Questions:**
- Truth is what people interpret it to be because of cultural and other biases. - We use multiple sources to confirm the accuracy and truth of our knowledge.	- How does the cultural setting of a text connect us to a perceived truth? - What does the word truth mean? - What are the different sides of truth?
Students will know: - the importance of U.S. documents and the connection to literary themes and concepts; - how to interpret truth based on cultural bias; - the value of multiple sources in order to confirm the accuracy and truth of our knowledge. **Refer to the links below:** Depth of Knowledge LA	**Students will be able to:** 1. Establish and maintain a formal style and objective tone while writing. 2. Develop a strong, focused thesis, including: - Use transitions to connect ideas and create a coherent text. - Understand how language functions in different contexts and analyze nuances in words and language. 3. Define the following terms: - rhetoric - rhetorical triangle (ethos, pathos, and logos) - tone - parallel structure - repetition - diction - syntax - figures of speech - tropes - opposing - compare and contrast

Significant task 1: *Effects Journal*

Students will begin this task by using the library media center's Opposing Viewpoints Website to investigate current topics that challenge the idea of truth; research can also be conducted in the classroom with a school-approved device. The teacher and/or media specialists will provide students with examples of these types of

topics. The teacher can choose to incorporate brainstorming into the task before the investigation begins, so that the class can generate its own list of appropriate topics. Individual students must select a topic and read opposing articles about that topic; in total, students must read and annotate a minimum of two articles.

The teacher will then show the students how to create an Effects Journal, so they can begin to understand how to analyze multiple texts to connect the themes and concepts contained within them; this task will provide students with a foundation for eventually analyzing historical documents. The teacher should supply a Model of an Effects Journal. Students will complete 3-5 entries for each article they read. (In the Effects Journal, the students use a double-entry journal format; the left side is labeled with "what happened" and the right side with "what might/should have happened" as a result of this.)

After completing the entries, students will be asked to summarize their findings. They can use the bottom of the journal page, or answer in a typed response. The teacher should facilitate the summary by asking students to answer this question: "After reflecting on your entries, what do you notice are the common themes and concepts between or among your different articles, even though they represent varying viewpoints?"

The teacher should encourage all members of the class to share their findings.

Timeline: 1-2 Blocks

Key vocabulary:
- tone
- opposing
- compare and contrast

Resources:
- Issues and Opinions
- all hyperlinked resources

Significant task 2: *Introduction to Rhetoric and Rhetorical Analysis*

The teacher will begin this task by introducing all of the key terms (see below) in an Interactive Lecture about rhetoric. As a result, students should have a foundation for understanding what it is and how it is conveyed through an author's use of language. Following the lecture, students should complete John Collins Vocabulary Cards, as a way of studying and applying the terms presented by the teacher. The vocabulary cards will assist students in defining the terms, illustrating them, and searching for sentences or passages in which an author uses the terms "in action."

The teacher will provide students with text(s), in which they can search for use of the rhetorical strategies defined by the key terms. If a teacher allows students to use a core text, they must also require the reading and annotation of an historical document. (The students must read and annotate the texts prior to completing all of their vocabulary cards.) Recommended texts, each of which challenge student beliefs or question their idea of "truth," can be found in the "Resources" section below. For example, a student may partially complete a vocabulary card on tone by defining it and illustrating it, but they will need to read a text- for example, "On Civil Disobedience"- to provide a real example of tone, in order to complete the card.

After reading and annotating the text(s), and completing the vocabulary cards, students will demonstrate their knowledge of the author's purpose, as related to the idea of truth, by engaging in a small group discussion about these questions:
- What is the author's message or argument, as related to truth?
- What techniques does the author use to convey this message?
- Who does the author believe his/her audience to be? How do you know?

To improve the discussion, the teacher should invite students to create supplemental questions using Question Starters. The Essential Questions can also be used to enhance the discourse. Participation in the discussion will be graded using the Socratic Circles Rubric and/or the 21st Century Rubrics. At the culmination of the task, students must take a quick Learning Check on the key vocabulary words.

Timeline: 3-4 Blocks

Key vocabulary:
- rhetoric
- rhetorical triangle (ethos, pathos, and logos)
- tone
- parallel structure
- repetition
- diction
- syntax
- figures of speech
- tropes

Resources:
- *Malcolm X Letters*
- *Martin Luther King – April 4th Speech*
- *Emma Goldman Letter*
- "The Declaration of Independence" – Thomas Jefferson
- "Declaration of Sentiments" – Elizabeth Cady Stanton
- "The Other Beauty of Martin Luther King, Jr.'s Letter from Birmingham Jail"
- Excerpt from "On Civil Disobedience" (Mohandas Gandhi)
- Selections from *Crossing Cultures*
- Selections from *Essays from Contemporary Culture*
- Excerpt from "One Word of Truth Outweighs the World" (Alexander Solzhenitsyn)
- *Gandhi's Views On Truth: Truth Meaning of Truth*
- *The Stranger* (Albert Camus)
- *The Pearl* (John Steinbeck)
- *Don Quixote* (Miguel de Cervantes)
- *All Quiet on the Western Front* (Erich Maria Remarque)
- *The Prophet* (Gibran)
- *The Alchemist* (Paulo Coelho)
- Parallel Structure notes from *Get it Write*
- Speech Analysis Questions
- TV Tropes website: http://tvtropes.org/pmwiki/pmwiki.php/Main/TruthAndLies
- *Using the Rhetorical Triangle & Rhetorical Appeals:* http://www.youtube.com/watch?v=5ODwmSYb3Tw
- all hyperlinked resources

Significant task 3: *Preparation and Outline- Rhetorical Comparison*

The purpose of this task is for students to plan and create an outline for a hypothetical rhetorical comparison essay. Students will not actually write the essay; they will demonstrate, however, that they can develop a strong focused thesis and support it by means of their preparation to write.

To begin, the student must choose a "main source" from the list of core *or* historical texts in the unit. Then, they need to decide which "secondary source" will be used as a comparison piece. Students can choose from songs, art, and film. It is suggested that the following secondary sources are offered to the students:
- *song*: "I Need to Wake Up" (Melissa Etheridge)
- *film*: *An Inconvenient Truth* (David Guggenheim)
- *art*: works of M.C. Escher

The teacher should allot time for students to explore their options for this secondary source; the media center can be utilized, or students can use school-approved devices to conduct an inquiry. Searches for an appropriate secondary source can also occur at home.

Then, students will create an outline that helps construct the framework for an essay that answers the following question: "How does the author/artist/film-maker/song-writer use similar rhetorical strategies in showing us the relationship between doubt and truth?" In other words, the students should use the two different sources to study both rhetoric and the role of truth in our lives.

The teacher should use in-class writing workshops to guide students through the task. For more accelerated students, the essay can be assigned for extra credit. Many resources are available to students, including: the Thesis Generator, Writing Templates, and Model Outlines. Students should be encouraged to complete multiple drafts of their outline and to revise it to meet the teacher's expectations of the assignment.

Timeline: 2-3 Blocks
Key vocabulary:
- rhetoric
- rhetorical triangle (ethos, pathos, and logos)
- tone
- parallel structure
- repetition
- diction
- syntax
- figures of speech
- tropes
- opposing
- compare and contrast

Resources:
- all hyperlinked resources
- *The Stranger* (Albert Camus)
- *The Pearl* (John Steinbeck)
- *Don Quixote* (Miguel de Cervantes)
- *All Quiet on the Western Front* (Erich Maria Remarque)
- *The Prophet* (Gibran)
- *The Alchemist* (Paulo Coelho)
- *Letters to a Young Brother*
- *Letters to a Young Sister*
- *Malcolm X Letters*
- *Martin Luther King – April 4th Speech*
- *Emma Goldman Letter*
- "The Declaration of Independence" – Thomas Jefferson
- "Declaration of Sentiments" – Elizabeth Cady Stanton
- "The Other Beauty of Martin Luther King, Jr.'s Letter from Birmingham Jail"
- Excerpt from "On Civil Disobedience" (Mohandas Gandhi)
- Selections from *Crossing Cultures*
- Selections from *Essays from Contemporary Culture*
- Excerpt from "One Word of Truth Outweighs the World" (Alexander Solzhenitsyn)
- *Gandhi's Views On Truth: Truth Meaning of Truth*

Common learning experiences:

- movie clips of *An Inconvenient Truth*
- move clips of *Supersize Me*
- movie clips of *Waiting for Superman*
- listen to audio versions of speeches
- poetry readings and explications of selections that embody the concept of "truth"
- literature circles or book talks

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment:
The Effects Journal (Significant task 1) can be used to assess the students' ability to determine central ideas, analyze multiple texts (including works of non-fiction), and to write in a formal tone. This task will also allow the teacher to understand the students' capabilities with summarizing text.

Unit Post-Assessment(s):

1. Students will write an Extended Essay Analysis, in which they address the following prompt:

   "I search after truth, by which man never yet was harmed," wrote the Roman statesman and philosopher Marcus Aurelius. What light do the selections in this unit shed on the remark of Marcus Aurelius? Has truth ever harmed anyone? Why is a search after truth a considerable undertaking?

   Refer to specific selections in answering and suggesting some of the difficulties with which truth presents us. This assessment will be graded using the 5 Level Rubric. The teacher can choose to provide any scaffolding or support that is necessary.

OR

2. Students will write an Extended Essay Analysis, in which they address the following prompt:

   Plato's "Allegory of the Cave" makes a distinction between what appears to be true and what is actually true. Explain the distinction. Which of the selections in this unit develop a contrast between how things seem on the surface, and how they really are? Do any of the selections accept the surface appearance of things as embodying reality and the truth?

   This assessment will be graded using the 5 Level Rubric. The teacher can choose to provide any scaffolding or support that is necessary.

Teacher notes:

Core Literary Resources:
- *The Stranger* (Albert Camus)
- *The Pearl* (John Steinbeck)
- *Don Quixote* (Miguel de Cervantes)
- *All Quiet on the Western Front* (Erich Maria Remarque)
- *The Prophet* (Gibran)
- *The Alchemist* (Paulo Coelho)
- *Letters to a Young Brother*
- *Letters to a Young Sister*

Historical Documents:

- *Malcolm X Letters*
- *Martin Luther King – April 4th Speech*
- *Emma Goldman Letter*
- "The Declaration of Independence" – Thomas Jefferson
- "Declaration of Sentiments" – Elizabeth Cady Stanton
- "The Other Beauty of Martin Luther King, Jr.'s Letter from Birmingham Jail"
- Excerpt from "On Civil Disobedience" (Mohandas Gandhi)
- Selections from *Crossing Cultures*
- Selections from *Essays from Contemporary Culture*
- Excerpt from "One Word of Truth Outweighs the World" (Alexander Solzhenitsyn)
- *Gandhi's Views On Truth: Truth Meaning of Truth*

Poems:
- "Not Waving, But Drowning" (Stevie Smith)
- "Allegory of the Cave" (Plato)
- "Night Face Up" (Julio Cortazar)

Other Resources:
- Parallel Structure notes from *Get it Write*
- Speech Analysis Questions
- TV Tropes website: http://tvtropes.org/pmwiki/pmwiki.php/Main/TruthAndLies
- *Using the Rhetorical Triangle & Rhetorical Appeals:* http://www.youtube.com/watch?v=5ODwmSYb3Tw
- http://www.history.com/speeches
- "Kohlberg's Six Stages of Moral reasoning" (Lawrence Kohlberg)
- Art: "Guernica " (Pablo Picasso)
- "I Need to Wake Up" (Melissa Etheridge)
- "An Inconvenient Truth" (David Guggenheim)
- Visual art (Escher)

Other:
- 5 Level Rubric
- Windsor High School's 21st Century Rubrics

Windsor Public Schools
Curriculum Map for the Secondary Level
English 10: World Literature

Purpose of the Course:

This course focuses on analyzing and writing about texts from various world cultures. Students will study different genres of literature and make cultural connections. Expository, analytical and persuasive writing are emphasized.

Name of the Unit:	**Length of the unit:**
UNIT 5- Stirrings of the Imagination	15 Blocks

Purpose of the Unit:

To appreciate a variety of art forms, which include painting, sculpture, drawing, and music, and how each medium tells a story. Through the examination of art and text students will understand how artist's and author's influences are revealed in their work.

Common Core State Standards Addressed in the unit:

RL.9-10.7
Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment (e.g., Auden's "Musée des Beaux Arts" and Breughel's Landscape with the Fall of Icarus).

RI.9-10.7
Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.

W.9-10.2b
Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

W.9-10.2e
Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

W.9-10.7
Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem;

Narrow or broaden the inquiry when appropriate;

Synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

SL.9-10.1c
Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas;

Actively incorporate others into the discussion;

Clarify, verify, or challenge ideas and conclusions.

Big Ideas:	**Essential Questions:**
- An artist's influences are reflected in their art. - Artists and poets draw from things in the world around them as well as from their own inner experiences, thoughts, feelings to create their art.	- How is the imagination influenced by a place and experience? - How do different artistic mediums tell a story?
Students will know: - how an artist's influences are reflected in their art - a variety of artistic mediums - how literature, culture and beliefs influence different art forms **Refer to the links below:** Depth of Knowledge LA	**Students will be able to:** 1. Respond to art and text through gallery walks and question and answer sessions. 2. Research and analyze artists and writers using MLA. 3. Create digital media presentations to demonstrate learning. 4. Define the following: - visual rhetoric - existentialism - surrealism - allegory - proposal - artistic terminology - inference - justification - rhetorical devices - sensory details - environmental symbols

Significant task 1: *A Picture is Worth…*

Students will take pictures either within the building or outside it while using an approved electronic device. Students will download their images to their student account or electronic portfolios, and print copies from either the classroom computers or library color printer. They can also print the images at home.

When writing, students will analyze their own artistic work by answering this question: "What is emphasized and absent in your picture?" Students should reflect on their environment, sense of place, and their experiences, in terms of how these contribute to their image. Students will then use this understanding to see

how authors, poets and artists connect to their art form.

This task is a Reflection and will be graded as such; it is not a "formal" essay.

Timeline: 2-3 Blocks

Key vocabulary:
- artistic terminology: http://poly.lausd.k12.ca.us/gate/artistic.html

Resources:
- technology related to the completion of the assignment
- student online account

Significant task 2: *Visual Features Mini-Lessons*

In this task, the teacher will assist students in designing and implementing a mini-lesson on the visual elements that are contained in the core texts. These elements include: visual imagery, the integration of shapes, sensory details, colors, and environmental symbols (sun, stars, etc.).

Student groups will be selected by the teacher according to ability, mixed ability, or heterogeneous. The teacher can use a Class Group Configurations Template to organize this task. The teacher will guide this process by providing a certain number of options and by "narrowing down" the amount of text being used for the lesson.

Students will create an actual mini-lesson that they will teach to their peers. The teacher will distribute a Lesson Plan Template and will model how to complete it. (The teacher may choose to model an entire lesson.) Each lesson will include some or all of these elements: an objective, a visual aid, key vocabulary, a focus passage(s), and an "assessment."

Timeline: throughout the duration of the unit

Resources:
- *The Stranger (Albert Camus)*
- *The Metamorphosis (Franz Kafka)*
- *The Pearl (John Steinbeck)*
- *The Little Prince (Antoine de Saint-Exupéry)*
- "The Handsomest Drowned Man in the World" (Gabriel Garcia Marquez)
- Poetry Selections from *The Poetry of Our World*
- Poetry Selections from *Totems to Hip-Hop: A Multicultural Anthology of Poetry Across the Americas*, 1900-2002
- Poetry Selections from *The Poetry of Our World: An International Anthology of Contemporary Poetry*
- Visual Rhetoric: http://owl.english.purdue.edu/owl/resource/691/01/
- Visual Rhetoric Slide Presentation: http://owl.english.purdue.edu/owl/resource/729/01/

Key vocabulary:
- visual imagery
- sensory details
- environmental symbols

Significant task 3: *Art-Inspired Writing*

This is a multipart task that will give students the opportunity to reflect on the unit's essential question: "How do different artistic mediums tell a story?"

PART 1
Students will choose a picture or painting, with guidance from the teacher and/or the media specialist. The students can also consult with the school's art teacher(s). It will be best if the student chooses something relatively abstract. Once they make their selection, students will choose to create a story or write an essay based on the image presented. The overall objective of this task is for students to make inferences from viewing the picture.

If students choose to write the narrative, they must recall their understandings from Unit 1 and incorporate the elements of narratives: plot elements, character development, conflict, etc. The narrative will be graded using the Narrative Writing Rubric from Unit 1.

If students choose to write the essay, they should critique the rhetorical strategies utilized in the piece. A 5 Level Rubric will be used to grade the rhetorical critique.

The length of this will be no longer than three pages. Included in both responses, students will have to write a ½ page rationale justifying their inferences and how the artist of the image, or the image itself inspired students' thinking.

PART 2
In a graded discussion that uses the 21st Century Rubrics, students will present their art piece and their reflection on it (narrative or critique). The presentation could be in the form of a gallery walk, but this is at the teacher's discretion. After viewing all of the art pieces, the whole class will discuss the unit's essential question- "How do different artistic mediums tell a story?" The discussion can be extended by answering the other essential question, "How is the imagination influenced by a place and experience?"

Timeline: 4-5 Blocks

Key vocabulary:
- inference
- justification
- rhetorical devices
- surrealism
- existentialism
- poetry terms

Resources:
- mason.gmu.edu/~montecin/**museum**.htm
- www.met**museum**.org/
- http://emuseum.history.org/
- http://www.si.edu/Exhibitions
- http://www.glenbow.org/exhibitions/online/
- http://www.warmuseum.ca/exhibitions/online-exhibitions/

Common learning experiences:
- Explore virtual art galleries:
  - The Metropolitan Museum of Art- www.met**museum**.org/
  - Google Art Project- www.google**art**project.com/
  - Art & Museums Online- mason.gmu.edu/~montecin/**museum**.htm
  - Web Gallery of Art, image collection, virtual museum- www.wga.hu

- Visit actual art galleries for "Writing about Art" programs
- Classroom gallery walks
- Peer review
- Artistic expression

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment:

1. Students will be shown a work of art and asked to respond to the following questions:
    - What is going on in this picture?
    - What else can you find?
    - What do you see that make you say that?
    - Who is the person (s) in the picture?(if applicable)
    - Where is this picture taking place?
    - When do you think this is taking place?
    - What stands out in this picture?

    Students may use a double entry/dialectical journal format to explore the pictures and record responses. Students must provide evidence for each of the questions.

Unit Post-Assessment:

1. Gallery Walk with Q and A
    - Students will select pieces of art that represent some idea, theme, plot element, or character from a core text or that relates to the mood or tone presented in the text. Students will display the piece(s) of "art" in the room with a sign displaying the artist, date, place (if given) and name of the art piece (if available).

    - As students participate in the Gallery Walk they will be required to comment or form a question about each piece they view. Students will be asked to incorporate questions from the Visual Art Questionnaire. The questions and comments will be on sticky notes and placed next to the art, so students can build on the knowledge of their peers.

    - For the Question and Answer Session, students will prepare a 3-5 minute presentation about the piece of art, the artist, and the influences that caused the artist to create it. Student will also be required to explain why he/she chose that particular piece of art, as well as how it connects to or represents the text. Students will then have the opportunity to address the "sticky note" comments and questions and take any new questions from the class. The 21st Century Rubrics will be used to grade oral communication.

    - Students will then create individual Gallery Brochures. These items will include each piece of art along with the students' own interpretations and explanations of the art; they will also include any connections they can make to the texts from the unit. Student writing will be graded using the 5 Level Rubric.

Teacher notes:

Core Literary Resources:

- *The Stranger (Albert Camus)*
- *The Metamorphosis (Franz Kafka)*

- *The Pearl (John Steinbeck)*
- *The Little Prince (Antoine de Saint-Exupéry)*
- "The Handsomest Drowned Man in the World" (Gabriel Garcia Marquez)

Poems:
- Poetry Selections from *The Poetry of Our World*
- Poetry Selections from *Totems to Hip-Hop: A Multicultural Anthology of Poetry Across the Americas*, 1900-2002
- Poetry Selections from *The Poetry of Our World: An International Anthology of Contemporary Poetry*

Other:
- www.readthinkwrite.com
- www.voicethread.com
- www.glogster.com
- www.museumbox.com
- mason.gmu.edu/~montecin/**museum**.htm
- www.met**museum**.org/
- http://emuseum.history.org/
- http://www.si.edu/Exhibitions
- http://www.glenbow.org/exhibitions/online/
- http://www.warmuseum.ca/exhibitions/online-exhibitions/
- http://owl.english.purdue.edu/owl/resource/691/01/
- http://owl.english.purdue.edu/owl/resource/729/01/
- technology related to the completion of the assignment
- student online account

Key Vocabulary:
- visual rhetoric
- existentialism
- surrealism
- allegory
- proposal
- artistic terminology
- inference
- justification
- rhetorical devices
- sensory details
- environmental symbols

Rubrics:
- Windsor High School's 21st Century Rubrics
- 5 Level Rubric
- Narrative Writing Rubric

Windsor Public Schools
Curriculum Map for the Secondary Level
English 10: World Literature

Purpose of the Course:
This course focuses on analyzing and writing about texts from various world cultures. Students will study different genres of literature and make cultural connections. Expository, analytical and persuasive writing are emphasized.

Name of the Unit:	**Length of the unit**:
UNIT 6- Crossing Borders	13 Blocks
Purpose of the Unit:	
To have students read about different cultures and make them aware of their own place in this world.	

Common Core State Standards Addressed in the unit:
RI.9-10.9 Analyze seminal U.S. documents of historical and literary significance (e.g., Washington's Farewell Address, the Gettysburg Address, Roosevelt's Four Freedoms speech, King's "Letter from Birmingham Jail"), including how they address related themes and concepts. **W.9-10.3a** Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events. **W.9-10.7** Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. **L.9-10.3a** Write and edit work so that it conforms to the guidelines in a style manual (e.g., *MLA Handbook*, Turabian's *Manual for Writers*) appropriate for the discipline and writing type.

Big Ideas:	**Essential Questions:**
- We can understand our world by showing compassion and respect toward other people and cultures. - We need to hear the voices of people of different	- How can literature open our mind to new ways of seeing the world? - How can learning about different cultures and

regions, connect our lives to theirs through awareness, and respect the differences of culture. - We need to make basic connections to the collective humanity, and show care and understanding about global injustice in all cultures.	time periods help us to understand the world? - How can we diminish harmful stereotypes and ensure that we treat people we encounter in our lives with respect every human being deserves? - What does it mean to be a citizen of the world?
Students will know: - about other cultures; - that people struggle to understand their individual identity in relation to their group identity; - the influence of your environment on self; - the connection between both world and American Literature. **Refer to the links below:** Depth of Knowledge LA	**Students will be able to:** 1. Analyze U.S. documents for historical and literary significance and how they address related themes and concepts. 2. Develop and support claims and counterclaims. 3. Conduct research. 4. Demonstrate mastery of the writing process and conforms to the MLA guidelines. 5. Define these literary terms: - literary nonfiction - historical fiction - subjectivity - objectivity - human rights - humanitarian - humanist - human responsibility

Significant task 1: *Defining Humanity*

PART 1
Begin a whole class discussion of the statement "*We are all humanists*" (that is, we are all concerned about the human condition). Then, ask students to respond to these questions regarding the statement:

- What does that statement mean to you?
- Why should we care about places half a world away?

Students can either work independently or collaboratively to create Journal Responses. If they work in small groups, the teacher should encourage students to discuss each question and to justify their answers before writing them down.

PART 2
Students will then read the United Nations' Universal Declaration of Human Rights and quotes by Eleanor Roosevelt. By annotating the document and quotes, students will begin to explore the concept of humanity and what it means to be a humanitarian. The teacher can choose to have students read independently, in small groups, or as a whole class.

PART 3

Then, students will then take their findings and define "human responsibility." To show their understanding of it, pairs or small groups should create a Denotation-Connotation Poster that covers the following aspects:

- a concrete definition of "human responsibility,"
- 3 visual representations of it
- 3 connections to how it actually looks in our world.

To supplement the discussions of the journal questions and/or the term "human responsibility," students can also read: "Hollowman" (T.S. Eliot) and "The World is Too Much With Us" (Henry Wadsworth).

Students will share findings in brief classroom presentations.

Timeline: 2-3 Blocks

Key vocabulary:

- human rights
- humanitarian
- humanist
- human responsibility

Resources:

- all hyperlinked resources
- Laying the Foundation Lessons on Connotation and Denotation

Significant task 2: *Global Literacy I-Search*

The I-Search (Macrorie, 1998) empowers students by making self-selected questions about themselves, their lives, and their world the focus of the research and the writing process.

Teachers will introduce the concept of the I-Search by sharing with students that they will be learning about a country and the human rights violations that occur there. Possible countries could be Romania, Mexico, Russia, Afghanistan, Syria, El Salvador, or Brazil. Students may choose another country as long as they show proof that they discovered human rights violations taking place there. They can also draw from any research accomplished in previous units. Students should choose a country that seems to have the most potential to result in productive research.

Students will brainstorm as many questions as they can think of; brainstorming can occur independently, or as a whole class. Students should also consider the following questions in order to determine the validity of their chosen nation, as a "place of strife."

- Who has the power?
- Why do they have power?
- What is being done to eliminate the violations?
- What can be done to make the world more aware?

Students should use their research, questioning, and answering to create a tentative central question—the main focus for their inquiry—and four possible sub-questions—questions that will help them narrow their research in support of their main question. The I-Search Chart can help students begin to see the relationships among their inquiry questions.

Using the I-Search, students will write a Research Proposal about why they chose the topic they did, what they already know about the topic, and what they hope to learn from their research.

Students will present their information through Power Point, Prezi, or flyer/brochure, or blog. Students will complete an I-Search Process Reflection Chart. Their oral communication skills will be measured with the

21st Century Rubrics.

Timeline: 4-5 Blocks

Key vocabulary:
- subjectivity
- objectivity

Resources:
- http://www.readwritethink.org/professional-development/strategy-guides/promoting-student-directed-inquiry-30783.html
- all hyperlinked resources

Significant task 3: *Paired Texts*

To illustrate the idea that both world and American literature can serve as an "eraser" to that line between "us" and them" and to help them cross the border of understandings of other cultures, students will be given paired texts that are connected thematically and challenge students' awareness of themselves and their place and that of others.

In an Analysis Essay, students will be asked to identify the ideas found it the world text and connect what is similar in the American text. The essay will be graded with the 5 Level Rubric.

These text pairs are suggested:
- "King of the Bingo Game" (Ralph Ellison) and "The Metamorphosis" (Franz Kafka)
- Poetry of William Carlos William and Wole Soyinka
- *Black Elk Speaks* (John Neihardt) and *Things Fall Apart* (Chinua Achebe)

Teacher has the option of choosing additional texts from the Literary Resources of the unit.

Timeline: 3-4 class periods

Key Vocabulary:
- N/A

Resources:
- all hyperlinked resources
- *Things Fall Apart (Chinua Achebe)*
- *When Rain Clouds Gather (Bessie Head)*
- *The Tao of Pooh (Benjamin Hoff)*
- *A Raisin in the Sun (Lorraine Hansberry)*
- *The Other Side of the Sky: A Memoir (Farah Ahmedi with Tamim Ansary)*
- *Angela's Ashes (Frank McCourt)*
- *American Born Chinese (Gene Luen Yang)*
- *Jihad Lipstick (Azadeh Moaveni)*
- *Baghdad Burning (Riverbend)*
- *Siddhartha (Herman Hesse)*
- "Geraldo, No Last Name" (Sandra Cisneros)
- "The Lesson" (Toni Cade Bambara)
- stories by Amy Tan
- Selections from Pablo Neruda
- Selections from Naomi Shahib Nye

Common learning experiences:

- visit the Library Media Center to use resources
- book talks or literature circles
- Use MLA documentation

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment:

1. Give Students the following guided questions:
    - How does your view of the world compare to others' views of the world?
    - How can this shape personal identity?
    - What causes us to see through others' "I's"? (The teacher will need to clarify what this question means).
    - What happens when we do see through others' "I's"?

    Students will write Journal Responses and then discuss them in small groups. Oral communication skills will be measured by the 21st Century Rubrics.

Unit Post-Assessment(s):

1. Students will create a Crossing Borders Portfolio that captures the themes of the unit and answers one (or more) of the essential questions.

    - PART 1
      Students will select an excerpt of music, create a piece of art, or find a poem that illustrates their awareness of their place in this world.

    - PART 2
      Included will be a copy of Dylan Thomas' poem "Do Not Go Gentle into That Good Night."
      Students are to read the poem and must create a response to show how they will take an active approach to crossing borders and erasing the cultural lines drawn around the world.

    - PART 3
      Students will include a 2-3 page essay in which they discuss what they have learned during this unit. Students should include what they have learned about their own cultural beliefs, values, and assumptions.

    - PART 4
      Students will create a cover that states their personal credo about the world and a visual that incorporates the readings covered this year. A sample portfolio will be available as a model. This assessment will be graded using a Project Rubric and the 5 Level Rubric.

Teacher notes:

Core Literary Resources:

- *Things Fall Apart (Chinua Achebe)*
- *When Rain Clouds Gather (Bessie Head)*
- *The Tao of Pooh (Benjamin Hoff)*
- *A Raisin in the Sun (Lorraine Hansberry)*
- *The Other Side of the Sky: A Memoir (Farah Ahmedi with Tamim Ansary)*
- *Angela's Ashes (Frank McCourt)*
- *American Born Chinese (Gene Luen Yang)*

- *Jihad Lipstick (Azadeh Moaveni)*
- *Baghdad Burning (Riverbend)*
- *Siddhartha (Herman Hesse)*
- The Metamorphosis (Franz Kafka)
- *Black Elk Speaks* (John Neihardt)

Short Stories:
- "Geraldo, No Last Name" (Sandra Cisneros)
- "The Lesson" (Toni Cade Bambara)
- stories by Amy Tan
- "King of the Bingo Game" (Ralph Ellison)

Poetry
- Selections from Pablo Neruda
- Selections from Naomi Shahib Nye
- Poetry of William Carlos William and Wole Soyinka
-

Key Vocabulary:
- literary nonfiction
- historical fiction
- subjectivity
- objectivity
- human rights
- humanitarian
- humanist
- human responsibility

Rubrics:

Other:
- *Differentiation Instruction in Practice*
- *Using Literature to Teach Global Education: A Humanist Approach* (Delane Bender-Slack)

Windsor Public Schools
Curriculum Map for the Secondary Level
English 11: American Literature

Purpose of the Course:

This course emphasizes the writing of informational, persuasive, and expository essays in conjunction with the study of American writers, their ideas, styles, and historical significance. Students will learn major topics and themes of American literature, and will further develop their vocabulary and research techniques. A research paper is required.

Name of the Unit:	**Length of the unit:**
UNIT 1- Foundations of the American Dream	8-10 Blocks

Purpose of the Unit:

This unit will establish an understanding of the American dream and the meaning of freedom, as depicted in various historical documents and literary selections; students' personal impressions of these concepts will be emphasized. The unit will provide a foundation for the concepts contained within subsequent units.

Common Core State Standards Addressed in the unit:

RL.11-12.7
Analyze multiple interpretations of a story, drama, or poem;

Evaluate how each version interprets another source text.

W.11-12.9a/W.11-12.9b
Draw evidence from literary or informational texts to support analysis, reflection, and research.

SL.11-12.4
Present information, findings, and supporting evidence, conveying a clear and distinct perspective;

Organize, develop a line of reasoning, in which style is appropriate to purpose and audience.

Big Ideas:	**Essential Questions:**
- Definitions of these terms are based on a person's collection of unique experiences and personal history. - Many Americans define the American dream as "life, liberty, and the pursuit of happiness."	- How do different members of society define the American dream? - How do *you* define it; does your definition match the traditional idea of it? - How would most Americans define "freedom"?

Students will know:	**Students will be able to:**
- how "freedom" and "the American dream" are defined through literature and historical documents; - the importance of acknowledging personal experience and personal history in defining "the American dream" and "freedom;" - how to identify a narrator's or author's point of view about a source text; - why understanding "the American dream" and "freedom" are essential to studying American literature. **Refer to the links below**: Depth of Knowledge LA	1. Analyze and evaluate multiple interpretations of texts. 2. Support analysis, reflection, and research with appropriate text. 3. Present an oral argument clearly. 4. Organize and develop an oral argument, as appropriate to audience and purpose. 5. Define these literary terms: - lens - point of view - topic - scope - purpose - setting (cultural, historical social) - narrative voice

Significant task 1: *Extended Definition Response*

In a whole class arrangement, students will first read the unit's historical documents with guidance from the teacher (using Interrupted Style is recommended). After reading and annotating them, students will prepare for a whole class discussion by creating open-ended questions in small groups; the teacher can provide Question Starters for scaffolding. Students will then engage in a graded Socratic-style seminar, as a whole class, which will be based primarily on a discussion of the essential questions and will also include an exploration of the students' supplemental questions for enrichment. The teacher will use the Socratic Circles Rubric to grade students for proficiency. Students will use the historical documents and individual background knowledge as support for their points during the seminar.

To finally demonstrate an understanding of the essential questions, students will independently write an Extended Definition Response; in this 1-2 page assignment, students must define either "the American dream" or "freedom" and support this definition with references to the texts and the Socratic seminar. This assignment can be a "take home" assignment, or completed in class with planning, drafting, and peer reviewing before a final draft is submitted. The 5 Level Rubric and/or the 21st Century Rubrics will be used to grade this writing response.

Timeline: 2-3 Blocks

Key vocabulary:
- American dream
- freedom
- historical setting
- social setting
- cultural setting
- topic
- scope
- purpose

Resources:
- "Speech at the Virginia Convention" (Patrick Henry)
- "Farewell Address" (George Washington)
- "Gettysburg Address" (Abraham Lincoln)
- *Plessy v. Ferguson*
- all hyperlinked resources

Significant task 2: *Critical Readings of Core Text(s)/ Reflection*

Students keep a Dialectical Journal, Key Line Journal, or any other Journal Options of their findings from the core text(s). (The teacher will provide a model of these types of journals with a sample text before students begin reading.) The teacher will establish specific expectations for the number of required entries. The teacher can choose to use a limited amount of class time for reading and journaling, or this can be accomplished as a whole class. Ideally, this task should be accomplished independently.

After completing the text(s), students will prepare questions for a second Socratic seminar and will discuss it in a whole class setting; the Socratic Circles Rubric will again be used to grade the discussion. Question Starters will be provided to assist students in creating higher-order questions.

Finally, students will independently write a 1-2 page Lens Response in which they analyze the author's definition of the American dream. Textual support will be required. The 5 Level Rubric and/or the 21st Century Rubrics will be used to grade this writing response.

Timeline: 6-8 Blocks (independently)

Key vocabulary:
- American dream
- freedom
- lens
- literary analysis
- narrative voice
- speaker

Resources:
- *Fences* (August Wilson)
- *Of Mice and Men* (John Steinbeck)
- *Grapes of Wrath* (John Steinbeck)
- *The Death of a Salesman* (Arthur Miller)
- excerpts from *The Worst Hard Times* (Timothy Egan)
- excerpts from *The Promised Land: The Great Migration and How it Changed America* (Lemann)
- all hyperlinked resources

Significant task 3: *Comprehension Checks*

Complete multiple comprehension checks of the major work(s) being studied in class. The teacher can design these quick assessments, but multiple choice and/or short answer are recommended. Students should be able to demonstrate an understanding of the basic elements of the text(s).

Timeline: 2-3 Checks in 6-8 Blocks

Key vocabulary:
- lens

- literary analysis
- point of view
- narrative voice
- historical setting
- social setting
- cultural setting
- topic
- scope
- purpose
- speaker
- American dream
- freedom

Resources:
- *Fences* (August Wilson)
- *Of Mice and Men* (John Steinbeck)
- *Grapes of Wrath* (John Steinbeck)
- *The Death of a Salesman* (Arthur Miller)
- excerpts from *The Worst Hard Times* (Timothy Egan)
- excerpts from *The Promised Land: The Great Migration and How it Changed America* (Lemann)
- Prestwick House Teaching Units

Common learning experiences:
- Debate: *Have the definitions of the American dream or freedom changed over time*?
- View Ken Burns' documentary of Mark Twain; use it to discuss Twain's view of freedom
- *United Streaming* clips (the Great Depression, Jim Crow)
- Field trip to the Windsor Historical Society
- Field trip to the Mark Twain House

Common assessments including the end of unit summative assessment:

Summer Reading Assessment: *Note*- This will be used as a Pre-Assessment in Unit 2, but the teacher can choose to give this assessment during Unit 1.

Unit Pre-Assessment:
1. Using Langston Hughes' poem "I Too" as a lens, complete a preliminary Lens Essay to show how the poem's speaker would interpret the purpose of the preamble to the *United States Constitution*. The preamble will be provided and a summary of it will be included. Definitions of "lens," "speaker," and any relevant terms will also be provided. The 5 Level Rubric will be used to grade this writing response. Within the response, students must:
   - summarize the poem
   - analyze the speaker's point of view about the Constitution and its connection to freedom and the American dream
   - use text from the poem support the analysis

Unit Post-Assessment(s):
1. Complete an Analytical Review (in paragraphs) of one or more of the unit's poems with an emphasis on topic, scope, and purpose. The students must also explore the historical, social, and cultural setting of the poem(s); additionally, the review must include an analysis of the speaker's point of view, as related to the concepts of the American dream and freedom. A sample will be provided by the teacher.

2. Complete a graded Pre-Writing Organizer (options will include: outlines, "Think in Threes," etc.).

3. Complete a Lens Essay using one or more of the unit's poems as a basis for analysis. Determine how the speaker would interpret the purpose of the preamble to the *United States Constitution*. A summary of key points will be included. The 5 Level Rubric will be used to grade this writing response. Within the response, students must:
   - summarize the poem
   - analyze the speaker's point of view about the preamble the *United States Constitution* and its connection to freedom and the American dream
   - use text from the poem to support the analysis

4. Engage in the peer-review process by completing a Student Review Protocol to create multiple drafts, including the final version to be submitted to "Turnitin.com."

Teacher notes:

Core Literary Resources:
- *Fences* (August Wilson)
- *Of Mice and Men* (John Steinbeck)
- *Grapes of Wrath* (John Steinbeck)
- *The Death of a Salesman* (Arthur Miller)
- excerpts from *The Worst Hard Times* (Timothy Egan)
- *The American Reader: Writing That Moved a Nation* (Diane Ravitch)
- *The Promised Land: The Great Migration and How it Changed America* (Lemann)

Poems:
- "I Too" (Langston Hughes)
- "I Hear America Singing" (Walt Whitman)
- "I Stand Here Ironing" (Tillie Olsen)
- "Straw Into Gold" (Sandra Cisneros)
- "Revolutionary Dreams" (Nikki Giovanni)
- "The New Colossus" (Emma Lazarus)
- "What is an American?" (Michel-Guillaume Jean de Crevecoeur)

Historic Documents:
- "Speech at the Virginia Convention" (Patrick Henry)
- "Farewell Address" (George Washington)
- "Gettysburg Address" (Abraham Lincoln)
- preamble to *The United States Constitution*
- *Plessy v. Ferguson*

Rubrics:
- Windsor High School's 21st Century Learning Expectations Rubrics
- 5 Level Rubric

Key Vocabulary:
- lens
- literary analysis
- point of view
- narrative voice

- historical setting
- social setting
- cultural setting
- topic
- scope
- purpose
- speaker
- American dream
- freedom

Windsor Public Schools
Curriculum Map for the Secondary Level
English 11: American Literature

Purpose of the Course:

This course emphasizes the writing of informational, persuasive, and expository essays in conjunction with the study of American writers, their ideas, styles, and historical significance. Students will learn major topics and themes of American literature, and will further develop their vocabulary and research techniques. A research paper is required.

Name of the Unit:	**Length of the unit:**
UNIT 2- Fear, Power, and the American Way	10 – 12 Blocks

Purpose of the Unit:

To develop an understanding of how the use and/or abuse of power and control has shaped American values and culture.

Common Core State Standards Addressed in the unit:

RL.11-12.2./RI.11-12.2
Determine two or more themes or central ideas;

Analyze textual development and how texts interact and build to produce a complex account.

SL.11-12.1
Initiate and participate effectively in a range of collaborative discussions;

Work with peers to promote civil, democratic discussions and decision-making;

Set clear goals and deadlines and establish individual roles, as needed.

W.11-12.2a
Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly;

Introduce a topic;

Organize complex ideas, concepts, and information;

Create a unified whole; include formatting.

Big Ideas:	**Essential Questions:**
- Governments opt to maintain power and control through fear, but this is not necessary. - Individuals who confront power must be willing to make significant sacrifices to affect change. - Our morals are personal, but the government has a duty to enforce morality.	- Must a government use fear to maintain power and control? - How can an individual confront power to affect change? - Should morality be a public (governmental) or private concern?
Students will know: - how "power" and "control" impacts individual freedom; - why a government uses fear to maintain power and control; - how American authors use their craft as a vehicle for social commentary and to promote change; - sacrifice is inevitable in order to affect change. **Refer to the links below**: Depth of Knowledge LA	**Students will be able to:** 1. Determine themes, central ideas and be able to analyze various texts. 2. Participate effectively and collaboratively in all aspects of discussion. 3. Write to examine and convey complex ideas, concepts and information clearly and effectively. 4. Define the following: - theme - central idea - objective - informative text - explanatory text - formatting - hysteria - morals/ ethics - power - control - catalyst - change - persona

Significant task 1: *Annotating and Comparing Excerpts/ Written Response to Essential Question 1*

In a whole class setting, the teacher should review various annotating techniques including: Text Coding, Questioning, and/or Reflecting. (Models of these types of annotations should be provided to students.) While continuing in a whole class arrangement, students will begin this unit by reading, annotating and comparing three excerpted texts (using Interrupted Style is highly recommended) to determine common themes associated with the unit. Recommended texts are from *The Scarlet Letter* (Fiction), "Sinners in the Hands of an Angry God" (Sermon), and *The Mayflower* (Non-Fiction). The teacher should choose a variety of texts with which to work. After reading and annotating these excerpts, students will engage in a guided discussion in groups of 3-4 to compile evidence of common themes among the excerpts, specifically regarding the concepts of "fear" and "control." Teachers should assist students by using these questions to guide the discussion; these questions can be printed on index cards and distributed to each group:

- What examples of governmental control are evident?
- How does that control impact the people?
- Of what are they fearful?

To finally demonstrate an understanding of the essential question "Must a government use fear to maintain power and control?" students will independently write a 1-2 page Explanatory Response demonstrating their understanding of the relevance of the concepts "fear" and "control." Students will ultimately apply this knowledge to their reading of the core text(s). The 5 Level Rubric and/or the 21st Century Rubrics will be used to grade this writing response.

Timeline: 5 Blocks

Key vocabulary:
- theme
- central idea
- objective
- formatting

Resources:
- "Sinners in the Hands of an Angry God" (Jonathan Edwards)
- *The Scarlet Letter* (Nathaniel Hawthorne)
- *The Mayflower*
- excerpts from *The American Reader: Writing That Moved a Nation* (Diane Ravitch)
- all hyperlinked resources

Significant task 2: *Critical Reading of Core Text(s)*

Students will keep a Dialectical Journal, Key Line Journal, or any other Journaling Options of their findings from the core text(s). (The teacher will provide a model of these types of journals with a sample text before students begin reading.) The teacher will establish specific expectations for the number of required entries. The teacher can choose to use a limited amount of class time for reading and journaling, or this can be accomplished as a whole class. Ideally, this task should be accomplished independently.

After completing the text(s), students will prepare questions for a Socratic seminar and will discuss it in a whole class setting; the Socratic Circles Rubric will be used to grade the discussion. Question Starters will be provided to assist students in creating higher-order questions.

Timeline: 5 Bocks

Key vocabulary:
- hysteria
- morals
- ethics
- crucible
- power
- control
- catalyst
- change

Resources:
- *The Crucible* (Arthur Miller)
- *Zeitoun* (David Eggers)
- *Americus* (MK Reed)

- *Fences* (August Wilson)
- *Grapes of Wrath* (John Steinbeck)
- *The Death of a Salesman* (Arthur Miller)
- *Black Boy* (Richard Wright)
- "Are You Now, or Were You Ever?" (Arthur Miller)
- *Socratic Circles: Fostering Critical and Creative Thinking in Middle and High School* (Matt Copeland)
- all hyperlinked resources

Significant task 3: *Explanatory Essay or Presentation*

In a well-organized Explanatory Essay, students will independently present and defend opinions, and will make judgments based on the core text(s); they will also validate their own ideas when answering the following questions:

- How do authorities use fear as a means of control?
- What were they trying to control?
- Are they successful?
- Could they do things differently and still maintain control and power?

The 5-Level Rubric and/or the 21st Century Rubrics will be used to grade this writing response. The teacher will provide Graphic Organizers for those students choosing this task and he/she will also allow time for the use of Peer Review Protocols. Class time will be used for all steps of the writing process: brainstorming, pre-writing, drafting, and peer reviewing. Students can also use the Warrior Writing Center for support and the teacher can send students to the Center during class time, as needed.

Students are expected to present their "best ideas" to the class, at the time of submission of this essay.

OR

In an electronic Persona Presentation (Power Point, Prezi, or Slide Rocket are all acceptable), students will independently adopt the persona of a character from the core text(s) and explain how "they" perceived their government's level of control and power. By means of their presentation, they must answer the questions:

- How do authorities use fear as a means of control?
- What were they trying to control?
- Are they successful?
- Can they do things differently and still maintain control and power?"

The teacher will grade the "written" portion of this project with the 5-Level Rubric; students must use proficient literacy skills when presenting their information. This includes the integration of proper textual support of their ideas. Additionally, the 21st Century Rubrics will be used to grade the oral communication aspect of the presentation, as these students must present all ideas to the class. Class time will be used for all steps of the creation process: brainstorming, pre-writing, creating the presentation, and peer reviewing. Students can use school-approved electronic devices for research and the design of their respective projects.

Timeline: 3 - 5 Blocks

Key vocabulary:
- informative text
- explanatory text
- persona

Resources:
- www.prezi.com

- www.sliderocket.com
- www.owl.english.purdue.edu/owl/
- www.writingcenter.uconn.edu
- all hyperlinked resources

Significant task 4: *Comprehension Checks*

Students will complete multiple *quick* comprehension checks of the core text(s) being studied in class. The teacher can design these quick assessments, but multiple choice and/or short answer are recommended. Students should be able to demonstrate an understanding of the basic elements of the text(s).

Timeline: 2-3 Checks in 6-8 Blocks

Key vocabulary:
- theme
- central idea
- objective
- informative text
- explanatory text
- formatting
- hysteria
- morals/ ethics
- power
- control
- change
- catalyst
- persona

Resources:
- *The Crucible* (Arthur Miller)
- *Zeitoun* (David Eggers)
- *Americus* (MK Reed)
- *Fences* (August Wilson)
- *Grapes of Wrath* (John Steinbeck)
- *The Death of a Salesman* (Arthur Miller)
- *Black Boy* (Richard Wright)
- "Are You Now, or Were You Ever?" (Arthur Miller)
- Prestwick House Teaching Units

Significant task 5: *5-Level Character Analysis*

In this in-class task, students will complete a 5-Level Character Analysis for a specific character in the core text, in which students answer:

- What does he want?
- What is he willing to do to obtain his wants?
- What does this say about him as a person?
- What does the character's society say/think about him?
- What does this say about the character's society?

Students will be graded using the 5-Level Rubric. Teachers can use this task as a mechanism for assessing student growth from the pre-assessment through now.

Timeline: 1 Block

Key vocabulary:
- hysteria
- morals/ ethics
- power
- control
- catalyst
- change
- persona

Resources:
- *The Crucible* (Arthur Miller)
- *Zeitoun* (David Eggers)
- *Americus* (MK Reed)
- *Fences* (August Wilson)
- *Grapes of Wrath* (John Steinbeck)
- *The Death of a Salesman* (Arthur Miller)
- *Black Boy* (Richard Wright)
- "Are You Now, or Were You Ever?" (Arthur Miller)

Common learning experiences:
- *The Crucible* (film clips)
- *The Scarlet Letter* (film clips)
- *The Village* (trailer)
- *The Trials of Darryl Hunt* (trailer or film clips)
- Teacher-led "Think Alouds" to review student work
- Teacher-led workshops on the writing process
- Training on the use of MLA format
- Exploration of writing support websites (Purdue Owl and/or UConn)
- Discussion of current events that are related to the unit's concepts
- Field Trip to Salem, MA

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment (Summer Reading):

1. Analyze one character from your summer reading book to complete a 3-Level Character Analysis that addresses the following questions:
   - What does s/he want?
   - What is s/he willing to do to obtain s/he wants?
   - What does this say about her/him as a person?

   The 5-Level Rubric will be used to grade this writing response. The writing response will be used a baseline assessment from which teachers will gather preliminary data on student writing competency.

Unit Post-Assessment(s):

1. Students will first complete a graded pre-writing organizer (outline, graphic model, etc.).

2. Write an Explanatory Essay that defends the idea that "*humans are the catalysts for change*." Consider how a specific character from a core text had the opportunity to be a catalyst for change in their

respective societies. Evaluate: (1) the potential each had to change the outcome of the narrative and (2) whether this character made the most of his/her opportunity. In defending your response, you must explain and support your claims with specific and relevant evidence from the text and your 5-level character template. It is expected that assignment will be typed and submitted in the proper format for a formal essay.

Students will be graded using the 5-Level Rubric and/or the 21st Century Rubrics.

3. Complete a student review protocol to create multiple drafts, including the final version to be submitted to www.turnitin.com.

Teacher notes:

Core Literary Resources:
- *The Crucible* (Arthur Miller)
- *The Scarlet Letter* (Nathaniel Hawthorne)
- *Zeitoun* (David Eggers)
- *Black Boy* (Richard Wright)
- *Americus* (MK Reed)
- "Sinners in the Hands of an Angry God" (Jonathan Edwards)
- "Are You Now, or Were You Ever?" (Arthur Miller)
- Excerpt from *The Mayflower* (Nathanial Philbrick)
- *Socratic Circles: Fostering Critical and Creative Thinking in Middle and High School* (Matt Copeland)

Poems:
- "Half Hanged Mary" (Margaret Atwood)
- "If I Must Die" (Claude McKay)

Historic/ Other Documents:
- *The Mayflower Compact*
- excerpts from *The Patriot Act*
- "What Should You Worry About?" (Stephen Levitt)

Rubrics:
- Windsor High School's 21st Century Learning Expectations Rubrics
- 5 Level Rubric

Key Vocabulary:
- theme
- central idea
- objective
- informative text
- explanatory text
- formatting
- hysteria
- morals/ ethics
- power
- control
- change
- catalyst
- persona

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 11: American Literature

Purpose of the Course:

This course emphasizes the writing of informational, persuasive, and expository essays in conjunction with the study of American writers, their ideas, styles, and historical significance. Students will learn major topics and themes of American literature, and will further develop their vocabulary and research techniques. A research paper is required.

Name of the Unit:	**Length of the unit:**
UNIT 3 - Individualism and the American Voice	15 Blocks

Purpose of the Unit:

Students will understand how significant events in American history have shaped our identities, and how American writers have used their craft to expose and challenge controversial issues pertaining to politics, values, and social tensions of specific time periods. Additionally, students will develop an understanding of how literature can serve as a vehicle for change and a call for justice in American society.

Common Core State Standards Addressed in the unit: (Provide the link to the specific standards.)

RL.11-12.3/ RL.11-12.5
Analyze the impact of the author's choices regarding how to develop and relate elements of a story or drama

Analyze how an author's choices concerning structure contribute to the overall meaning and aesthetic impact of a text

RL.11-12.1/ RI.11-12.1
Cite strong and thorough textual evidence to support analysis of explicit and implicit understanding

SL.11-12.2
Ensure a hearing for a full range of positions on a topic or issue

Clarify, verify, or challenge ideas and conclusions

Promote divergent and creative perspectives

W.11-12.2b
Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly

Develop the topic thoroughly

Select the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples

Big Ideas:	**Essential Questions:**
- The interplay of race, class, gender and other factors contribute to the formation of identity. - Significant events in American history influence how people see themselves through the lenses of race, class, gender. - American writers have used their voices to criticize controversial issues in America because literature can be a force for change in society.	- What shapes our collective identity? (Who are we?) - How have American writers acted as social critics on controversial issues in America?
Students will know: - how the formation of identity is impacted by race, class, gender and experiences; as well as the politics, values and tensions of a given time; - that American writers hope to affect change by both openly and subliminally criticizing controversial issues. **Refer to the links below:** Depth of Knowledge LA	**Students will be able to:** 1. Analyze the impact of author's choices regarding development and structure. 2. Cite strong, thorough textual evidence to support analysis of implicit and explicit understanding. 3. Effectively communicate and engage in discussions, lectures, etc. 4. Write and develop complex texts. 5. Define the following: - relevant facts - concrete details - historical context - social context - cultural context - power - identity - racism - classism - gender - discrimination - subliminal - relic - voice - propaganda

Significant task 1: *Critical Reading of Core Text (s)* Teachers can choose from one or more of the following:

- Students keep a Dialectical Journal, Key Line Journal, or any Journal Options of their findings from the core text(s). (The teacher will provide a model of these types of journals with a sample text before students begin reading.) The teacher will establish specific expectations for the number of required entries and should emphasize that these journals should reflect the impact of the author's choices. The teacher can choose to use a limited amount of class time for reading and journaling, or this can be accomplished as a whole class. Ideally, this task should be accomplished independently.

- After completing the text(s), students will prepare questions for a second Socractic seminar and will discuss it in a whole class setting; the Socratic Circles Rubric will again be used to grade the discussion. Question Starters will be provided to assist students in creating higher-order questions. Seminar questions should relate to the author's choices and the impact of these choices on the effectiveness of the text.

- Complete multiple comprehension checks of the major work(s) being studied in class. The teacher can design these quick assessments, but multiple choice and/or short answer are recommended. Students should be able to demonstrate an understanding of the basic elements of the text(s).

Timeline: 4-5 Blocks in 15 Blocks

Key vocabulary:
- relevant facts
- concrete details
- historical context
- social context
- cultural context
- power
- identity
- racism
- classism
- gender
- discrimination
- subliminal
- relic
- voice

Resources:
- *Their Eyes Were Watching God* (Zora Neale Hurston)
- *Huckleberry Finn* (Mark Twain)
- *Americus* (MK Reed)
- *Zeitoun* (Dave Eggers)
- *The Sun Also Rises* (Ernest Hemingway)
- *The Color Purple* (Alice Walker)
- *The Color of Water* (James McBride)
- *The Bluest Eye* (Toni Morrison)
- *The Namesake* (Jhumpa Lahiri)
- all hyperlinked resources

Significant task 2: *Historic Museum Exhibit*

Students will use the Internet to research a specific era of American history as it relates to one or more of the core text(s). Students can use any school-approved electronic device, or can use a computer lab to complete this part of the task. The students should use prescribed pathways on the school's website

(www.edline.net/pages/Windsor_High_School/WHS_Library) to explore a timeframe- or "era"- in which a core text is set. Students will track their findings on an electronic graphic organizer such as www.noodletools.com. During this initial phase of the task, the main objective is for students to collect information on the unique features of that era, especially in terms of the *social*, *cultural*, and *historical contexts* of it. For example, if students are reading *The Sun Also Rises* and are researching post-WWI America, they may come upon the Lost Generation as an element of the "social context."

Students will then use the research to create an exhibit in a "Museum of History" that represents their specific era. This exhibit can be electronic (on www.museumbox.com) or it can be a physical, three-dimensional display; the use of a tri-fold board could be appropriate. Included in the exhibit should be at least one "relic" that is symbolic of the social, cultural, and/or historical contexts that existed during the time of focus. Again, for a student studying *The Sun Also Rises*, they may create a relic like a "map" or "compass" that represents the Lost Generation's struggle to "find themselves" in the midst of an ever-changing political and social world of the post-WWI era.

The student must also write an Explanatory Summary (like that would appear next to an exhibit in an actual museum) to describe and support the meaning and importance of their relic, in relationship to the cultural, historical, and social contexts of the era. A Project Rubric will be provided and/or the teacher can use the 21st Century Rubrics as a way of measuring proficiency.

At the culmination of the task, the teacher should host a "Museum Day" in class, during which students should present their work and share their most significant findings with the class. The teacher can show the students online exhibits as models of the expected quality of the work. Links to online exhibits are listed below in "Resources."

Timeline: 5 Blocks

Key vocabulary:
- relic
- social context
- historical context
- cultural context

Resources:
- www.museumbox.com
- www.noodletools.com
- Windsor High School's website (media center link)
  Online Exhibits
- http://emuseum.history.org/
- http://www.si.edu/Exhibitions
- http://www.glenbow.org/exhibitions/online/
- http://www.warmuseum.ca/exhibitions/online-exhibitions/
- all hyperlinked resources

Significant task 3: *Voice Presentation*

Students should read and annotate any of the recommended essays that pertain to identity and/or generations. After reading the chosen text, the teacher should facilitate a whole class discussion on these questions:
- What exactly is a "generation"?
- Why do you think that each generation should have a "voice"?
- Why do you think that the voices among different generations are so different?

During the discussion, students can use personal experience or the information from the essay to ponder each question. In an MCC-Style Graded Journal Response, students should reflect on the discussion and draw overall conclusions about the questions presented.

Next, the teacher will give students the following question: *If you were the voice of your generation, what would be your message and why?* Students will be given time to brainstorm ideas using several choices for Graphic Organizers, and will ultimately create a message to be approved by the teacher before beginning preparation for an oral presentation. Before beginning an individual Voice Presentation, students will share their ideas with the whole class. At this time, the teacher will assist students in keeping a list of all students' ideas about their generation.

Partially in-class and at home, students will create a Voice Presentation using a poem, song, speech, narrative, or propaganda poster to address the question. All presentations should be 3-5 minutes in length, and include both a visual and written component. For students who are uneasy about presenting to a live audience, the teacher can give the option of using www.upsidedownacademy.org as an outlet for recording a presentation and playing for the class.

A Presentation Rubric and/or the 21st Century Rubrics will be used to grade this task.

Timeline: 5 Blocks

Key vocabulary:
- identity
- voice
- generation
- historical context
- social context
- cultural context

Resources:
- all hyperlinked resources
- www.upsidedownacademy.org
- Selected essays from *The Seagull Reader* (Joseph Kelly) or *50 Essays: A Portable Anthology* (Samuel Cohen)

Significant task 4: *Analytical Essay*

Using a dynamic direct instruction technique like Harvey Daniels' Interactive Lecture strategy, the teacher should teach students about these 8 characteristics of analytical essays:

1. Analytical essays are used to respond to and examine ideas from a variety of texts.
2. They must be based on a central idea or "thesis."
3. This idea must be supported by evidence, which must include specific examples from the text. Quotes and paraphrases may be used but should be explained, so that the essay not simply be a list of quotes.
4. A key component of the essay is that it must show a clear connection of the evidence to the central idea. The essay should exhibit a connection between parts.
5. The essay should follow a logical order of thinking, but it should not follow a formula.
6. The writer must demonstrate critical thinking, such as making inferences, interpreting evidence, anticipating readers' needs, comparison/contrast, synthesis, argumentation, and analysis.
7. The writer should demonstrate an awareness of more than one perspective while also exhibiting a clear sense of audience and purpose.
8. The contents of the essay should be original, innovative, and well developed.

The teacher will review the process of writing an analytical piece with students before beginning the assignment; this includes providing a checklist for the essay's completion. It is recommended that the teacher incorporate the following steps: brainstorming, pre-writing, drafting, and peer reviewing. The teacher should also strongly consider conducting student-teacher writing conferences. The teacher will also provide samples of exemplary analytical writing, as to demonstrate the qualities of an effective analytical text. These samples can be found in Writer's, Inc. writing resource, 5 Steps to a 5: AP Language and Composition, or student samples can be used.

Students will then write an Analytical Essay in which they address the Big Idea ("Significant events in American history influence how people see themselves through the lenses of race, class, gender.") by answering one or more of these questions:

- A great writer can be the voice of a generation. What kind of voice does the author create through his or her text?
- Does the text speak for many people? What does this voice tell us about the concerns and dreams of its generation?
- Was this text a force for change and justice in society?

Teacher will use discretion regarding length, format, and core text(s). The 5-Level Rubric will be used to assess the quality of the students' writing. This assignment should be typed and formatted properly for a formal essay.

Timeline: 5 Blocks

Key vocabulary:

- relevant facts
- concrete details
- historical context
- social context
- cultural context
- power
- identity
- racism
- classism
- gender
- discrimination
- subliminal
- relic
- voice
- propaganda

Resources:

- *Their Eyes Were Watching God* (Zora Neale Hurston)
- *Huckleberry Finn* (Mark Twain)
- *Americus* (MK Reed)
- *Zeitoun* (Dave Eggers)
- *The Sun Also Rises* (Ernest Hemingway)
- *The Color Purple* (Alice Walker)
- *The Color of Water* (James McBride
- *The Bluest Eye* (Toni Morrison)
- *The Namesake* (Jhumpa Lahiri)

Common learning experiences:

- *Color of Justice* (video clip)
- Read excerpts of *The New Jim Crow* (Michelle Alexander)
- Interview family members to discover the roots of their identity and/or their generational affiliation
- View Ted Talks on www.ted.com of authors who conduct social commentary
- View and analyze photographs from the Great Depression and discuss them as a social critique: http://www.history.com/topics/great-depression/photos#the-dust-bowl
- Teacher led "Think Alouds" to review student writing
- Use online resources like www.upsidedownacademy.org to present information and to "flip" the classroom

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment:

1. Students will read and annotate a short reading that is chosen by the teacher (see list of resources as a guide). Then, they will write a 2-part, well developed and well supported response in which they *first* inform the audience about the formation of a chosen character's identity. Students must take these factors into consideration:

    - Race
    - Class
    - Gender
    - Family
    - Values
    - Historical era
    - Any other relevant factor

    Next, the students will add an explanatory element to their essay by comparing the formation of this character's identity to that of a character previously studied in other units. Within their comparison, students will assess which character is afforded more power in society. The 5-Level Rubric will be used to assess the quality of the students' writing on this Identity Analysis response.

Unit Post-Assessment(s):

1. Students will complete a graded pre-writing organizer (outline, graphic model, etc.) based on the prompt (see below).

2. They will then write a 2-part, well developed and well supported Identity Analysis in which they first inform the audience about the formation of their own identity. Students must take these factors into consideration:

    - Race
    - Class
    - Gender
    - Family
    - Values
    - Historical era

- Any other relevant factor

Next, the students will add an explanatory element to their essay by comparing the formation of their identity to that of a main character from a core text read during the unit. Within their comparison, students will assess whether they or the character are afforded more power in society. The 5-Level Rubric will be used to assess the quality of the students' writing.

3. Engage in graded peer-review protocols to review written work while completing final version of essay to be submitted to www.turnitin.com.

Teacher notes:

Literary Resources:
- *Their Eyes Were Watching God* (Zora Neale Hurston)
- *Huckleberry Finn* (Mark Twain)
- *Americus* (MK Reed)
- *Zeitoun* (Dave Eggers)
- *The Sun Also Rises* (Ernest Hemingway)
- *The Color Purple* (Alice Walker)
- *The Color of Water* (James McBride)
- *The Bluest Eye* (Toni Morrison)
- *The Namesake* (Jhumpa Lahiri)
- Poems of the Harlem Renaissance by Hughes, Cullen, McKay, Pound, Giovanni, etc.
- "How it Feels to Be Colored Me" (Zora Neale Hurston)
- "Black Men in Public Space" (Staples)
- Selected essays from *The Seagull Reader* (Joseph Kelly) or *50 Essays: A Portable Anthology* (Samuel Cohen)

Historic Documents:
- *Plessy v. Ferguson*
- President Obama's first inauguration speech
- *Bill of Rights*

Other:
- Political cartoons
- "Notes of a Native Son"
- *The Trials of Darryl Hunt* (documentary)
- *In Search of Our Mother's Gardens*

Key Terms:
- Relevant facts
- Concrete details
- Historical context
- Social context
- Cultural context
- Power
- Identity
- Racism
- Classism
- Gender

- Discrimination

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 11: American Literature

Purpose of the Course:

This course emphasizes the writing of informational, persuasive, and expository essays in conjunction with the study of American writers, their ideas, styles, and historical significance. Students will learn major topics and themes of American literature, and will further develop their vocabulary and research techniques. A research paper is required.

Name of the Unit:	**Length of the unit:**
UNIT 4—Social Justice: The Individual and Society	15 Blocks

Purpose of the Unit:

Students will examine challenges to social justice and how these challenges can impact the individual and society.

Common Core State Standards Addressed in the unit:

RL.11-12.3
Analyze a complex set of ideas or a sequence of events

Explain how specific ideas, events, or individuals interact and develop

RI.11-12.5
Analyze the effectiveness of the structure

Evaluate if the structure makes the author's points clear, convincing, and engaging

Sl.11-12.1d
Respond thoughtfully to diverse perspectives

Synthesize comments, claims and evidence to resolve contradictions

Determine what additional information or research is required

W.11-12.1a
Write arguments to support claims, using valid reasoning and relevant and sufficient evidence

Introduce claims

Establish the significance of the claims

Distinguish the claims from alternate or opposing claims

Create an organized, logical sequence

Big Ideas:	**Essential Questions:**
- The idea of justice often depends on perception. - Education, and access to resources and power determine who is capable of attaining justice. - Being denied justice can be a catalyst for improving one's condition.	- Who determines what is just? - How has the notion of "justice for all" been defined through time? - Can an individual maintain his/her dignity when denied justice?
Students will know: - that literature can be used to demand change and justice within a society; - that all people within a community are responsible for maintaining social justice. Refer to the links below: Depth of Knowledge LA	**Students will be able to:** 1. Analyze complex ideas and sequence of events. 2. Analyze and evaluate text structure and author's purpose. 3. Respond to and synthesize comments, claims and evidence. 4. Write effective arguments using sufficient evidence. 5. Define the following: - community - justice - dignity - social justice - perception - perspective - marginalization - caste (system) - institutionalization

Significant task 1: *Point-of-View Socratic Seminar*

Students will engage in a formal discussion based on the essential questions, as related to the core text(s). A Point of View Socratic Seminar will be used to accomplish this task. During these 3 or more graded seminars, students will take on the personas of several characters in the literature. As these personas, they will analyze "justice" and "dignity" through these characters' lenses. The teacher should use the essential questions to guide these discussions, but students must also create supplemental questions. Question Starters will be provided to ensure that these questions are of the highest order.

The Socratic Circles Rubric and/or the 21st Century Rubrics will be used to grade student proficiency.

Timeline: 3 Blocks

Key vocabulary:
- community
- justice
- dignity
- social justice
- perception
- perspective
- marginalization
- caste (system)
- institutionalization

Resources:
- *Zeitoun* (Dave Eggers)
- *The Color of Water* (James McBride)
- *Incognegro* (Mat Johnson)
- *The Color Purple* (Alice Walker)
- *Their Eyes Were Watching God* (Zora Neale Hurston)
- *The Narrative of the Life of Frederick Douglass* (Frederick Douglass)
- *The Scarlet Letter* (Nathaniel Hawthorne)
- *The Bluest Eye* (Toni Morrison)
- excerpts from *The New Jim Crow* (Michelle Alexander)
- *Socratic Circles: Fostering Critical and Creative Thinking in Middle and High School* (Matt Copeland)
- all hyperlinked resources

Significant task 2: *"Social Justice" Journaling*

Students will complete a series of journal entries in which they address social issues either in the core text. The teacher should provide options from several journal double-entry types- Dialectical, Key Line, Reflection, etc.:

- What social issue(s) is brought to your attention? How do you know?
- How has the social issue(s) been developed further? How do you know?

After each journaling session that is conducted at home or in class, students will engage in a Fishbowl Discussion about these questions. Students will be graded on their engagement and participation using the 21st Century Rubrics.

Timeline: 2+ Blocks

Key vocabulary:
- community
- justice
- dignity
- social justice
- perception
- perspective
- marginalization
- caste (system)
- institutionalization

Resources:

- *Zeitoun* (Dave Eggers)
- *The Color of Water* (James McBride)
- *Incognegro* (Mat Johnson)
- *The Color Purple* (Alice Walker)
- *Their Eyes Were Watching God* (Zora Neale Hurston)
- *The Narrative of the Life of Frederick Douglass* (Frederick Douglass)
- *The Scarlet Letter* (Nathaniel Hawthorne)
- *The Bluest Eye* (Toni Morrison)
- excerpts from *The New Jim Crow* (Michelle Alexander)
- all hyperlinked resources

Significant task 3: *Debate*

Students will debate the Essential Questions: (Who determines what is just? How has the notion of "justice for all" been defined through time? Can an individual maintain his/her dignity when denied justice?) They will use their core text(s) and personal experience to defend a position.

Students will be graded on their oral presentation skills using the 21st Century Rubrics. The teacher will allot time for preparation. Students can debate individually, or in teams. This is at the teacher's discretion. At the culmination of the debate, students will write a final response to each question in an MCC-Style Graded Journal Response.

Timeline: 2 Blocks

Key vocabulary:
- community
- justice
- dignity
- social justice
- perception
- perspective
- marginalization
- caste (system)
- institutionalization

Resources:
- *Zeitoun* (Dave Eggers)
- *The Color of Water* (James McBride)
- *Incognegro* (Mat Johnson)
- *The Color Purple* (Alice Walker)
- *Their Eyes Were Watching God* (Zora Neale Hurston)
- *The Narrative of the Life of Frederick Douglass* (Frederick Douglass)
- *The Scarlet Letter* (Nathaniel Hawthorne)
- *The Bluest Eye* (Toni Morrison)
- excerpts from *The New Jim Crow* (Michelle Alexander)
- all hyperlinked resources

Common learning experiences:
- Trip to Hartford to the Capitol
- Community service
- Guided book talks

- Community/ school conversations about relevant issues
- Reading and analyzing social justice publications (*Teaching Tolerance*, for example)
- Teacher-led "Think Alouds" to review student work
- Teacher-led workshops on the writing process
- Training on the use of MLA format
- Exploration of writing support websites (Purdue Owl and/or UConn)
- Discussion of current events that are related to the unit's concepts

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment:

1. Students will complete an Anticipation Guide in which they will be asked questions about their understanding of justice (particularly social justice) and equity in Connecticut. They will support each response with prior knowledge to demonstrate their level of understanding of these concepts, in terms of how they apply to our local institutions. Questions will include references to the juvenile justice system, education, and job acquisition. Other questions will be asked.

Unit Post-Assessment(s):

1. Students will *write* a New Version of a Social Justice Anticipation Guide that demonstrates their understanding of the key concepts of the unit and their primary areas of learning; they should envision that this guide will be administered to next year's students. As part of this assessment, students must "justify" each of their questions with information as to why they are asking it. The justifications should reflect their learning from the unit and must include references to the core and supplemental texts.

2. Final Project (2 Options):

   - *Community Service*: Students will complete 10 or more hours of community service with a local organization that fosters social justice in the Hartford area; a List of possible organizations is available. They will write and present a graded MCC-Style Graded Journal Response that addresses the questions: "What is an individual's responsibility to his/her community in preserving justice and equity? (How) does your service express that?"

   OR

   - *Art Presentation*: Create a piece of art (including a photograph, if desired) and that raises awareness of a social issue in Windsor or the Hartford area. Write and present your reflection that addresses the questions: "What social issue does your art represent? How does it bring awareness to the issue?"

     (Possible Topics: poverty, discrimination, teen pregnancy, homelessness, neglect, depression, bullying, ignorance, immigration, intolerance, overreliance on technology…)

Teacher notes:

Resources

- *Zeitoun* (Dave Eggers)
- *The Color of Water* (James McBride)
- *Incognegro* (Mat Johnson)
- *The Color Purple* (Alice Walker)
- *Their Eyes Were Watching God* (Zora Neale Hurston)

- *The Narrative of the Life of Frederick Douglass* (Frederick Douglass)
- *The Scarlet Letter* (Nathaniel Hawthorne)
- excerpts from *The New Jim Crow* (Michelle Alexander)
- *Incognegro*
- *"Paul's Case"*
- *"Sonny's Blues"*
- *The Yellow Wallpaper*
- *"We Wear the Mask"*

Key Terms:
- community
- justice
- dignity
- social justice
- perception
- perspective
- marginalization
- caste (system)
- institutionalization

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 11: American Literature

Purpose of the Course:

This course emphasizes the writing of informational, persuasive, and expository essays in conjunction with the study of American writers, their ideas, styles, and historical significance. Students will learn major topics and themes of American literature, and will further develop their vocabulary and research techniques. A research paper is required.

Name of the Unit:	**Length of the unit:**
UNIT 5 - Violence, War and Loss	10 - 1 5 Blocks

Purpose of the Unit:

To develop an understanding of war and adversity and how each impacts individual character and peace within a society.

Common Core State Standards Addressed in the unit: (Provide the link to the specific standards.)

RL.11-12.4/ RI.11-12.4
Determine the meaning of words and phrases as they are used in a text

Determine the meaning of figurative, technical, and connotative language

Analyze the impact of specific word choices on meaning and tone

SL.11-12.3
Evaluate a speaker's point of view, reasoning, rhetoric, stance, links among ideas, word choice, points of emphasis, and use of evidence and tone

W.11-12.1b, 1c, & 1e
Write arguments to support claims, using valid reasoning and relevant and sufficient evidence

Develop claims and counterclaims

Supply the most relevant evidence

Establish and maintain a formal style and objective tone

Provide a concluding statement or section that follows from and supports the argument

Big Ideas:	**Essential Questions:**
- In order to achieve peace, we must use violence. - Adversity can be good or bad; it reveals character. - The outcome of war varies based on individual and societal perspective. - Bibliotherapy is a way for people to process, grow, and heal from trauma; therefore many writers use it as a cathartic outlet.	- How does war change people's values? - When faced with adversity why do some people fail where others prevail? - What are the consequences of war and do they vary based perspective? - How can writing help people heal from trauma?
Students will know: - That both war and adversity can have a great impact on shaping individuals and society. - How people often rely on the written word to process and understand human emotion. - How individual and societal perspective influence the severity of the consequences of war. **Refer to the links below:** Depth of Knowledge LA	**Students will be able to:** 1. Determine the meaning of words and phrases as used in a text; determine the meaning of figurative, technical and connotative language 2. Evaluate a speaker's stance, including rhetoric, point of view, word choice, evidence and tone 3. Write arguments and counter-claims and support writing with valid reasoning and evidence 1. Define the following: - bibliotherapy - catharsis - adversity - rhetoric - figurative - connotative - open-ended (question) - point of view - tone - diction - syntax - figurative language - values - security - vulnerability - adversity

Significant task 1: *"War and Adversity" Journaling*

Students keep a Dialectical Journal, Key Line Journal, or any other Journal Options of their findings. (The

teacher will provide a model of these types of journals with a sample text before students begin reading.) The teacher will establish specific expectations for the number of required entries. The teacher can choose to use a limited amount of class time for independent reading and journaling, or this can be accomplished as a whole class.

While journaling, the teacher should encourage students to respond to the unit's Essential Questions:
- How does war change people's values?
- When faced with adversity why do some people fail where others prevail?
- What are the consequences of war and do they vary based perspective?
- How can writing help people heal from trauma?

The teacher should also model ways to track the author's use of language, particularly that which is figurative, connotative, or symbolic. It is required that students complete at least 2 journals that are aligned with a study of the author's craft. The above journaling types can still be used.

Timeline: 3+ Blocks

Key vocabulary:
- figurative
- connotative
- point of view
- tone
- diction
- syntax
- figurative language

Resources:
- *A Streetcar Named Desire (Tennessee Williams)*
- *A Farewell to Arms (Ernest Hemingway)*
- *The Sun Also Rises (Ernest Hemingway)*
- *The Things They Carried (Tim O'Brien)*
- *Pride of Baghdad (Brian K. Vaughn and Nicko Henrichon)*
- *Perfect Day for a Bananafish (J.D. Salinger)*
- *The Lowest Animal (Mark Twain)*
- *Billy Lynn's Long Halftime Walk [excerpt](Ben Fountain)*
- *The Use of Force (William Carlos Williams)*
- "Dulce et decorum est" *(Wilfred Owen)*
- "Death of the Ball Turret Gunner" *(Randall Jarrell)*
- *The Pat Tillman Story*
- all hyperlinked resources

Significant task 2: *Lens Interview and Reflection*

Teachers will introduce the concept of "Interviewing" (suggested resource: Forbes 9 Tips for Conducting Great Interviews). Students will create interview questions for a character in the core text focused on values, security, vulnerability and adversity. Students will then conduct a Lens Interview during which one student assumes the persona of a character from the core text. Students will then switch roles so that each has an opportunity to interview and assume the persona of a character. Finally, students will use the information gathered during the Lens Interview to write a reflection piece analyzing the character's relationship to each of the following: values, security, vulnerability and adversity. The teacher will establish specific expectations

for the number of interview questions and the length and format of the reflection.

Timeline: 3 Blocks

Key vocabulary:
- values
- security
- vulnerability
- adversity

Resources:
- *A Streetcar Named Desire (Tennessee Williams)*
- *A Farewell to Arms (Ernest Hemingway)*
- *The Sun Also Rises (Ernest Hemingway)*
- *The Things They Carried (Tim O'Brien)*
- *Pride of Baghdad (Brian K. Vaughn and Nicko Henrichon)*
- *Perfect Day for a Bananafish (J.D. Salinger)*
- *The Lowest Animal (Mark Twain)*
- *Billy Lynn's Long Halftime Walk [excerpt](Ben Fountain)*
- *The Use of Force (William Carlos Williams)*
- "Dulce et decorum est" *(Wilfred Owen)*
- "Death of the Ball Turret Gunner" *(Randall Jarrell)*
- *The Pat Tillman Story*
- all hyperlinked resources

Significant task 3: *Rhetorical Analysis and War Essay*

Using a dynamic direct instruction technique like Interactive Lecture strategy, the teacher should teach students about the characteristics of a Rhetorical Analysis Essay (focusing on POV, tone, diction, syntax and figurative language). The teacher will review the process of writing an analytical piece with students before beginning the assignment; this includes providing a checklist for the essay's completion. It is recommended that the teacher incorporate the following steps: brainstorming, pre-writing, drafting, and peer reviewing. The teacher should also strongly consider conducting student-teacher writing conferences. Possible resources for instructing students on writing a Rhetorical Analysis include: Writing and Speaking, and How to Write AP Rhetorical Analysis Paragraphs and Essays. The teacher will also provide samples of exemplary analytical writing, as to demonstrate the qualities of an effective analytical text. These samples can be found in Writer's, Inc. writing resource, 5 Steps to a 5: AP Language and Composition, or student samples can be used.

Students will then write a Rhetorical Feature Analysis Essay in which they demonstrate their understanding of war and adversity and how each impacts individual character and peace within a society through analysis of any rhetorical features introduced during the lecture. Teachers can establish expectations for the number of rhetorical features explored in the essay.

Teacher will also use discretion regarding length, and core text(s). The 5-Level Rubric will be used to assess the quality of the students' writing. This assignment should be typed and formatted properly for a formal essay.

Timeline: 3 Blocks

Key vocabulary:
- bibliotherapy
- catharsis

- adversity
- rhetoric
- figurative
- connotative
- open-ended (question)
- point of view
- tone
- diction
- syntax
- figurative language
- values
- security
- vulnerability
- adversity

Resources:
- *A Streetcar Named Desire (Tennessee Williams)*
- *A Farewell to Arms (Ernest Hemingway)*
- *The Sun Also Rises (Ernest Hemingway)*
- *The Things They Carried (Tim O'Brien)*
- *Pride of Baghdad (Brian K. Vaughn and Nicko Henrichon)*
- *Perfect Day for a Bananafish (J.D. Salinger)*
- *The Lowest Animal (Mark Twain)*
- *Billy Lynn's Long Halftime Walk [excerpt](Ben Fountain)*
- *The Use of Force (William Carlos Williams)*
- "Dulce et decorum est" *(Wilfred Owen)*
- "Death of the Ball Turret Gunner" *(Randall Jarrell)*
- *The Pat Tillman Story*
- all hyperlinked resources

Common learning experiences:
- Holocaust/War/Victim/Soldier/Survivor Speaker
- Community service
- Peer Interviewing
- War Memorial Field Trip

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment :

1. Students will explicate one of the following war quotes:

   - "We would probably have gone on and discussed the war and agreed that it was in reality a calamity for civilization, and perhaps would have been better avoided. I was bored enough." *(Ernest Hemingway, The Sun Also Rises)*

   - "They carried like freight trains; they carried it on their backs and shoulders—and for all the ambiguities of Vietnam, all the mysteries and unknowns, there was at least the single abiding certainty that they would never be at a loss for things to carry." *(Tim O'Brien, The Things They Carried)*

- "I would go to the war—I would kill and maybe die—because I was embarrassed not to. That was the sad thing. And so I sat in the bow of the boat and cried."
  (Tim O'Brien, The Things They Carried)

- "Man is the only Patriot. He sets himself apart in his own country, under his own flag, and sneers at the other nations, and keeps multitudinous uniformed assassins on hand at heavy expense to grab slices of other people's countries and keep *them* from grabbing slices of *his*. And in the intervals between campaigns, he washes the blood off his hands and works for 'the universal brotherhood of man'—with his mouth."
  (Mark Twain, "The Lowest Animal")

- "Special time with Bravo is just one of a multitude of pleasures available to them, and thinking about them makes Billy somewhat bitter. It's not that he's jealous so much as profoundly terrified. Dread of returning to Iraq equals the direst poverty, and that's how he feels right now, *poor*, like a shabby homeless kid suddenly thrust into the company of millionaires. Mortal fear is the ghetto of the human soul, to be free of it something like the psychic equivalent of inheriting a million dollars. This is what he truly envies of these people, the luxury of terror as a talking point, and at this moment he feels so sorry for himself that he could break right down and cry."
  (Ben Fountain, Billy Lynn's Long Halftime Walk)

Within the explication, students must:
- summarize quotes in their own words
- analyze specific words/phrases
- analyze speaker's point of view on war
- use text from the quotation to support the analysis

2. The 5 Level Rubric will be used to grade student responses.

Unit Post-Assessment(s):

1. Complete a Lens Essay using the following Hemingway quotation as a basis for analysis, and determine how an author or character from the core text would interpret it. The 5 Level Rubric will be used to grade this writing response.

   Within the response, students must:
   - summarize the quotation
   - analyze specific words and phrases
   - determine speaker's point of view on war
   - use text from the quotation to support the analysis

   "The world breaks everyone and afterward many are strong in the broken places. But those that will not break it kills. It kills the very good and the very gentle and the very brave impartially. If you are none of these you can be sure it will kill you too but there will be no special hurry." (Ernest Hemingway)

OR

Community Service Project: Students will complete 10 or more hours of community service with a local organization that focuses on Veteran's affairs in the area; a List of possible organizations is available. They will write and present a graded MCC-Style Graded Journal Response that addresses the question: "What is the impact of war and adversity on both the individual and society?"

Teacher notes:

Resources:
- *A Streetcar Named Desire (Tennessee Williams)*
- *A Farewell to Arms (Ernest Hemingway)*
- *The Sun Also Rises (Ernest Hemingway)*
- *The Things They Carried (Tim O'Brien)*
- *Pride of Baghdad (Brian K. Vaughn and Nicko Henrichon)*
- *Perfect Day for a Bananafish (J.D. Salinger)*
- *The Lowest Animal (Mark Twain)*
- *Billy Lynn's Long Halftime Walk [excerpt](Ben Fountain)*
- *The Use of Force (William Carlos Williams)*

Poetry
- "Dulce et decorum est" *(Wilfred Owen)*
- "Death of the Ball Turret Gunner" *(Randall Jarrell)*

Video
- *The Pat Tillman Story*

Key Terms:
- bibliotherapy
- catharsis
- adversity
- rhetoric
- figurative
- connotative
- point of view
- tone
- diction
- syntax
- figurative language
- values
- security
- vulnerability
- adversity

Rubrics:
- Windsor High School's 21st Century Learning Expectations Rubrics
- 5 Level Rubric

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 11: American Literature

Purpose of the Course:

This course emphasizes the writing of informational, persuasive, and expository essays in conjunction with the study of American writers, their ideas, styles, and historical significance. Students will learn major topics and themes of American literature, and will further develop their vocabulary and research techniques. A research paper is required.

Name of the Unit:	**Length of the unit:**
UNIT 6 - The Disintegration of the Dream and What it Really Means to be "American"	15 - 20 Blocks

Purpose of the Unit:

To help guide students through the history of the American Dream and to understand the changes that the premise of "working hard and prospering" have undergone.

Common Core State Standards Addressed in the unit:

R.I.11-12.8
Delineate and evaluate the reasoning in seminal U.S. texts and documents of public advocacy;

W.11-12.7
Conduct research projects to answer a question or to solve a problem;

Narrow or broaden inquiry;

Synthesize multiple sources;

Demonstrate an understanding of the subject under investigation.

W.11-12.8
Gather relevant information from multiple authoritative print and digital sources;

Use advanced searches effectively;

Assess the strengths and limitations of each source;

Integrate information into the text selectively to maintain flow of ideas;

Avoid plagiarism or overreliance on one source;

Follow a standard format for citation.

L.11-12.3a
Apply knowledge of language to understand how it functions in different contexts;

Make effective choices for meaning and style;

Vary syntax for effect;

Apply understanding of syntax.

Big Ideas:	**Essential Questions:**
- America is a unique and complex place in which our shared experiences contribute to our collective and individual values. - American values have been shaped by fear, racism, classism, war, optimism, and many historical factors. - Often the dream is portrayed as an illusion or as unattainable.	- What does it really mean to be "American"? - What perpetuates American values? How are American values compromised? - What happens to the Dream in American literature? **Sub-Questions to Consider:** - How do you attain happiness? - Why are there haves and have-nots? - Is the price of progress ever too high? - Can individual morality survive catastrophe?
Students will know: 1. That we are fortunate to live in a country where our lives are enriched by our cultural differences. 2. That historical factors had both an immediate impact, as well as a lasting influence on future generations. 3. How to distinguish between varying literary interpretations of the American Dream. Refer to the links below: Depth of Knowledge LA	**Students will be able to:** 1. Evaluate and interpret meaning in U.S. texts and documents 2. Conduct research, propose a thesis, synthesize and assess multiple sources, and compile information into coherent writing, while maintaining conventions of standard English 3. How to define the following terms: - power - identity - racism - classism - gender - discrimination - prosperity - optimism - "Rags to Riches"

	- capitalistic - "American Dream" - Illusion

Significant task 1: *Socratic Seminar*

Students will engage in a graded Socratic-style seminar, as a whole class, which will be based primarily on a discussion of the essential questions and sub-questions and will also include an exploration of the students' supplemental questions for enrichment. The teacher will use the Socratic Circles Rubric to grade students for proficiency. Students will use the all core texts, historic documents, and background knowledge as support for their points during the seminar.

Timeline: 3 -5 Blocks

Key vocabulary:
- power
- identity
- racism
- classism
- gender
- discrimination
- prosperity
- optimism
- "Rags to Riches"
- capitalistic
- "American Dream"
- illusion

Resources:
- all hyperlinked resources
- All texts used in Units 1-6
- Additional "seminal U.S. texts"
- *Reply to the Missionary Jacob Cram* (Red Jacket)
- *Socratic Circles: Fostering Critical and Creative Thinking in Middle and High School* (Matt Copeland)
- *They Say, I Say: The Moves that Matter in Academic Writing* (Gerald Graff and Cathy Birkenstein)
- *Everything is an Argument*
- *Writers, Inc.* (Patrick Sebranek, Verne Meyer, and Dave Kemper)
- *MLA Handbook*
- *"Pursuit of Happyness"* (film)

Significant task 2: *Reflection and Brainstorming*

PART 1
Before beginning the research process, students will complete a Reflection Response on the following quote:

> *"…A native of the United States clings to this world's goods as if he were certain never to die: and he is so hasty in grasping at all within reach that one would suppose he was constantly afraid of not living long enough to enjoy them…Men change their track for fear of missing the shortest cut to happiness."* (from *Democracy in America*, 1835, Alexis de Tocqueville)

Within the reflection, students must:

- summarize the quote in their own words
- analyze specific words/phrases
- analyze speaker's point of view on America(ns)
- use text from the quotation to support the analysis

The teacher should encourage students to share their findings, in a whole class discussion.

PART 2

The teacher will assist students in beginning process for writing their culminating research paper. Students will use the previous discussion to begin brainstorming answers to the Essential Question, "What does it mean to be "American"?" The teacher will supply Brainstorming Tools and students will be expected to incorporate their own experiences, but also, the findings they made throughout the previous five units. This should be considered a "capstone" assignment.

PART 3

The entire class should now engage in a large-scale brainstorm about this topic. All responses should be collected on chart paper or the Epson projector for all students to use as the basis for their research. If students have not incorporated the key terms below, the teacher should facilitate a discussion on them. Students must be encouraged to support their remarks with experience or text they read throughout the year.

To build further insight, teachers can also return to a discuss of any of the other Essential Questions or Sub-Questions:

- What perpetuates American values? How are American values compromised?
- What happens to the Dream in American literature?
- How do you attain happiness?
- Why are there haves and have-nots?
- Is the price of progress ever too high?
- Can individual morality survive catastrophe?

By the end of the this third part of the task, most students should have chosen a topic and/or thesis for their research papers.

Timeline: 4 – 5 Blocks

Key vocabulary:

- power
- identity
- racism
- classism
- gender
- discrimination
- prosperity
- optimism
- "Rags to Riches"
- capitalistic
- "American Dream"
- illusion

Resources:

- all hyperlinked resources
- All texts used in Units 1-6
- Additional "seminal U.S. texts"
- *Reply to the Missionary Jacob Cram* (Red Jacket)

- *Socratic Circles: Fostering Critical and Creative Thinking in Middle and High School* (Matt Copeland)
- *They Say, I Say: The Moves that Matter in Academic Writing* (Gerald Graff and Cathy Birkenstein)
- *Everything is an Argument*
- *Writers, Inc.* (Patrick Sebranek, Verne Meyer, and Dave Kemper)
- *MLA Handbook*
- *"Pursuit of Happyness"* (film)

Significant task 3: *Research, Pre-Writing, and Drafting*

Using Planning Tools provided by the teacher, students should begin partaking in all aspects of the research process, including:
- clearly defining a topic
- locating appropriate sources (especially those already studied in class)
- compiling accurate and relevant notes

Classroom Writer's Workshops or "pull out lessons" from the Warrior Writing Center can be embedded in daily classroom practices, so that students have the opportunity to revise their ideas and make them most effective for research writing. At this point, the teacher may decide to send students to the media center for further inquiry, or he/she may plan for research sessions that occur in class, with school-approved devices.

The students will receive the official Research Paper assignment, in which they will learn that a research paper is an organized, documented essay which requires careful planning, searching, studying, and writing. Students will be given the following guidelines for creating a draft of the research paper:
- Organize your information into a working outline
- Compose the text of your paper
- Correctly cite references and sources
- Revise, correct, and proofread your rough draft
- Double-check the requirements of the assignment and include any additional material required

Drafting should occur in the classroom, or in a computer lab. During this phase of the process, the teacher should consider conducting additional Writing Mini-Lessons, as needed, on:
- Thesis creation
- Development of ideas
- Use of MLA citations
- Writing a concluding paragraph
- Proofreading and revising
- Peer revision and Peer Protocols

Timeline: 4 – 5 Blocks

Key vocabulary:
- power
- identity
- racism
- classism
- gender
- discrimination
- prosperity
- optimism
- "Rags to Riches"
- capitalistic
- "American Dream"
- illusion

Resources:

- all hyperlinked resources
- All texts used in Units 1-6
- Additional "seminal U.S. texts"
- *Reply to the Missionary Jacob Cram* (Red Jacket)
- *Socratic Circles: Fostering Critical and Creative Thinking in Middle and High School* (Matt Copeland)
- *They Say, I Say: The Moves that Matter in Academic Writing* (Gerald Graff and Cathy Birkenstein)
- *Everything is an Argument*
- *Writers, Inc.* (Patrick Sebranek, Verne Meyer, and Dave Kemper)
- *MLA Handbook*
- *"Pursuit of Happyness"* (film)

Common learning experiences:

- Review sample research paper
- Using online resources (like Purdue OWL, UCONN Writing Resource) to enrich product
- Writing conferences
- Use of the Warrior Writing Center
- Review of student work
- "Think Aloud" reviews of writing
- Use of the Media Center
- Visit to the UConn Writing Center

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment: Mini-Research Page

1. Students will complete a mini-research page (1 page) as a baseline assessment before conducting a full-length research paper as the Unit Post-Assessment. Students will:
    - Clearly define a topic
    - Locate sources
    - Take accurate notes
    - Compose text based on findings
    - Cite Resources
    -

The 5 Level Rubric will be used to grade this page.

Unit Post-Assessment: Research Paper

1. Complete a multi-step Research Paper in which they:

    - Answer the essential question, "What does it really mean to be "American"?
    - Conduct advanced and sustained research on American society, culture, and history
    - Utilize knowledge from Units 1-6 to draw a conclusion about the essential question
    - Write drafts
    - Revise these drafts
    - Create a publishable, polished essay that exhibits effective stylistic and technical choices

2. The 5 Level Rubric will be used to grade this paper.

Teacher notes:

Resources:
- All texts used in Units 1-6
- Additional "seminal U.S. texts"
- *Reply to the Missionary Jacob Cram* (Red Jacket)
- *Socratic Circles: Fostering Critical and Creative Thinking in Middle and High School* (Matt Copeland)
- *They Say, I Say: The Moves that Matter in Academic Writing* (Gerald Graff and Cathy Birkenstein)
- *Everything is an Argument*
- *Writers, Inc.* (Patrick Sebranek, Verne Meyer, and Dave Kemper)
- *MLA Handbook*
- *"Pursuit of Happyness"* (film)

Rubrics:
- 21st Century Rubrics
- 5 Level Rubric

Key Terms:
- power
- identity
- racism
- classism
- gender
- discrimination
- prosperity
- optimism
- "Rags to Riches"
- capitalistic
- "American Dream"
- illusion

6th Grade Scope and Sequence

Unit Title	Length of Time
Unit 1 Launching Reader's and Writer's Workshop	6 Weeks
Unit 2 Nonfiction Reading and Expository Writing	6 Weeks
Unit 3 - Argument and Debate	6 Weeks
Unit 4 Historical Fiction & Narratives	7-8 Weeks
Unit 5 – Memoir	6 Weeks
Unit 6 - Poetry	3-4 Weeks

6th Grade ELA

Windsor Public Schools
Curriculum Map for the Secondary Level

Purpose of the Course:

6th grade ELA is the transition year between the elementary and middle school. This course recognizes the importance of this year. Student text levels of complexity and sophistication in reading materials and writing types, styles and genres continue to increase based on Common Core State Standards. In this course students read and discuss a variety of fictional and nonfictional texts to develop and mature participants in solving complex problems and developing novel ideas for a 21st Century world. The skills and concepts learned in 6th grade are developed and enhanced throughout middle school and support the development of college and career ready students.

Name of the Unit:	Length of the unit:
Unit 1 Launching Reader's and Writer's Workshop	**6 Weeks**

Purpose of the Unit:

This unit reviews with students the common expectations of Reader's and Writer's Workshop as they enter middle school. Transitioning from the intermediate level to the middle level with similar knowledge between and among students helps quickly and smoothly facilitates the learning. Students begin tackling some of the most important standards that are further developed all throughout middle school. Students begin examining the ways reader analyze theme through characters, writing objective summaries, presenting ideas orally, and writing explanatory and informative texts. This unit sets the stage for the complexity and sophistication of work now expected at the middle school level.

Common Core State Standards Addressed in the unit:

1. Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. (6.RL.2)

2. Describe how a particular story's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves towards a resolution. (6.RL.3)

3. Compare and contrast texts in different forms or genres in terms of their approaches to similar themes and topics. (6.RL.9)

4. Comprehend literature, including stories, dramas, and poems, in the grades 6-8 text complexity band proficiently. (6.RL.10)

5. Determine or clarify the meaning of unknown or multiple meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies. (6.L.4)

6. Write explanatory/informative texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. (6.W.2)

7. Delineate a speaker's specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not. (6.SL.3)

8. Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes, use appropriate eye contact, adequate volume, and clear pronunciation. (6.SL.4)

Big Ideas:	Essential Questions:
▪ Literature teaches us about life ▪ Authors convey themes through key details about major story elements ▪ Vocabulary unlocks the text's true meaning ▪ Readers write objective summaries of stories ▪ Writers write in various ways to share their thoughts and ideas	▪ Why do readers analyze characters in stories? ▪ How do the details about characters help convey themes? ▪ Why do readers determine the meaning of unknown words? ▪ How do readers demonstrate understanding of texts? ▪ How do writers share their ideas?
Students will know:	Students will be able to:
▪ Plot development is defined by how the episodes unfold (organizational structure) ▪ There are common themes in literature ▪ Point of view impacts story interpretation ▪ The context can help determine the meaning of unknown words ▪ There is specific criteria for an effective argument ▪ Listeners evaluate the speaker's claims and arguments	▪ Analyze plot development ▪ Analyze character development (change and responses) ▪ Determine theme using key details about characters ▪ Explain and identify point of view of the narrator in a text ▪ Write expository/informative pieces and paragraphs ▪ Support claims ▪ Select clear reasons and evidence ▪ Listen critically ▪ Present ideas sequentially and logically to accentuate themes ▪ Use specific descriptions, facts and details ▪ Use appropriate contact, adequate volume, and clear pronunciation

Significant task 1: Rituals and Routines

Students develop the rituals and routines of Reader's and Writer's Workshop based on previous year's experiences and new expectations. Students practice old and new rituals and routines and self-assess success based on classroom rubric. Students meet individually with classroom teacher to develop personal reading/AR goals based on STAR testing results, personal knowledge about strengths and challenges, reading interest inventories, on demand writing prompt, works in progress, etc. This information is utilized to develop student goals in the areas of number and types of books to read, consistency in reading, reading level goal, and focus areas in the traits of writing.

In reading students begin the unit receiving instruction in the criteria for writing objective summaries about books. Students write summaries about books they are reading and would recommend to their peers. Students create a classroom library of book summaries either digitally or in hard copy format upon which future reading selections can be based.

Students begin independent reading and writing the first day of school and continue independently reading for 45 minutes daily. Students write book summaries, take AR tests, and set personal goals over the course of the year as they finish a book, each quarter, etc. or as determined by the classroom's routines.

Students write and deliver a book talk about one of their summer reading selections they would recommend to their peers. Student book talks include the text's major story elements and what about it would be attractive to

their classmates.

Students complete an on-demand informational writing piece on a topic of the teacher's choice this can include allowing for student choice. Students write about something they feel confident about and feel then can produce a quality writing sample upon which goals can be developed. Students receive review instruction in the 6+1 traits of writing to lay the foundation of the general expectations for all writing. Focus areas: ideas & organization

Timeline: 2-3 weeks
Key vocabulary: judgment, opinion, summarize, exposition, rising action, climax, falling action, resolution, narrator, conflict, informational
Resources: summer reading packet, qualities of a good summary, book talk expectations, oral presentation rubric, book talk rubric, 6+1 trait rubric, on demand writing prompt, ritual and routine assessment

Significant task 2: Analyzing Theme

Students read *We Beat the Streets* as a whole class shared reading. Through direct instruction students learn about universal themes present in texts such as loyalty, friendship, courage, economic disparity, etc. Students discuss how these themes are present in real life and how characters' responses and changes apply to real life decision-making. Student discussion occurs as a whole class, in partnerships and small groups. Students also construct reading responses related to the themes and their real life applications. Students draw conclusions about characters orally, in reading response journals, and/or on Post-It notes. All conclusions are supported with key details from the text.

Students closely examine the characters, their motivations, feelings and behaviors (responses and changes to conflict) to identify and analyze the themes present in *We Beat the Street*. For each chapter/section small groups of students analyze one of the specific doctors in the texts. In 1-2 minute whip around Round Robin sessions, each group will share their analysis of their assigned character with the class at the chapter's/sections' conclusion. Student listeners are responsible for asking clarifying questions and keeping accurate notes based on information heard from classmates.

During independent reading students analyze the characters in their independent reading texts and how those characters convey the themes embedded in the text through partner discussions and reading responses. Students use post-it notes and reading response journals to highlight specific examples and keep key information/details from the text that help covey a particular theme or draw conclusions about specific characters. Students select two characters whose behaviors ultimately help to convey a similar theme in their respective (two different) texts. Students select one character from their independent reading history and one character (doctor) from *We Beat The Street*. Student letters briefly summarize the texts, determine themes, compare and evaluate the characters' choices/responses as related to similar themes presented in their texts.

Timeline: 3 weeks
Key vocabulary: theme, convey, analyze, clarify, loyalty, friendship,
Resources: universal themes, reading response journals, Round Robin directions, We Beat the Street (classroom set)

Significant task 3: - Explanatory Essay

Students hone explanatory writing skills through writing explanatory paragraphs reflecting about the doctors in *We Beat the Streets*. Students receive direction instruction in using notes to draw conclusions about the characters (doctors) and how to paraphrase the key details used from the text. Students reflect on the characters, their circumstances and choices. Students confer with the classroom teacher and peers to assess the quality of ideas, organization and voice in the writing using the 6+1 Trait rubric.

After reading *We Beat the Street* students write an explanatory essay that analyzes the evolution of the three doctors from who they were growing up in Newark to who they became by the end of the story. Students use

evidence from the story that shows how the three doctors changed. Provide support for your ideas by paraphrasing ideas and sentences from the book that support your understanding of the doctors' changes and highlights key points in the text.

Timeline: 3 weeks
Key vocabulary: explanatory, conclusion, paraphrase, ideas, organization, voice, evolution
Resources: 6+1 Trait rubric

Common learning experiences:

- Meet individually with every student in September and complete a reading interest inventory/survey. For students who perform below grade level, on district benchmark assessments, conducting a running record will help with establishing goals to accelerate learning.
- Teacher read aloud is We Beat the Street, begin reading early in the unit.

Mini Lessons

- Creating MS workshop experiences (routines)
- Goal setting (individual)
- Practice makes perfect – the importance of independent reading
- Working with AR and other expectations (rituals)
- An objective summary
- Recommending books
- Book Talk expectation
- Writing on demand
- 6+1 traits of writing: ideas & voice
- Universal themes in literature
- Examining how characters respond to conflict and challenges

Common assessments including the end of unit summative assessment:

Assessment 1: Informational on-demand essay
Pre-Assessment: On-demand informational writing assessment
Post—Assessment: On-demand informational writing assessment

Standards Addressed:

- Write explanatory/informative texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. (6.W.2)

Assessment 2: Summer Book Talk
Students give a brief talk summarizing one of the books they read this summer and would recommend to their peers. If they would not recommend any of the books they read, then they must explain why. Students are assessed both on their oral presentation and written summaries.

Standards Addressed:

- Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes, use appropriate eye contact, adequate volume, and clear pronunciation. (6.SL.4)

- Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. (6.RL.2)

Assessment 3: STAR/AR Tests

AR tests assess basic comprehension of texts read independently based on student's reading level. STAR assessments help determine an appropriate Zone of Proximal Development (instructional level) and grade level independence. This standard is assessed at least 4xs throughout the marking period. Typically students take between 2-4 AR tests and 2 STAR assessments.

Standards Addressed:

- Comprehend literature, including stories, dramas, and poems, in the grades 6-8 text complexity band proficiently. (6.RL.10)

Assessment 4: Character Letter

Students select two characters whose behaviors ultimately help to convey a similar theme in their respective texts. Students select one character from their independent reading history and one character (doctor) from *We Beat the Street*. Student letters briefly summarize the texts and determine, compare and evaluate character choices/responses as related to similar themes presented in their texts and how it moves plot toward resolution.

Standards Addressed:

- Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. (6.RL.2)
- Describe how a particular story's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves towards a resolution. (6.RL.3)
- Compare and contrast texts in different forms or genres in terms of their approaches to similar themes and topics. (6.RL.9)

Teacher notes:

- Although reading We Beat the Street isn't called for until Significant Task 2, typically in order to complete the book, teachers should begin reading aloud around week 2.
- Students learn to summarize texts in 4th grade. The major difference occurs in 6th grades where the summaries are now free of any personal judgments. The summaries written in 6th grade are purely objective. This lesson introduces this idea and is elaborated upon in subsequent units.
- Many students will not be accustomed to the freedom in selecting their own writing topics. There may be a need to conduct lessons on writing independence and generating ideas independently.
- It is a good idea to partner with another teacher to conduct the on-demand writing piece. Only assess the writing for the areas of the rubric for which you will hold students accountable. For example, if you only provide instruction in ideas, organization and voice, then only assess those areas.

6th Grade ELA
Windsor Public Schools
Curriculum Map for the Secondary Level

Purpose of the Course:

6th grade ELA is the first step to the transition between the elementary and high school. This course raises the level of complexity and sophistication in both reading materials and writing types. Students read and discuss a variety of fictional and nonfictional texts to develop the ability to discuss and write about complex ideas. The skills and concepts learned in 6th grade are developed and enhanced throughout middle school.

Name of the Unit:	Length of the unit:
Unit 2 Nonfiction Reading and Expository Writing	**6 Weeks**

Purpose of the Unit:

The purpose of this unit is to provide students with a comprehensive experience examining ideas and themes in texts both in literary and nonfiction texts. Students continue to expand and practice writing objective summaries and identifying and analyzing themes in literature. Students develop informative/explanatory essay writing through an expansion of their repertoire to the compare/contrast essay. Students are now not only asked to make comparison, but to analyze those comparisons.

Common Core State Standards Addressed in the unit:

9. Cite textual evidence to support analysis of what the texts says explicitly as well as inferences drawn from the text. (6.RI.1)

10. Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. (6.RI.2)

11. Analyze in details how a key individual, event, or idea is introduced, illustrated, and elaborated in text. (6.RI.3)

12. Determine the meaning of words and phrases as they are used in text, including figurative, connotative, and technical meanings. (6.RI.4)

13. Comprehend literature, including stories, dramas, and poems, in the grades 6-8 text complexity band proficiently. (6.RI.10)

14. Determine or clarify the meaning of unknown or multiple meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies. (6.L.4)

15. Write explanatory/informative texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. (6.W.2)

16. Conduct short research projects to answer a question, drawing on several sources and reinforcing the inquiry when appropriate. (6.W.7)

17. Compare and contrast the experience of reading a story, drama, or poem to listening to or viewing an audio, video, or live version of the text, including contrasting what they "see" and "hear" when reading the text to

what they perceive when they listen or watch. (6.RL.7)

18. Draw evidence from literary or informational texts to support analysis, reflection, and research. (6.W.9)

19. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (6.L.1)

20. Demonstrate command of the conventions of English capitalization, punctuation, and spelling when writing. (6.L.2)

Big Ideas:	Essential Questions:
▪ Readers read closely for a variety of purposes ▪ Authors choose words and phrases purposefully ▪ Words and phrase can be interpreted literally and figuratively ▪ The quality of the writing impacts the reader ▪ Writers use compare/contrast to add structure to analysis	▪ How do we learn something new from our reading? ▪ Why do readers evaluate the quality of information? ▪ How do we unlock the meaning of words and phrases? ▪ How do we use our reading to grow as a writer? ▪ How do writers organize information to share with others?
Students will know:	Students will be able to:
▪ Reading is purposeful and requires strategic decision-making ▪ Authors use specific techniques and strategies to craft writing ▪ Vocabulary is important to growing as a reader ▪ Textual evidence supports ideas ▪ Universal themes can be compared ▪ Writers compare and analyze comparisons ▪ Use the best evidence to support ideas and make inferences	▪ Read closely to understand, interpret, analyze, and evaluate texts ▪ Identify and analyze how information is introduced, illustrated and elaborated in NF texts ▪ Select strategies to determine the meaning of unknown words ▪ Cite textual evidence ▪ Make inferences ▪ Support analysis ▪ Determine a theme/central idea ▪ Write informative/explanatory texts and provide analysis of content ▪ Conduct short research ▪ Compare texts from multiple modes/genres ▪ Draw evidence from literary/informational texts

Significant task 1: Nonfiction Reading & Author's Craft

As a whole class students receive direct instruction in establishing a purpose for reading and reading closely to determine the text's explicit and implicit meaning. Students work either independently, in small groups (3-4) or with a partner to select from a variety of whole class generated nonfiction topics related to the text *We Beat the Street*. Through SERS (library search engine) and the use of additional tools and resources located at the library or classroom, students collect and select between 10-15 articles about their selected topics from previewing and skimming to select the most reputable and credible sources upon which to build their knowledge. Students develop a purpose for reading with at least 2-4 interest questions based on reading done as a whole class. These interest questions direct student choices about which final 5-7 resources they will utilize to build and enhance knowledge about their topic. Individually students construct reading responses that support their selection of the final resource list utilizing information about sources, interests, and content.

Independently students read and take notes from a teacher-approved final resource list that supports student-selected purposes for reading (2-4 interest questions). Students orally defend resource list in a "group" conference. Based on readings selected, students discuss central ideas and draw conclusions about their topics as it compares to how it is portrayed in *We Beat the Street*. Students use a graphic organizer to help analyze information by asking guiding questions like, Does the article make sense? (central idea) What did the author say? (explicit and implicit information) How did the author develop and support the ideas? (structure of ideas, paragraphs, etc.) Does this article support purpose for reading? (close reading, central idea). Students collectively select the best evidence to support conclusions drawn regarding interest questions. Students provide teacher with a copy of the evidence list as it pertains to each interest question and explains the inferences the evidence leads the student to make.

Students write informative paragraphs to answer interest questions using information gathered from various sources. Students all answer a guiding question, after reading from selected resources and taking notes, students write 1-2 paragraphs synthesizing information to evaluate it's relevance to how students live today and foresee living in the future. Students construct a written response that answers the question, *How are the experiences of the doctor's lives in We Beat the Street compare to today?*

Timeline: 3 weeks
Key vocabulary: reputable, credible, compare
Resources: SERS, nonfiction articles

Significant task 2: Compare and Contrast Essay

Students work from prepared text sets of poems, short biographies and selected chapters of their choice from *We Beat the Street*. From the teacher text set the whole class reads at least two poems, two biographies, and re-reads a chapter of *We Beat the Street*. Students participate in a shared writing of an objective summary, including identification of themes/central ideas of each poem, biography and chapter of the novel. The class discusses the themes/central ideas using key ideas from the story as support. With a partner, students examine writing for 6+1 traits of ideas, organization and choice and offer suggestions for improvement. Student learning of objective summarizing, including theme/central idea identification, is assessed individually with a differentiated assignment asking students to read either a leveled poem or short biography, summarize the two texts including the theme/central idea.

From the student text set, students work collaboratively with the teacher to select two leveled poems and biographies to write a compare/contrast essay, including an analysis of content, comparing the themes/central ideas of the readings to a chapter in We Beat the Street. Student instruction will focus on organizing ideas using compare/contrast format, developing comparisons with facts from several resources. Students experiment with several forms of comparison graphic organizers using Inspiration or another graphic organizer program to plan and organize essay. Students experiment and use both ABAB and AABB format to convey ideas in writing. Students organize writing using known transition words to connect ideas. Students also use precise language to communicate ideas and content-appropriate academic language when appropriate.

Timeline: 3 weeks
Key vocabulary: analysis
Resources: comparison graphic organizers, student and teacher text set, differentiated assessment

Common learning experiences:
Mini Lessons:

- Author's Purpose
- Literary Elements
- Plot Development
- The Relationship of Story to Elements to Create Conflict

- Theme Development
- Point of View
- Determining the Central Idea of nonfiction text
- Writing Summaries for both fiction and nonfiction
- Determining Fact and Opinion
- Close Reading: (This may be taught in the very first reading unit.)
- Responding to open-ended questions

Routine Writing (Daily Tasks):

- Annotate the text (close reading) while reading the text, take notes on how the characters change in We Beat the Streets and in their own books for the final writing assessment
- Exit slips
- Journals -short responses to text
- Complete the story map as it unfolds

Common assessments including the end of unit summative assessment:

Assessment 1 – On Demand Writing Piece – Compare/Contrast Essay (Pre & Post)
Students write a compare/contrast essay comparing two things of their choosing. Ask students to draw a conclusion analyzing their comparisons in their conclusion paragraph. This piece is used to determine individual and whole class strengths and challenges as writers based on 6+1 traits of writing of ideas, organization, and voice.

Standard Assessed

- Write explanatory/informative texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. (6.W.2)

Assessment 2 – Interest Questions/Resource Justification
Students create two interest questions upon which they will do additional, focused reading. Students write a constructed response that explains justification for resource list.

Standard Assessed

- Draw evidence from literary or informational texts to support analysis, reflection, and research. (6.W.9)

Assessment 3 – Evidence List
Students share with teacher evidence s/he intends to use to answer interest and guiding questions and orally explain the inferences drawn from the evidence.

Standard Assessed

- Cite textual evidence to support analysis of what the texts says explicitly as well as inferences drawn from the text. (6.RI.1)

Assessment 4 – Interest Question Answers
Students write informative paragraphs to answer interest questions using information gathered from various sources. Students all answer a guiding question, after reading from selected resources and taking notes, students write 1-2 paragraphs synthesizing information to evaluate it's relevance to how students live today and foresee living in the future. Students construct a written response that answers the question, *How are the experiences of the doctor's lives in We Beat the Street compare to today?*

Standards Assessed

- Conduct short research projects to answer a question, drawing on several sources and reinforcing the inquiry when appropriate. (6.W.7)

Assessment 5 – Compare/Contrast Essay
Students read two poems, two biographies and refer to a chapter from *We Beat the Street*. From this reading students summarize and identify and compare themes and analyze the comparisons.

Standards Assessed

- Write explanatory/informative texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. (6.W.2)

Teacher notes:

- This is the first formal introduction to the compare/contrast essay format. Spend a lot of time discussing comparisons and recording these comparisons for the class before assessing student ability to complete independently.

- Students need exposure to multiple ways to make comparisons. Go beyond the Venn diagram. See graphic organizer websites

6th Grade ELA
Windsor Public Schools
Curriculum Map for the Secondary Level

Purpose of the Course:

6th grade ELA is the first step to the transition between the elementary and high school. This course raises the level of complexity and sophistication in both reading materials and writing types. Students read and discuss a variety of fictional and nonfictional texts to develop the ability to discuss and write about complex ideas. The skills and concepts learned in 6th grade are developed and enhanced throughout middle school.

Name of the Unit: **Unit 3** - **Argument and Debate**	Length of the unit: **6 Weeks**

Purpose of the Unit:

This unit allows students to explore and read about various controversial issues facing citizens of the world in the 21st Century. Students read multiple arguments about various controversial topics exploring the various points of view. Students learn to identify and evaluate how these arguments are constructed. Students develop the ability to speak and advocate passionately about a topic of interest while also developing the ability to listen and evaluate the argument of others. As speakers and listeners are and writers, students develop the ability to craft arguments and support claims with reasons and evidence.

Common Core State Standards Addressed in the unit:

21. Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not. (6.RI.8)

22. Determine an author's point of view or purpose in a text and explain how it is conveyed in the text. (6.RI.6)

23. Compare and contrast one author's presentation of events with that of another. (6.RI.9)

24. Comprehend literature, including stories, dramas, and poems, in the grades 6-8 text complexity band proficiently. (6.RI.10)

25. Write arguments to support claims with clear reasons and relevant evidence. (6.W.1)

26. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (6.L.1)

27. Demonstrate command of the conventions of English capitalization, punctuation, and spelling when writing. (6.L.2)

28. Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not. (6.SL.3)

29. Present claims and finding, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or theme; use appropriate eye contact, adequate volume, and clear pronunciation. (6.SL.4)

Big Ideas:	Essential Questions:
▪ All arguments are not equal	▪ What makes one argument stronger than

	another? ▪ How are arguments created?
Students will know: ▪ Good arguments follow a specific logic ▪ Qualities of an effective argument ▪ Types of argument writing ▪ Define claims, reasons, and evidence ▪ Authors use words purposefully	Students will be able to: ▪ Read closely to understand, interpret, analyze, and evaluate texts ▪ Trace and delineate arguments ▪ Distinguish claims supported by reasons ▪ Compare and contrast two authors point of view ▪ Write arguments ▪ Support claims ▪ Develop and identify clear reasons and relevant evidence ▪ Participate in debate ▪ Write fluently using precise word choice

Significant task 1: Controversial Issue – Nonfiction Reading
Students receive instruction in what constitutes a controversial issue and participate in whole class discussions about various generated issues. Students work from a teacher text set of nonfiction articles about controversial issues approached from a variety of view points. Through guided practice students read various articles tracing the argument for each issue. Students use highlighters, underlining, circling, etc. (or some other visual) right within the text to "see" the author's argument. Students examine the structure (cause & effect, problem-solution, description, main idea & details, etc.) and organization of ideas (sentences and words within the paragraph) and notice the precise language an author uses to make argument. Students work collaboratively to determine what evidence an author has used to support his/her arguments and/or claims and evaluate the quality of the reasons/evidence. Various graphic organizers are used to help visually depict the relationship between the argument, claims, reasons, and evidence. Students reflect as a whole class on the importance and impact of the author's argument.

Independently students work from leveled text sets about various controversial issues and trace and evaluate the author's claims, reasons, and evidence. Students provide evidence of this thinking to the teacher in conferences using post-it, highlighters, etc. Daily students discuss arguments read about during independent practice, record key ideas and details, and discuss and compare the author' point of view with that of their own. After reading several articles about at least 4-5 controversial issues, students select one about which they feel passionate. Students use a graphic organizer from Inspiration or self-created to organize/trace two different viewpoints of the article's argument(s). This organizational chart includes the main argument(s), claims, reasons and evidence. Students use notes to paraphrase authors' ideas to include on the graphic organizer. Students work with partners to share articles and give feedback on the accuracy of the organizational chart. Students present organizational chart to small group of students in the class as a foundation for brief comments and discussion. Students assess quality of author's argument within the group using a class created rubric and presentation of the author's argument by the reader. Students share graphically represented organizers with classroom teacher in individual conferences.

Timeline: 3-4 weeks
Key vocabulary: controversy, argument, claim, evidence, reason
Resources: qualities of effective argument rubric, tracing an argument organizer directions

Significant task 2:

Students engage in reading and discussion about controversial issues. Students learn and explore the various types of argument writing that exists. Students explore writing various types of argument writing to build repertoire or modes. Students work with teacher and partners to trace and evaluate various arguments and

analyze the organizational structure authors use to communicate an argument, claim, reason, etc. Students participate in regular oral arguments with peers and provide each with feedback based on quality argument criteria. Students use independent writing practice to explore using various organizational structures. Students build understanding that the elements of a quality written argument, introduces the claims and builds evidence and reasons logically and practice and assess. Students repeat this process daily over at least 2-3 weeks. Students decide on a controversial issue about which they feel passionately, choose a type of argument writing and audience and develop a published piece.

Students choose a controversial topic about which they will create a class debate. Students select a topic about which a majority of the class feels passionately about. Students work in teams to develop an argument for or against a particular controversial issue. Groups determine their claims and work to develop strong reasons supported credible, important evidence. Students conduct debate in front of another team who will score each team based on a variety of criteria. Every student will be assessed as a presenter and listener.

Timeline: 3-4 weeks
Key vocabulary: debate, passionate
Resources: comparison

Common learning experiences:

- Student dates should occur with students from other teams/periods. This will create a more authentic experience.

Mini Lessons

- A controversial issue- what is it?
- Generating ideas
- Using highlighters
- Analyzing the organizational structure
- Analyzing the argument
- Evaluating reasons, claims, evidence
- Thoughtful "arguments" – respecting each other
- What is a debate?
- Different types of arguments
- Comparing my point of view to the author's
- What do you feel passionate about?
- Comparing arguments
- The quality of the argument
- Presenting an author's argument
- Explore various types of arguments in your writing
- Creating a debate

Common assessments including the end of unit summative assessment:

Assessment 1 – On Demand Argument Piece (Pre & Post)
Students write an on-demand argument piece based on explicit teacher directions. Teachers assess student writing not only for the characteristics of argument writing, but also building on the traits ideas, organization, voice, with sentence fluency and conventions.

Standards assessed:

- Write arguments to support claims with clear reasons and relevant evidence. (6.W.1)

- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (6.L.1)

- Demonstrate command of the conventions of English capitalization, punctuation, and spelling when writing. (6.L.2)

Assessment 2 – Deconstructing Argument
Students create a visual representation tracing two opposing viewpoints on a controversial argument. The visual depicts the argument, claims, reasons, and evidence. Students write a reflective paragraph explaining the visual's significance, including viewpoint, and orally explain ideas to a small group. Students analyze the opposing arguments deciding which viewpoint they agree with. Students assess presentations based on whole class criteria.

Standards assessed:

- Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not. (6.RI.8)
- Determine an author's point of view or purpose in a text and explain how it is conveyed in the text. (6.RI.6)
- Compare and contrast one author's presentation of events with that of another. (6.RI.9)
- Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not. (6.SL.3)
- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (6.L.1)

Assessment 3 – Argument Piece
Students select a type of argument writing and audience to whom they would like to write. Student writing is assessed on the characteristics of an effective argument and the 6+1 traits of writing.

Standards Assessed:
- Write arguments to support claims with clear reasons and relevant evidence. (6.W.1)
- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (6.L.1)
- Demonstrate command of the conventions of English capitalization, punctuation, and spelling when writing. (6.L.2)

Teacher notes:
- Conduct whole class discussions about the controversial issues until you are confident that students can engage in thoughtful passionate discussion without being disrespectful. These topics elicit strong emotions that must be managed.
- Work with librarian to create a teacher text set of controversial issue and various leveled student text sets. Students who can independently locate articles/information are allowed and encouraged to do so.
- Significant Task 1 & 2 occurs concurrently.

6th Grade ELA
Windsor Public Schools
Curriculum Map for the Secondary Level

Purpose of the Course:

6th grade ELA is the first step to the transition between the elementary and high school. This course raises the level of complexity and sophistication in both reading materials and writing types. Students read and discuss a variety of fictional and nonfictional texts to develop the ability to discuss and write about complex ideas. The skills and concepts learned in 6th grade are developed and enhanced throughout middle school.

Name of the Unit: **Unit 4 Historical Fiction & Narratives**	Length of the unit: **7-8 Weeks**

Purpose of the Unit:

This unit enhances and builds on student understanding of narrative writing and analyzing complex fictional plots to determine an author's message. Students explore the historical fiction genre as a Webquest to build and develop independent skills. Students work at their own pace to learn about various qualities of historical fiction, read and evaluate historical fiction texts, and compose a historical fiction narrative.

Common Core State Standards Addressed in the unit:

30. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (6.RL.1)

31. Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. (6.RL.2)

32. Describe how a particular story's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves towards a resolution. (6.RL.3)

33. Explain how an author develops the point of view of the narrator or speaker in a text. (6.RL.6)

34. Comprehend literature, including stories, dramas, and poems, in the grades 6-8 text complexity band proficiently. (6.RL.10)

35. Determine two or more main ideas of a text and explain how they are supported by key details, summarize the text. (6.RI.2)

36. Draw evidence from literary or informational texts to support analysis, reflection, and research. (6.W.9)

37. Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes, use appropriate eye contact, adequate volume, and clear pronunciation. (6.SL.4)

38. Write narratives to develop real or imagined experiences or event using effective technique, relevant descriptive details, and well-structured event sequences. (6.W.3)

39. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (6.L.1)

40. Demonstrate command of the conventions of English capitalization, punctuation, and spelling when writing. (6.L.2)

41. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies. (6.L.4)

Big Ideas:	Essential Questions:
▪ Authors use the story and plot elements purposefully ▪ Facts give the story a "real" context ▪ Authors use information to promote their ideas	▪ How do authors use characters to convey the message to the reader? ▪ How are facts used in historical fiction? ▪ How do authors present facts or interpret and manipulate them for their purposes?
Students will know: ▪ Characteristics of historical fiction ▪ Readers use lessons from history to plan, problem-solve and discuss future ▪ Characters and plot episodes help determine themes in literature ▪ Themes in literature communicate the author's message ▪ Authors bring their point of view to texts ▪ Point of view impacts author's message. ▪ Author's write with a purpose/message ▪ The components of historical fiction narrative ▪ Readers integrate and synthesize information	Students will be able to: ▪ Identify historical fiction characteristics ▪ Make connections between historical facts and fictional plot ▪ Ask and answer questions about texts read aloud and independently ▪ Identify and analyze how characters and plot events convey theme ▪ Analyze how themes point to author's message ▪ Examine point of view and it's impact on text, message, themes, etc. ▪ Determine author's message using key information to support conclusions ▪ Write reading responses integrating a variety of information ▪ Determine central idea of informational texts ▪ Conduct short research ▪ Write historical fiction narrative

Significant task 1: Historical Fiction Genre Exploration – Section 1

Students work at home and school to complete Section 1 of a Historical Fiction Webquest to enhance understanding about the genre and its' uniqueness as compared to other fictional genres. Students work from a historical fiction genre template that calls for the definition and characteristics/criteria of the genre. Students use various websites to search for and verify information specific to the genre. This is completed using at least 3-5 sources that students eventually include on a works cited list.

After gaining teacher approval, students work with partners to read 3-5 identified historical fiction picture books. Partnerships identify the traits of the genre, summarize the story, notice common themes and how conveyed, and identify and analyze point of view. Student assessment of learning is done through the collection and feedback provided from Section 1. Students independently complete a reflective question demonstrating understanding of the genre and its' uniqueness as compared to other genres using key details and examples from stories read independently or aloud to support conclusions.

Timeline: 1-2 weeks
Key vocabulary: historical, Webquest, verify, genre, works cited
Resources: HF Genre template, Picture book analysis, computer access or availability at home, planning your work, website regarding historical fiction genre, Live Binder access, *The Mighty Miss Malone*

Significant task 2: - Historical Event - Independent Reading Journals – Section 2

Students select from a pre-selected list of historical events to explore through historical fiction and informational texts. Students select an accompanying "just right" historical fiction text to read independently at home and in class. Students complete an independent reading response every 2 weeks to practice and demonstrate understanding of various reading standards including incorporating key details. To select from differentiated reading responses, students choose from a variety of independent instructional opportunities to learn about choices. Instructional options include: via a podcast, written instructions, video clips, etc. Students complete at least 3 different instructional and response options.

Students access Live Binder or a hard copy of credible internet resources to research from websites to read short informational articles about their self-selected historical events. Student make a record on works cited list from where the information has come. Students identify the articles' central ideas and take notes based on these readings. Students select from a variety of note-taking styles to record key ideas & details read and/or shared from partner/group. Students reflect, in discussions and in written responses, on the author's integrated use of the historical events to convey specific ideas, themes, and messages in their independent reading historical fiction text about the same event. Students read at least 3 different articles per individual in small group/partnerships. Each article is summarized including central ideas. Students write response that identifies the author's message upon finishing their independent reading text.

Timeline: 4-6 weeks
Key vocabulary: message, integrated, response, podcast
Resources: list of historical events, nonfiction texts about historical events, Section 2 Webquest, reading response list, groups of historical fiction texts at various levels, computer/digital media access

Significant task 3: - Prezi/Power Point Presentation – Section 3

Students present a Power Point or Prezi to a small group that's studying a different historical event. Students present 3-5 slides that encompass the major understandings about this historical event and make connections between the factual information collected and information expressed in the historical fiction text read independently. Students are assessed both on group presentation and individual literary analysis that demonstrates how the main character in their texts conveys the author's message.

Timeline:2 weeks
Vocabulary: presentation, metaphor, literary analysis
Key Resources: Power Point/Prezi, computer access

Significant Task 4: Historical Fiction Narrative

Students use developed understanding of the historical fiction genre, mentor texts being read aloud and independently and nonfiction information to write a historical fiction narrative. Students build on previously learned knowledge of writing narratives. Students establish a context and introduce narrator/characters, use narrative techniques such as dialogue, pacing, and description to develop experiences, events, and/or characters. Student narratives include a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another. Writing is precise using relevant descriptive details, and sensory language to convey experiences and events and provide a conclusion that follows from the narrated experiences or events. Student writing can occur at home and at school. Students use time with partners or students use the historical event studied in a small group as background or history. Student writing is assessed based on 6+1 traits of writing with a focus on ideas, organization, word choice, and conventions.

Timeline: 2-3 weeks
Vocabulary: narrative
Resources: 6+1 trait rubric

Common learning experiences:

- The teacher uses as the mentor text The Mighty Miss Malone. This is the text used to model mini lesson instruction.

- Teacher leads students through a study of the Great Depression to model conducting short research.

- Work with instructional technology to review Power Point and Prezi

Mini Lessons:

- Characteristics of Historical Fiction
- Working effectively with partners
- Exploring various historical fiction websites (review previous lessons)
- Creating a works cited list
- Selecting independent reading selection
- Examining texts against the criteria
- Responding to reflective questions (R.A.C.E.)
- Historical events – the popular ones
- Introducing reading responses
- Credible sources (review)
- Note-taking format
- Taking notes from informational articles – central ideas & details
- Re-reading your notes
- Turning your notes into your own words
- Integrating facts into responses
- Summarizing nonfiction texts
- Identifying the author's message
- Review narrative writing
- Incorporating the historical event into your writing
- Using Power Point and Prezi

Common assessments including the end of unit summative assessment:

Assessment 1 – On Demand Narrative (Pre & Post)
Students write a narrative based on a prompt selected by the teacher.

Standards assessed:

- Write narratives to develop real or imagined experiences or event using effective technique, relevant descriptive details, and well-structured event sequences. (6.W.3)
- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (6.L.1)
- Demonstrate command of the conventions of English capitalization, punctuation, and spelling when writing. (6.L.2)

Assessment 2 – STAR/AR Assessment

Standards assessed:

- Comprehend literature, including stories, dramas, and poems, in the grades 6-8 text complexity band proficiently. (6.RL.10)

Assessment 3 – Webquest Section 1
This section of the Webquest introduces the task and begins several expectations for students. Students are expected to define/identify characteristics of the genre, read, summarize, including themes and central ideas, included in text and evaluate based on criteria of genre. Additionally, students complete a reflective question.

Standards Assessed:

- Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (6.RL.1)
- Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. (6.RL.2)
- Draw evidence from literary or informational texts to support analysis, reflection, and research. (6.W.9)
- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (6.L.1)
- Demonstrate command of the conventions of English capitalization, punctuation, and spelling when writing. (6.L.2)

Assessment 4 – Webquest Section 2

The first part of this assessment requires students to write at least 3 reading responses reflecting upon their independent reading texts. Students read, take notes and summarize informational texts. This information is integrated into an evaluation of their independent reading text's interpretation of the historical event.

Standard(s) assessed:

- Draw evidence from literary or informational texts to support analysis, reflection, and research. (6.W.9)
- Determine two or more main ideas of a text and explain how they are supported by key details, summarize the text. (6.RI.2)

Assessment 5 – Prezi/Power Point Section 3

Students make a brief presentation of information researched about their historical event and integrate and make connections to historical fiction text being read independently and read aloud.

Standard(s):

- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (6.L.1)

- Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes, use appropriate eye contact, adequate volume, and clear pronunciation. (6.SL.4)

Assessment 5 – Historical Fiction Narrative

Students write a narrative based on the historical event studied. Students are assessed using the 6+1 trait rubric.

Standard(s) assessed:

- Write narratives to develop real or imagined experiences or event using effective technique, relevant descriptive details, and well-structured event sequences. (6.W.3)

Teacher notes:

- Significant task 2 can begin while significant task is occurring
- Significant task 1 - Have students keep their works cited list as they go along – very few can ever go back.

6th Grade ELA
Windsor Public Schools
Curriculum Map for the Secondary Level

Purpose of the Course:

6th grade ELA is the first step to the transition between the elementary and high school. This course raises the level of complexity and sophistication in both reading materials and writing types. Students read and discuss a variety of fictional and nonfictional texts to develop the ability to discuss and write about complex ideas. The skills and concepts learned in 6th grade are developed and enhanced throughout middle school.

Name of the Unit: **Unit 5 - Memoir**	Length of the unit: **6 Weeks**

Purpose of the Unit:
This unit focuses on comparing two historical events written as memoirs by different authors. Students compare the point of view of the author and how it impacts the story. Students continue to develop as listeners and speakers by working in book clubs and discussion groups to make comparisons and share ideas. Students also practice writing a new mode of fictional narrative a memoir. Students will all select from common historical events and write a personal memoir.

Common Core State Standards Addressed in the unit:

42. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (6.RL.1)

43. Describe how a particular story's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves towards a resolution. (6.RL.3)

44. Determine the meaning of words and phrase as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone. (6.RL.4)

45. Explain how an author develops the point of view of the narrator or speaker in a text. (6.RL.6)

46. Comprehend literature, including stories, dramas, and poems, in the grades 6-8 text complexity band proficiently. (6.RL.10)

47. Compare and contrast one author's presentation of events with that of another. (6.RI.9)

48. Draw evidence from literary or informational texts to support analysis, reflection, and research. (6.W.9)

Big Ideas:	Essential Questions:
▪ Authors purposefully use specific words and phrases ▪ Relevant evidence promotes/supports the point/idea ▪ Characters are shaped by the events ▪ Point of view impacts interpretation ▪ Authors use many genres to tell stories – memoir is one of them	▪ How do authors convey tone? ▪ What makes textual evidence relevant? ▪ How does the setting affect the story's plot? ▪ How do the events in the story affect the characters' development? ▪ How can different authors interpret events differently? ▪ How do authors tell their stories?
Students will know: ▪ Words and phrases reveal tone and point of	Students will be able to: ▪ Identify and analyze the words and phrases

view ▪ All evidence is not equal' ▪ Evidence Is what builds conviction ▪ Characters' responses and changes are significant to the themes and message of the text ▪ Memoirs are basically true stories that focus on a brief span of time or an event	used to create tone ▪ Select evidence that best supports ideas and conclusions ▪ Analyze how characters develop over the course of the story ▪ Explain how author develops point of view ▪ Compare information included in texts and draw conclusions ▪ Define memoirs and distinguish between autobiography

Significant task 1 – Timeline of Events

Students are introduced to the memoir genre through picture books. Students read with a partner, as a whole class read aloud and/or independently various memoirs written as picture books. Students discuss the difference between an autobiography, a memoir and a fictional narrative. Students write a response that clearly defines and explains the difference between the two.

In small groups, students read independently, listen to an audio version or read along with the teacher one of two texts, *So Far From the Bamboo Grove* and *When My Name was Keoko*. Students summarize each chapter/section highlighting the historical events, including any themes identified through character responses and challenges. Student groups share summaries at designated points asking questions to enhance or clarify understanding of the plot or history. Students participate in book club discussions and make comparisons between how each author's memoir tells the story, interprets and integrates the historical events. Following book club discussions, students complete a discussion reflection to give to the teacher.

As a whole class students create a timeline of historical events located in the texts. Students work in partnerships to create a nonlinguistic representation of the event and how each author portrays the event. Students use the timeline and metaphorical representations to create a class flip book of the memoirs.

Students work as individuals, then partners, then as a small group, then as a whole class, a set of questions they would ask each author. Students are given the opportunity to meet the author and ask very specific questions about her experiences.

Timeline: 3-4 weeks
Key vocabulary: (text related cultural vocabulary) – integrity, memoir, span
Resources: So Far From the Bamboo Grove, When My Name was Keoko, audio versions, headphones, book club reflection, picture book collection of memoir

Significant task 2: - Writing Memoir

Students brainstorm common historical events the class has lived through, the Snow Storm of 2013, Power Outage 2011, etc. Students select one of these events about which to write a personal memoir. Students are expected to organize events in a logical sequence, incorporate dialogue, description, and pacing in order to convey purpose. Additionally, students incorporate precise language (words and phrases) to communicate tone and point of view. Students will publish this piece.

Students will also record their memoirs and students will listen to at least 5 different memoirs of their classmates, comparing the experience and point of view of the common historical event.

Timeline: 3-4 weeks
Key vocabulary: memoir, historical event, brief, voice
Resources: 6+1 trait writing rubric, recording devices

Common learning experiences:

- Teachers introduce WWII and the internment camps through various picture and video clips. Students taken note to help remember the basic facts.

Mini Lessons

- What is memoir?
- Revisit summarizing
- Identifying theme
- An effective book club
- Writing an effective reflection
- Interpreting and integrating the history
- Making comparison
- Selecting a historical event
- Deciding on the story behind the story
- Using details and dialogue effectively
- Copying the author's craft
- Communicating point of view and tone with words and phrases

Common assessments including the end of unit summative assessment:

Assessment 1 – Memoir versus Autobiography
Students write a reading response comparing autobiographies to memoirs. Students use current reading as evidence.

Standards assessed:

- Draw evidence from literary or informational texts to support analysis, reflection, and research. (6.W.9)

Assessment 2 – Book Club Discussion Reflection
Following club discussion, students complete a reflection that summarizes the discussion and provides any additional reflection and comparison between the texts.

Standards assessed:

- Draw evidence from literary or informational texts to support analysis, reflection, and research. (6.W.9)

Assessment 3 – Questions for the Author
Based on the text read, students write a list of questions that they would like answered by the author.

Standards Assessed:

- Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (6.RL.1)

Assessment 4 – Writing a Memoir
Students write a personal memoir about a common historical event. Student publish their memoirs and record them for their classmates to listen to and compare.

Standards Assessed:

- Write narratives to develop real or imagined experiences or event using effective technique, relevant descriptive details, and well-structured event sequences. (6.W.3)

- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (6.L.1)

- Demonstrate command of the conventions of English capitalization, punctuation, and spelling when writing. (6.L.2)

Teacher notes:

- The author of Far from the Bamboo Grove lives on Cape Cod and annually has agreed to come and speak with 6th graders about her book.

6th Grade ELA
Windsor Public Schools
Curriculum Map for the Secondary Level

Purpose of the Course:

6th grade ELA is the first step to the transition between the elementary and high school. This course raises the level of complexity and sophistication in both reading materials and writing types. Students read and discuss a variety of fictional and nonfictional texts to develop the ability to discuss and write about complex ideas. The skills and concepts learned in 6th grade are developed and enhanced throughout middle school.

Name of the Unit: **Unit 6 – Poetry**	Length of the unit: **3 Weeks**

Purpose of the Unit:

This unit expands student ability to read, interpret and write poetry. Students read and interpret 5 types of poems and experience the work of real-life poets. Students practice speaking and listening standards by delivering poems in front of a "real" audience. Students typically have a whole-team poetry assembly where every student delivers at least one poem.

Common Core State Standards Addressed in the unit:

49. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (6.RL.1)

50. Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone. (6.RL.4)

51. Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot. (6.RL.5)

52. Explain how an author develops the point of view of the narrator or speaker in a text. (6.RL.6)

53. Comprehend literature, including stories, dramas, and poems, in the grades 6-8 text complexity band proficiently. (6.RL.10)

54. Draw evidence from literary or informational texts to support analysis, reflection, and research. (6.W.9)

Big Ideas:	Essential Questions:
▪ Authors purposefully use words and phrases to convey meaning and tone?	▪ How does a poet use word choice to convey meaning and tone?
Students will know:	Students will be able to:
▪ Readers use specific evidence to support conclusions about author's message ▪ Word choice matters ▪ The organization of stanzas conveys purpose and theme ▪ Point of view impacts interpretation	▪ Cite text evidence from poetry ▪ Analyze what a poem says explicitly and figuratively ▪ Determine the meaning (literal and figurative) of word and phrases as they are used in the text ▪ Analyze impact of word choice on meaning and

▪ Readers reflect on	tone ▪ Analyze the organization of stanzas to determine theme and message and tone ▪ Determine how point of view impacts the speaker

Significant task 1 – Introducing Poems

Students read as a whole class several examples of 6-8 types of poems. Students work with the classroom teacher to analyze what the text says, explicitly and figuratively, using/highlighting specific evidence from the text. Students work through guided practice and then partner work in answering specific questions to demonstrate understanding. Students analyze word choice, author's placement/organization of stanzas and point of view to determine theme and tone. Ultimately students synthesize learning to determine the author' message. Students daily read various text sets of leveled student poetry. Students meet with the classroom teacher through conferences to determine students understanding and application of skills. Students create a "My Favorite Poems" book with 3-5 of the student's favorite poems with an accompanying analysis.

Timeline: 3 weeks
Key vocabulary: figurative, connotative literal, stanza
Resources: leveled student text sets of poems, materials for "My Favorite Poems"

Significant task 2: - Writing Poetry

Daily students write independently various self-selected modes and types of writing. Throughout the poetry unit students are invited to add poetry to their repertoire. Students attempt various types of poetry during independent writing and work with the classroom teacher and classmates to receive feedback. At times students will write poetry as a whole class or in partnerships. Of the 6-8 types of poems to which students are introduced,, students are asked to write at least 4 completed poems, all different types, and publish. These poems are added to "My Favorite Poems" book. Students select one of the four poems to deliver and present to the team at a poetry assembly.

Timeline: 2-3 weeks
Key vocabulary: (poetry types), presentation
Resources: examples of

Common learning experiences:

Mini Lessons

- Introduce each type of poem with an example
- What does the text say?
- Figurative and literal language
- Word choice and meaning and tone
- Point of view
- Organization of poetry – tells the story
- The author's message
- Sticking with poetry – it's subjective
- Giving feedback effectively
- Delivering a great poem

*Students watch a variety of video clips of Def Poetry Jam to determine what the characteristics of a good delivery of a poem "looks like."

Common assessments including the end of unit summative assessment:

Assessment 1 – My Favorite Poems
Students create a book of their favorite poems. Students include a copy of at least 3-5 poems that they have read. Students include with a copy of the poems an analysis of what the poem says explicitly and figuratively. Students analyze the organization of stanzas and how point of view impacts the story.

Standards assessed:

- Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (6.RL.1)
- Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone. (6.RL.4)
- Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot. (6.RL.5)
- Explain how an author develops the point of view of the narrator or speaker in a text. (6.RL.6)
- Comprehend literature, including stories, dramas, and poems, in the grades 6-8 text complexity band proficiently. (6.RL.10)
- Draw evidence from literary or informational texts to support analysis, reflection, and research. (6.W.9)

Assessment 2 – Writing Poetry
Students write poems in at least 4 of the 6 types taught n class. Student poems are focused on their organization of stanzas and use of words and phrases to convey tone.

Standards assessed:

- Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone. (6.RL.4)
- Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot. (6.RL.5)

Teacher notes:

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Windsor Public Schools
Curriculum Map for the Secondary Level
English 9: Critical Reading and Writing Foundations

Purpose of the Course:

This course provides students with the language skills and content knowledge necessary for mastering reading, writing and communicating for a variety of purposes. Students will read literature and literary non-fiction or examine visual texts to analyze themes and topics, and to write informative and explanatory texts based on the material.

Name of the Unit:	**Length of the unit:**
UNIT 1 - The Search for Identity	16 Blocks

Purpose of the Unit:

This unit will establish an understanding of the development of personal identity and its influence over human behavior through the analysis of various works of fiction and non-fiction. It will provide a foundation in the various elements of literature, which will be used to analyze literature in this and in subsequent units.

Common Core State Standards Addressed in the unit:

RL.9-10.2
Determine a theme or central idea of a text;

Analyze in detail the development of a theme over the course of the text, including how it emerges and is shaped and refined by specific details.

RL .9-10.3
Analyze how complex characters develop over the course of a text, interact with other characters;

Analyze how the development of characters advances the plot.

RI.9-10.1
Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

W. 9-10.4
Produce clear and coherent writing.

L .9-10.5
Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

Big Ideas:	**Essential Questions:**
- Personal identities are the result of two things: (1) assigned identities that can't be controlled and (2) personal choices. - Your sense of identity affects your actions and behaviors. - Readers develop a deeper understanding through reflection and analysis of text.	- Who am I and how did I get that way? - How do our decisions reveal our character? - How do the various elements of literature work together to present a theme or develop a character?
Students will know: - the various factors that shape personal identity; - the influence of culture on personal identity; - reflection and close analysis of a text lead to better understanding and appreciation; - an author's personal experiences influence his/her writing. **Refer to the links below**: Depth of Knowledge LA	**Students will be able to:** 1. Thoroughly annotate a text to identify evidence to support arguments. 2. Identify literary elements in a text. 3. Analyze an author's use and development of literary element to create mood, to develop character and theme or to develop plot. 4. Organize and develop a written literary analysis. 5. Use specific evidence from a text to support an argument or position. 6. Use technological resources to present information clearly 7. Define and/or review the following terms: - personal identity - significant experiences - life map - cultural beliefs - character (characterization) - bias - point of view - plot - exposition - rising Action - inciting Incident - climax - falling Action - resolution - conflict (internal and external) - direct characterization - indirect characterization - theme - narrative voice - perspective - lens - protagonist

	- antagonist - round/flat characters - static/dynamic characters - imagery - figurative Language - diction - setting - mood - tone - indirect characterization - essay - thesis - occasion - projected organization - topic sentence - transition - MLA citation format

Significant task 1: *Identity Mapping*

In a whole class arrangement, the teacher will begin by defining a "life map." Students should come to the understanding that significant events in our lives have an impact on the development of our personal identities. After students have developed this understanding, the teacher will present a model drawing a life map (Drawing a Life Map). Working individually, students will develop a "life map" for themselves, making sure to identify the significant events in their lives. Various graphic organizers are available for this work (Graphic Life Map, Life Map Checklist Sample). For process differentiation, students also have the option of using Inspiration© software to create a "thought web" to brainstorm their ideas.

Students will meet in groups to discuss their life maps. During these discussions, the student presenters must explain how the significant events in their lives have shaped their personal identities. This discussion will be assessed by the teacher using the Windsor High School 21st Century Rubric for Working Collaboratively.

Working in the same groups, students will then select a character from one of the unit stories and complete a similar map for this character, once again making sure to identify significant events in the character's life. This information will be presented to the class. For product differentiation, students may choose to use the Graphic Life Map format, The Epson TeamBoard© software, a PowerPoint presentation or any other presentation method that meets the requirement of the Life Map Presentation Rubric.

After the presentations are complete, students will use the work they did individually on their own life maps and the information developed with their group on the fictional character to prepare a graphic organizer from which they will plan a journal response to the following questions:

1. What was the most significant event in your life?
2. How has this event defined your identity?
3. Which event in the character's life is most similar to your own?
4. How did this event define the character's identity?
5. Compare and contrast the ways in which the events shaped identity. Be sure to discuss how it might have developed differently if different choices had been made.

This assignment can be a "take home" assignment, or completed in class with planning, drafting and peer reviewing before a final draft is submitted. The 5 Level Rubric will be used to assess this assignment.

Timeline: 2 - 3 Blocks

Key vocabulary:
- personal identity
- significant experiences
- life map
- cultural beliefs
- character (characterization)

Resources:
Note—All short stories are available on audio CD using the Elements of Literature (Third Course) Anthology Supplementary Materials. They may also be printed for annotation using the One-Stop Planner CD available in the same collection.

- "Helen on 86th Street" (Wendi Kaufman)
- "The Scarlet Ibis" (James Hurst)
- Thank You, Ma'am" (Langston Hughes)
- "The Cask of Amontillado" (Edgar Allan Poe)
- "A Sound of Thunder" (Ray Bradbury)
- "Those Who Don't" (Sandra Cisneros)
- "American Hero" (Essex Hemphill)
- "The Girl Who Loved the Sky" (Anita Endrezze)

Significant task 2: *Introduction to Literary Terms*

As students are introduced to the various literary terms, they will complete notes (Cornell or Other Note-taking Types) on all terms. All notes are accompanied by a Power Point (see below). After the notes are completed for each element, students will work in a variety of groupings on sub-tasks designed to reinforce the concepts presented. These whole group, small group, or partner assignments can be completed in any style of the teacher's choice, including: jigsaw, stations, rotating groups, etc.

Plot:
Students will work in a partnership or small group to complete a plot chart based on a popular book they have both read. To facilitate this sub-task, the teacher should consider using a children's book with which the students are familiar that has clearly defined elements of plot. Many of the Dr. Seuss stories are appropriate for this part of the task. These texts can be used as models.

Characterization:
In a whole group or small group, students will view a slide show that presents a variety of photographs of diverse individuals. As they watch the slide show, they will be asked to record adjectives that describe the various individuals. Through class discussion, students will come to understand that personal appearance sometimes dictates how a person is perceived by others. The teacher will guide the discussion to assign other characteristics related to the Five Methods of Indirect Characterization used by an author. Students will come to understand the various ways that an author "brings a character to life" using language.

Narration:
Students will work in small groups to tell a story through a particular lens. Each group will be given the same photograph of a man and a woman engaged in a conversation. (See resources below.) The groups will be assigned a different narrator to tell the story; the groups will be given a "back story" that explains the narrator's bias. For example, one group may be told that the man is the father of a patient; the woman is a doctor; the "back story" is that the man's daughter has just been diagnosed with cancer, and he has been kept waiting for information. Students will tell their stories to the class; teacher will use this conversation to present the concept of reliable vs. unreliable narrators.

Setting:
The class will be divided into teams. For planning purposes, the teacher can use a Group Planning Template prior to the implementation of the lesson. Each team will be told that they are going to describe and illustrate a house on a hill, but each team will be given a different mood that it must create by adding details to the illustration. Students may use a variety of techniques to illustrate their setting: Epson TeamBoard©, Paint©, manual drawing, or any other medium that the teacher chooses. The groups will present their illustrations to the class, and ask the class to identify the mood that the setting illustration is meant to convey. Teacher will use this information to lead students to understand the relationship between setting, and mood and tone. Following the presentations, students will describe the setting they illustrated in a well-developed paragraph, using vivid language to create the details in the drawing.

Theme:
Students will complete a Theme Comparison Matrix which asks them to differentiate between topic and theme. After they have completed it, the teacher will review the answers with the class, explaining any misunderstandings and reviewing the difference between topic and theme. Students will then work in pairs to identify the topics and themes of various movies they have seen. This work will form the basis of more class discussion on the differences between topic and theme. Students will work in groups to read a children's book and identify the theme of the book, which they will present to the class.

After all literary elements have been introduced and studied the class will be divided into five groups. Each group will be assigned one of the five elements they have studied (plot, characterization, setting, narration and theme). Each group will use their knowledge to prepare a Literary Foundations Mini-Lesson to review the assigned element. This lesson will be prepared using Epson Teamboard© so that students may record it and play it for the class to view. Another option for electronic presentation is: www.upsidedownacademy.org.

Timeline: 5 – 6 blocks

Key vocabulary:
- bias
- point of view
- plot
- exposition
- rising action
- inciting incident
- climax
- falling action
- resolution
- conflict (internal and external)
- direct characterization
- indirect characterization
- theme
- narrative voice
- perspective
- lens
- protagonist
- antagonist
- round/flat characters
- static/dynamic characters
- imagery
- figurative language
- diction
- setting
- mood
- tone

Resources:

- all hyperlinked resources
- Cornell Notes:
  How to Take Cornell Notes
  Blank Cornell Note Sheet
- Plot:
  Power Point Notes
  Plot Chart Diagram
- Characterization:
  Characterization Do Now Power Point
  Characterization Do Now Worksheet
  Cat in the Hat Characterization Activity
  Cat in the Hat Activity Journal Response
  STEAL Chart
- Narration:
  Narrator and Voice Power Point
  Narrator Bias Photos
  What's Their Story Graphic Organizer
  Quiz on Narration
- Setting:
  Teacher Guide for Notes
  Blank Guided Note Taking
  Examples of Settings (Photos)
- Theme:
  Power Point on Identifying Theme
  Guided Note Sheet
  Using Children's Books to Identify Theme
  Topic vs. Theme Worksheet
  Movies and Theme Power Point

Significant task 3: *Found Identity Poem*

In a whole class grouping, students will read a recommended short story such as "The Talk" by Gary Soto. Students will be asked to identify examples of the methods of characterization used by the author; for example, if "The Talk" is used, students will identify ways the author develops the personality of the two young boys. Students will record the words and phrases related to characterization on a STEAL Chart. These words and phrases will also be recorded on the board and shared with the class. After identifying the information, the whole class will work together to select those words/phrases that best represent the character(s). The teacher will model various ways to arrange the words and phrases to create the most powerful image.

Students will be then placed in pairs to create a Found Poem based on the short story that they read. In this poem, students will be directed to select words/phrases that demonstrate the special features of their chosen character(s).

After completing the whole-class poem, students will be given a second story and assigned to groups. Each group will focus its work on a different method of indirect characterization: physical appearance, words, thoughts, actions or effects on others. For each story, the teacher will identify the character under study, making sure to select a character for which there are sufficient examples of indirect characterization present in the story. As the reading progresses, students will be asked to take note of and highlight those words/phrases that are illustrative of their assigned method of characterization. After the reading is completed, students will work in their groups to continue the identification of the words and phrases that they feel best exemplify the characterization method they have been assigned. When the groups have

completed their work, they will "report out" to the class. As they list their words and phrases, this information will be recorded on the board using the Epson Brightlink© whiteboard software. When the list is complete, the teacher will print a copy of this list for all class members.

Students will use the words and phrases from the story to create another poem that represents the assigned character. Students may choose to focus on one method of characterization (limit choice of words/phrases to actions or another of the five methods) or they may choose to use multiple methods that reveal the same character trait (e.g. words, actions and physical characteristics that reveal a hostile attitude).

Timeline: 2 - 3 Blocks

Key vocabulary:
- indirect characterization
    - what a character says
    - what a character thinks
    - a character's effect on others (or the effect of others on the character)
    - what a character does (actions)
    - how a character looks (physical traits or expressions)

Resources:
- "The Talk" by Gary Soto (p. 377-8 in *Elements of Literature* Third Course)
- STEAL Chart
- Short stories used throughout the unit or teacher-selected alternatives
- all hyperlinked resources

Significant task 4: *Writing the Essay*

Students will write a Literary Analysis Essay that addresses the following essential question: How do the various elements of literature work together to present a theme or develop a character?

Mini-Lessons on Writing the Essay

Based on the teacher's assessment of student writing from the summer reading benchmark assessment, he/she will develop mini-lessons on the various parts of the writing process. These lessons may be delivered in whole-class, group or individual student formats, depending on the needs and learning styles of the students. These mini-lessons will address as many or as few of the following topics as necessary:

- Elements of literary analysis
- Creating an appropriate graphic organizer (organizing one's thoughts)
- Selecting and using specific text evidence in writing
    - Using annotation to select specific evidence
    - Proper format of quoted material
    - Proper MLA citation of evidence
- Organization of an essay
    - Introductory paragraphs
        - Occasion
        - Thesis statement
        - Projected organization
    - Transitions
    - Body paragraphs
        - Topic sentences
        - Unity
        - Cohesion
    - Conclusion
- Student Review Protocol
- Conventions

- Grammar
- Sentence structure

Student Writing

Using their text annotations and graphic organizers, students will write the essay. Part of the writing will be completed in class; part will be completed at home. Teacher will facilitate peer review and evaluation of the writing. This may take several forms, such as:

- Exemplar essays
- Guided peer review
- Narrative peer review
- Whole class review, using student papers

  Note: Teacher can use the document camera to project an essay using the BrightLink© projector. As students make suggestions, these comments will be added to the paper, which can be saved and/or printed for the students' use during the revision process.
- Student conferences (peer-to-peer; student-to-teacher)

Timeline: 3 – 4 Blocks (If essay is written in class, this task may take more time.)

Key vocabulary:

- essay
- thesis
- occasion
- projected organization
- topic sentence
- transition
- MLA citation format

Resources:

- "The Cask of Amontillado" by Edgar Allan Poe
- "A Sound of Thunder" by Ray Bradbury
- "The Gift of the Magi" by O. Henry
- "The Lady or the Tiger" by Frank Stockton
- "Harrison Bergeron" by Kurt Vonnegut
- "Thank you, Ma'am" by Langston Hughes
- Writing the Essay Flow Chart
- all hyperlinked resources
- "The Struggle to be an All-American Girl" (Elizabeth Wong)
- "Not Much of Me" (Abraham Lincoln)
- "Learning to Read" (Malcolm X)

Common learning experiences:

- Flocabulary Video on the Elements of a Short Story
- Daily Oral Language (editing and revising practice)
- Introduce the importance of reading strategies; use "Learning to Read" (Malcolm X) as a "hook"
- Annotation practice (sticky note and margin notes)

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment (Summer Reading):
This assessment will be based on the summer reading, and is intended to determine the students' level of knowledge prior to beginning the first unit. Students who have not completed the summer reading assignment will be given a choice between two short stories, "The Sniper" by Liam O'Flaherty or "The Most Dangerous Game" by Richard Connell, and will complete the assessment based on the chosen story.

1. The first part of the assessment will require students to demonstrate that they know specific literary terms. This will be in an objective-test format such as matching or multiple-choice. The second part of the assessment will ask students to apply their knowledge of these elements as they pertain to the specific reading they did over the summer. Students will be asked to:
    - Complete a plot chart for the story.
    - Identify the ways in which the author has developed the characters in the story.
    - Identify the setting, mood and tone of the story.
    - Identify the theme of the story and explain how the author reveals this theme to the reader.

    The 5 Level Rubric will be used to grade this assessment. This rubric will be revised to reflect the grade 8 Common Core requirements.

Unit Post-Assessment(s):
Students will analyze the author's use of the various literary elements to present and develop a theme/character in a short story. Students will be given the opportunity to select one of the stories they read as part of the unit on which to base this essay. Students may also choose to analyze a story that is outside the unit (with teacher approval). If they select the second option, they must provide a copy of the story for the teacher's review and use in grading. Students will be graded using the 5 Level Rubric and/or the 21st Century Rubrics.

1. Students will read and annotate a short story, emphasizing the various literary elements presented in the story. As they annotate, students should be reminded that they are going to use the information as specific evidence in their literary analysis.

2. Students complete a graded pre-writing organizer (outline, graphic model, etc.).

3. Write a Literary Analysis Essay that answers the following essential question: How do the various elements of literature work together to present a theme or develop a character? Students will be required to explain and support their analysis with specific and relevant evidence from the text. It is expected that assignment will be typed and submitted in the proper format for a formal essay.

4. Complete a student review protocol to create multiple drafts, including the final version to be submitted to www.turnitin.com.

Teacher notes:

Core Literary Resources:
Note—All short stories are available on audio CD using the Elements of Literature (Third Course) anthology supplementary materials. They may also be printed for annotation using the One-Stop Planner CD available in the same collection.

Short Stories:
- "Helen on 86th Street" (Wendi Kaufman)
- "The Scarlet Ibis" (James Hurst)
- Thank You, Ma'am" (Langston Hughes)
- "The Cask of Amontillado" (Edgar Allan Poe)
- "A Sound of Thunder" (Ray Bradbury)
- "Those Who Don't" (Sandra Cisneros)
- "The Gift of the Magi" (O. Henry)
- "The Lady or the Tiger" (Frank Stockton)
- "Harrison Bergeron" (Kurt Vonnegut)

Non-fiction:
- "The Struggle to be an All-American Girl" (Elizabeth Wong)
- "Not Much of Me" (Abraham Lincoln)
- "Learning to Read" (Malcolm X)

Poems:
- "American Hero" (Essex Hemphill)
- "The Girl Who Loved the Sky" (Anita Endrezze)

Rubrics:
- Windsor High School's 21st Century Learning Expectations Rubrics
- 5 Level Writing Rubric
- Life Map Presentation Rubric

Key Vocabulary:
- personal identity
- significant experiences
- life map
- cultural beliefs
- bias
- point of view
- plot
- exposition
- rising action
- inciting incident
- climax
- falling action
- resolution
- conflict (internal and external)
- direct characterization
- indirect characterization
- theme
- narrative voice
- perspective
- lens
- protagonist
- antagonist
- round/flat characters
- static/dynamic characters
- imagery
- figurative language
- diction
- setting

- mood
- tone
- essay
- thesis
- occasion
- projected organization
- topic sentence
- transition
- MLA citation format

Windsor Public Schools
Curriculum Map for the Secondary Level
English 9: Critical Reading and Writing Foundations

Purpose of the Course:

This course provides students with the language skills and content knowledge necessary for mastering reading, writing and communicating for a variety of purposes. Students will read literature and literary non-fiction or examine visual texts to analyze themes and topics, and to write informative and explanatory texts based on the material.

Name of the Unit:	**Length of the unit**:
UNIT 2 - Coming of Age	17 Blocks

Purpose of the Unit:

The unit will focus on developing a conceptual understanding of maturity, as it relates to human development. This unit will continue to emphasize the writing process, including the revising and editing that is required when creating a professional publication.

Common Core State Standards Addressed in the unit:

W.9-10.2.b
Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

W.9-10.2 c
Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.

W.2. 9-10.f
Provide a concluding statement or section that follows from and supports the information or explanation presented.

W.9-10.5
Develop and strengthen writing as needed by planning, revising, editing, rewriting or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

SL.9-10.1. b.
Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.

SL.9-10.1.c
Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas;

Actively incorporate others into the discussion;

Clarify, verify, or challenge ideas and conclusions.

SL.9-10.1.d
Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement;

Qualify or justify views and understandings;

Make new connections in light of the evidence and reasoning presented.

Big Ideas:	**Essential Questions:**
- The decisions we make determine our character. - Maturity is not a function of age. - Writers have a purpose for writing. - Writing is a reflective process.	- What turning points determine our individual pathways to adulthood? - What does it mean to "grow up"? - How does the purpose and audience influence the format of our writing? - How can we use evaluation and reflection to improve our writing?
Students will know: - people share similar milestones in their maturation process - one's personality and character are determined by his/her reactions to life events - how individuals mature is a function of the historical time period, specific culture, economic environment, and/or personal characteristics - an author's choices of format is determined by the purpose and audience of the work - good writing is an ongoing process which requires the author to revisit and reevaluate his/her work **Refer to the links below**: Depth of Knowledge LA	**Students will be able to:** 1. Write, review, analyze, edit/revise an essay to final publication. 2. Critically evaluate peer writing and make appropriate comments/suggestions to improve writing. 3. Participate actively in class discussion by posing and responding to questions, including others in discussion and demonstrating respect for diverse perspectives. 4. Define key terms: - dialogue - debate - cohesion - unity - open-ended questions - Socratic seminar - peer evaluation - purpose - audience - editing - revision - memoir - vignette

Significant task 1: *Socratic Seminar*

Using the work of Matt Copeland, teacher must first introduce the concepts and ideas necessary to facilitate the Socratic Circle.

Teacher-directed instruction will be used to teach the differences between dialogue and debate. (Copeland, p. 47)

- The teacher will provide a series of Controversial Statements and Staged Responses to each statement. Some of the responses will be designed to encourage dialogue, while others will encourage debate. These sets of statements will be color-coded so as to make it clear to students that these are related. For example:
    - Controversial Statement: One should be considered an adult at age 14.
    - Staged Response (Debate): 14 year-old people make foolish decisions.
    - Staged Response (Dialogue): How is a 14 year-old different from an 18 year-old?
- Teacher will read a statement and a student who has a response card in a color matching the teacher statement will read the answer on his/her card in response. The students in the class will be asked to identify the response as dialogue or debate, and explain their reasoning.
- Students will view a YouTube© video on how to conduct and participate in a Socratic Circle Seminar: "Creating Good Discussion."

Teacher will facilitate a lesson on creating good discussion questions.

- In a whole class configuration, students will read and annotate a short, but meaningful piece of text. (Some examples of how to do this annotation appear on pp. 52-3 of the Copeland work.)
- Working in pairs, students will write two "Good Thinking Questions" using the handout "Creating Great Questions" as a guide.
- Students will evaluate the questions generated by other pairs using the "Checklist for Analyzing a Question" rubric.

The teacher will then assist students in conducting the Socratic Seminar using the following steps:

- *Practice with Socratic Circle Format*
    - Using the questions generated in the previous section, students will set up and conduct a Socratic Circle Seminar.
    - After the practice seminar has concluded, teacher will lead a "debriefing" session, asking students to identify what went well and what needs works. If necessary, students will watch the video again and make comparisons between their performance and that of the class on the video.

- *Conduct a Socratic Circle Seminar*
    - Teacher will assign reading from the text currently under study by the entire class. The selected text will focus on a portion of the text that addresses decisions made by the characters in the story and/or the process of a character's maturation from child to adult. Students will work in pairs to generate questions to be used during the seminar. This work can be done in class or be assigned as homework.
    - Students will conduct the Socratic Circle Seminar. This portion of the significant task with be evaluated using the 21st Century Rubric.
    - Students will evaluate their own discussion questions using the Analyzing a Question Rubric. Teacher will review their assessment before assigning a final grade to the questions.

Timeline: 3 – 4 Blocks

Key vocabulary:
- dialogue
- debate
- open-ended questions
- Socratic seminar

Resources:
- Strategy Guide: Socratic Seminars (Read/Write/Think)
- You Tube Video on Socratic Circles
- Copeland, Matt. *Socratic Circles: Fostering Critical and Creative Thinking in Middle and High School*.Portland:Stenhouse Publishers.2005. (ISBN 1-57110-394-5)
- all hyperlinked resources

Novels
- *To Kill A Mockingbird* (Harper Lee)
- *Rite of Passage* (Richard Wright)

Poems
- "The Road Not Taken" (Robert Frost)
- Others of the teacher's choice

Non-fiction
- *Simeon's Story* (Simeon Wright with Herb Boyd)
- "Those Who Don't" (Sandra Cisneros)
- "Everything Had a Name" (Helen Keller)

Significant task 2: *Guided Peer Review*

Teacher will begin this task with an introduction designed to determine the students' previous experiences with peer review. The teacher will distribute the following items to students:
- a short survey that addresses student experiences with and their opinions of peer evaluation;
- a prompt- "Talking about writing is the most important step in the writing process"- to which a journal response is requires.

Teacher will then conduct a group discussion of the value/meaning/purpose of peer evaluation. Students will refer to *Write for College* (see resources below) as a guide for these discussions.

In a whole class discussion, teacher will lead the class to understand the importance of maintaining good relations while completing peer evaluations. This will include information on acceptable/appropriate comments and the criteria for helpful comments. The teacher and students can conduct improvisational modeling of effective peer review practices.

Using the worksheet Sample Peer Review Comments, teacher will again model the procedure for evaluating the comments that appear on the sample. Working in pairs, students will evaluate the remaining comments using the protocol previously demonstrated. The class will review the completed work in a whole group format.

Students will be instructed to bring their writing with them to the next class; this writing can include any items completed in Unit 1 or in this unit of study. Students will use the Peer Conference Sheets that appear on page 160 of the Peery book. Students will work in groups of three or four. Before beginning the peer review, each student will write at least one thing that they would like help on at the top of the page, making one sheet for each of the group members. The sheets will then be distributed to the group. Students will read their work aloud to the group. As they listen the remaining group members will complete the peer review sheets. The sheets will be returned to the writer, who will review the comments and conference with their peer reviewers to clarify any comments. The writer will use the comments to complete a revised draft.

This procedure can be repeated as often as the teacher deems appropriate in order to bring the draft to final status.

Timeline: 2 – 3 Blocks

Key vocabulary:
- peer evaluation
- purpose
- audience
- editing
- revision

Resources:
- Sebranek, Patrick, et al. *Write for College*. Wilmington, MA: Great Source Education Group. 1997.
- Peery, Angela. *Writing Matters in Every Classroom*. Englewood, CO: Lead + Learn Press. 2009.
- all hyperlinked resources

Significant task 3: *Memoir Vignette*

The teacher will lead the class in a mini-lecture using a dynamic strategy like Harvey Daniels' Interactive Lecture on the characteristics of a memoir. Students will use either the Guided Notesheet or Cornell Notes to record findings on these characteristics. (The teacher can also choose from any other type of note-taking technique.)

The teacher will model a memoir by either telling a personal story or presenting a completed memoir.

In a whole class configuration, students will read a vignette from *The House on Mango Street* (or any other appropriate source) and annotate it using the notes as a guide. The teacher will review the annotations by displaying the written text on the whiteboard and using the Epson Brightlink© software in "annotation mode" to provide an example of a well-annotated piece of work. The teacher could also opt to use a document camera, like an Elmo device. After completing the model, students will be placed in pairs or larger groups to read and annotate a second vignette. As they work, teacher will circulate to ensure that they understand the characteristics of the memoir and are annotating correctly.

Next, the class will work in the computer lab, or use approved electronic devices in the classroom. Each student will select a student-written memoir that captures their interest from the website (see below). They will print and annotate this memoir, again using the notes as an annotation guide.

After reviewing and annotating several vignettes/memoirs, students will be ready to begin writing their own memoir and will start with a brainstorming activity in which they will record personal information on the Who Am I? Worksheet. Students will isolate the person, place, animal or object that has been most important to them and will begin planning and writing their own memoir. Students are expected to complete the writing at home. They will review these drafts in class the next day using the Self-Revision Worksheet for Memoirs. As they review the drafts, the teacher will conference with students to help guide their work. Students will use the revision notes to complete a second draft, which will be peer-reviewed the next day in class using the Peer Editing Worksheet for Memoirs. Students will complete the final revised copy of their memoir; this work may be done in class or as a take home assignment.

Timeline: 4 -5 Blocks

Key vocabulary:
- memoir
- vignette

Resources:
- Cisneros, Sandra. *The House on Mango Street*. New York: Vintage Books. 1984.
- Website that Features Student-Created Memoirs
- all hyperlinked resources

Common learning experiences:
- Use of computer lab for accessing memoirs and publishing their writing
- Video on Emmitt Till
- Daily Oral Language (editing and revising)
- Read and annotate a novel

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment:

1. Students will read a short work of literature and write a journal response that addresses the issues of growing up and/or how personal decisions define one's character. As the focus of this assessment is to determine the ability of students to identify the key lessons in a piece of literature and to explain their ideas in writing, the reading(s) should be kept short and should be of high interest to the students. The Elements of Literature Third Course anthology is a good source for these readings, although the teacher may select others that appeal to the interests of specific students. Some examples include:
    - "No One Ever Told Me Not to Dream" (Charlayne Hunter-Gault)
    - "Life's Changes" (Candice Nolan)

    As an alternative, the teacher may provide celebrity biographies that exemplify the theme of choices that determined that person's future.

    This assessment will be scored using the 5 Level Rubric.

Unit Post-Assessment:

1. Final revised memoir. This memoir will be assessed using the 5 Level Rubric, modified to specifically address the requirements of the memoir.

2. Literary Analysis Essay
    - Based on the novels under study, students will write **one** of the following essays:
        - the lessons presented in *To Kill a Mockingbird*
        - the changes undergone by Johnny in *Rite of Passage*

    This assessment will be scored using the 5 Level Rubric.

Teacher notes:

Core Literary Resources:
Poems:
- "The Road Not Taken" (Robert Frost)
- "If" (Rudyard Kipling)

Novels:
- *To Kill a Mockingbird* (Harper Lee)
- *Rite of Passage* (Richard Wright)
- *The Absolutely True Diary of a Part Time Indian* (Sherman Alexie)
- *The Perks of Being a Wallflower* (Stephen Chbosky)
- *I Love Yous Are for White People* (Lac Su)
- *The Fault is in Our Stars* (John Green)
- *House on Mango Street* (Sandra Cisneros)

NOTE: The GoodReads website is an excellent source for titles related to the theme of Coming of Age.

Non-fiction:
- *Simeon's Story* (Simeon Wright)
- "Everything Had a Name" (Helen Keller)
- "Those Who Don't" (Sandra Cisneros)
- Celebrity Biographies from a variety of sources

Other Resources:
Teacher Texts:
- Copeland, Matt. *Socratic Circles: Fostering Critical and Creative Thinking in Middle and High School*.Portland:Stenhouse Publishers.2005. (ISBN 1-57110-394-5)
- Sebranek, Patrick, et al. *Write for College*. Wilmington, MA: Great Source Education Group. 1997.
- Peery, Angela. *Writing Matters in Every Classroom*. Englewood, CO: Lead + Learn Press. 2009.

Miscellaneous Resources:
- *Video on Socratic Seminars* *http://www.youtube.com/watch?v=6pGVR6ZF_2M*
- *Emmitt Till Videos*: PowerPoint Presentation
- Strategy Guide: Socratic Seminars (Read/Write/Think)-
- all hyperlinked resources

Key Terms:
- dialogue
- debate
- cohesion
- unity
- open-ended questions
- Socratic seminar
- peer evaluation
- purpose
- audience
- editing
- revision
- memoir
- vignette

Windsor Public Schools
Curriculum Map for the Secondary Level
English 9: Critical Reading and Writing Foundations

Purpose of the Course:

This course provides students with the language skills and content knowledge necessary for mastering reading, writing and communicating for a variety of purposes. Students will read literature and literary non-fiction or examine visual texts to analyze themes and topics, and to write informative and explanatory texts based on the material.

Name of the Unit:	**Length of the unit**:
UNIT 3 - Family	15 Blocks

Purpose of the Unit:

The unit will focus on the concept of family and will explore the changing definition of the family unit. Students will further explore the role of the family in forging their identities. This unit will expand on the memoir written in Unit 2 and will focus on the concept of writing as multi-step, ongoing process. Students will be introduced to the art of explicating poetry.

Common Core State Standards Addressed in the unit:

W.9-10.1.d
Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

W.9-10.W.4
Produce clear and coherent writing in which the development, organization and style are appropriate to task, purpose and audience.

W.9-10.5
Develop and strengthen writing as needed by planning, revising, editing, rewriting or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience

L.9-10.1
Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

L.9-10.2
Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

L.9-10.3
Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

SL.9-10.1. b.
Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.

Big Ideas:	**Essential Questions:**
- People are molded by their upbringing and their environment - Families have different structures or compositions. - Writing is a multi-stage process. - Writing is a reflective process.	- How does a child's upbringing impact who he/she becomes? - How and why has the definition of "family" changed over time? - How does each step in the process impact your writing? - Why is it important to think about your writing?
Students will know: - "family" may be defined in many ways; - the importance of planning their writing carefully to improve the quality of the product; - the importance of including strong and well-developed support for their opinions to improve the quality of the product; - the value of revisiting and rethinking their writing. **Refer to the links below**: Depth of Knowledge LA	**Students will be able**: 1. Plan and organize a variety of writing tasks, paying close attention to purpose and audience. 2. Review, revise and edit writing to conform to norms and conventions of the genre in which they are writing. 3. Work effectively with peers for a variety of purposes, including peer review and group discussions. 4. Define and/or review these terms: - scansion - meter - explication - rhyme scheme - symbols - literary devices - sound devices - rhythm - diction - iambic pentameter - imagery - memoir - anecdote - occasion - thesis statement - projected organization - body paragraph - topic sentence - unity - cohesion

	- transition - conclusion - guided peer review - narrative peer review

Significant task 1: *Family Memoir*

The teacher will distribute a journal response prompt that requires students to explain and interpret one or more of the following quotes related to the memoir:

- Virginia Woolf: "A memoir is not what happens, but the person to whom things happen."
- William Zinsser: "Memoir is a window into a life."
- Jean Little: "Memoir is not the whole head of hair but one or two strands of hair."
- Lucy Calkins: "Our memoir will come not only from our memories but also from our imaginations."
- Gore Vidal: "A memoir is how one remembers one's own life, while an autobiography is history, requiring research."

By referring students to their notes from Unit 2 on the characteristics of a memoir, and assisting through discussion the teacher should help students to recall these characteristics. In a whole class arrangement, the class will read a memoir that focuses on a family member of the narrator, rather than on the narrator him/herself. As they read, students will annotate the memoir using their notes on the characteristics as a guide. Several examples are available on the Scholastic© website. (Sample Memoirs by Students)

The teacher will distribute the family Memoir Assignment and review the interview process using the Sample Interview Questions. In a whole-class configuration the teacher will lead the students in a discussion focusing on the qualities of a good interview question, emphasizing the following points:

- Open-ended questions ("Could you tell me about your family?") usually evoke more interesting answers than close-ended questions ("How many people are in your family?").
- Interview questions should invite people to answer more expansively. For example, an open-ended question like "Could you tell me about your family?" might well result in an answer like, "Well I can't begin without telling you about the time my sister . . . ." This kind of response can lead to a series of anecdotes and connections.
- Interview questions are just a rough guide for the actual conversation between an interviewer and the person being interviewed. Be prepared to follow the conversation rather than to keep to a set list of questions. After all, with open-ended questions, the interview might go anywhere!

In small groups, students will then brainstorm to generate a list of open-ended questions that they would like to ask the family members whom they will interview. Groups should record their questions on the white board (using the whiteboard feature of the Epson Brightlink© allows the teacher to save and print the list for student reference) or on chart paper. Teacher will lead the students to examine and analyze the questions to determine if they meet the qualities noted above. If time allows, students can go to the computer lab to access Getting Nosy with Aunt Rosie (a website for help with interviewing family members). If a computer lab is not available, students could use their own school approved devices to access this information.

Students will interview their selected family member outside of class, using notes and/or electronic recordings to collect information. Upon return to class, students will organize their ideas using a self-designed graphic organizer based on the option(s) they chose from the memoir assignment. Students who wish to do so may use the online organizer provided by ReadWriteThink© (Prewriting Online Organizer).

Students are expected to assemble and write a draft version of their family memoir at home. Students will then work in pairs or in groups to complete a peer evaluation of the draft using the Memoir Rubric as a guide. Using the comments, students will make all necessary revisions and submit the final family memoir project.

Timeline: 3 – 4 Blocks
Key vocabulary:
- memoir
- anecdote

Resources:
- all hyperlinked resources

Core Literary Resources

Nonfiction:
- *Gifted Hands* (Ben Carson)
- *I Know Why the Caged Bird Sings* (Maya Angelou)
- *The Autobiography of Malcolm X* (Malcolm X and Alex Haley)
- *The Color of Water* (James McBride)
- *The Ditch Digger's Daughters* (Yvonne Thornton)
- *Falling Leaves: The Memoir of an Unwanted Chinese Daughter* (Yen Mah)
- *Breaking Night: A Memoir of Forgiveness, Survival, and My Journey from Homeless to Harvard* (Liz Murray)
- *All over but the Shoutin'* (Rick Bragg)
- *Always Running: La Vida Loca: Gang Days in Los Angeles* (Luis Rodriguez)

Fiction:
- *Of Mice and Men* (John Steinbeck)
- *The Absolutely True Diary of a Part-Time Indian* (Sherman Alexie)
- *Ordinary People* (Judith Guest)
- *To Kill a Mockingbird* (Harper Lee)
- *When the Legends Fall* (Hal Borland)
- *Catherine, Called Birdy* (Karen Cushman)
- *Whale Talk* (Chris Crutcher)
- *Annie John* (Jamaica Kincaid)

Short Stories:
- "Everyday Use" (Alice Walker)
- "The Lady or the Tiger" (Frank Stockton)
- "A Brief Moment in the Life of Angus Bethune" (Chris Crutcher)
- "The Scarlet Ibis" (James Hurst)
- "American History" (Judith Ortiz Cofer)

Significant task 2: *Poetry Explication*

Note: This task is written based on the study of three poems that reveal the various relationships between fathers and sons. It will be equally effective using poems that depict other familial relationships such as those between siblings or mothers/daughters, grandparents, etc. It is assumed that this significant task will be completed after the students have received instruction on elements of poetry.

Teacher will select a poem that is relatively short (10 – 20 lines) and accessible to all students in the class. It may be more helpful to select the lyrics to a popular song. Exercise caution in making this selection, as the poem must be school-appropriate and have some "substance" (i.e. there must be something in the song lyrics that merits literary analysis. One poem that works very well as an introduction to explication is "Tears of a Teenage Mother" by Tupac Shakur.

Begin the lesson with the PowerPoint Presentation on Explicating a Poem. This follows the TPCASTT model. Print the poem on a half-sheet of paper, leaving the other half empty and available for writing the notes and annotations. Distribute these sheets to the students. Work through the poem having students make their

annotations throughout the presentations. It may be appropriate to have students work together, either in pairs or small groups. Each students must complete a worksheet.

When the annotations are complete, display the poem using the Epson Brightlink© projector. Students will come to the board and annotate the poem for the following:

- Rhyme scheme
- Images
- Symbols
- Literary devices
- Sound devices
- Meaningful lines

Volunteers are asked to come to the board and add anything else that they feel is important to the understanding of the poem.

In a whole class arrangement, work with students to create an Outline for the Poem Analysis.

Review the process for annotating a poem in preparation for explication. Distribute copies of "Those Winter Sundays." Students will work in pairs to annotate the poem using the model previously demonstrated. As students work, the teacher circulates and assesses student work in order to answer questions, redirect, etc. If it appears that there are areas of confusion common to many students, teacher will use the opportunity to conduct a mini-lessons on the area of confusion.

When all students have completed the annotations, display the poem on the board and invite students to add their annotations to the displayed poem. Review the outline for explication presented in the previous class and work with students to prepare an outline for "Those Winter Sundays." Distribute the Sample Explication and read it with the class, highlighting areas in which the author's explication matches their own annotations.

Students will work independently or in pairs to read and annotate "The Secret Heart" and "My Papa's Waltz." Teachers will assess student work by circulating in the room, addressing areas of confusion while students work.

The teacher will introduce the Explication Essay Assignment, which will be assessed using the 5 Level writing rubric. The writing may be assigned to be done at home or completed in class.

Students will be expected to completed self or peer evaluation of the writing and engage in revision and editing activities, as the teacher deems appropriate.

Timeline: 4 -5 blocks

Key vocabulary:

- explication
- annotation

Resources:

- Poetry Reading Strategies
- Worksheet for Poetry Explication using Power Point Presentations
- A Simple Guide to Analyzing Poetry
- Power Point on Explicating a Poem Using TPCASTT
- Shakur, Tupac. *The Rose That Grew from Concrete*. New York: Simon and Schuster. 1999.
- all hyperlinked resources
- "Those Winter Sundays"
- "My Papa's Waltz"
- "The Secret Heart"

Significant task 3: *Character Study*

In this task, students will read and analyze a work of fiction and a work of non-fiction, in order to answer the essential question: *How does the way a child is raised impact who he/she becomes*? In answering this question, students must consider the significant forces in the development of a protagonist: family, environment or self.

The students and/or the teacher will select an appropriate pairing of fiction and non-fiction (both dealing with issues of family) from the resources. There are several ways in which the teacher can assign texts:

- Whole class reads the same fiction and non-fiction
- Whole class reads same fiction; individual students select non-fiction
- Whole class reads same non-fiction, individual students select fiction
- Students individually selects both fiction and non-fiction
- Literature circles

The teacher should model the process of his/her thinking about the text using sticky note annotations. Students will then read and annotate both a fiction and a non-fiction work, in the same fashion, with an emphasis on how the family/environment influences the development of the protagonist and how the protagonist controls his/her own destiny. Students will use their sticky note annotations to complete a Character Study Graphic Organizer. Students will complete reading and annotating both in and outside of class.

Timeline: 5 – 6 Blocks

Key vocabulary:

- MLA citation format
- writing process
- occasion
- thesis statement
- projected organization
- body paragraph
- topic sentence
- unity
- cohesion
- transition
- conclusion
- exemplar
- guided peer review
- narrative peer review

Resources:

- all hyperlinked resources

Core Literary Resources

Nonfiction:

- *Gifted Hands* (Ben Carson)
- *I Know Why the Caged Bird Sings* (Maya Angelou)
- *The Autobiography of Malcolm X* (Malcolm X and Alex Haley)
- *The Color of Water* (James McBride)
- *The Ditch Digger's Daughters* (Yvonne Thornton)

- *Falling Leaves: The Memoir of an Unwanted Chinese Daughter* (Yen Mah)
- *Breaking Night: A Memoir of Forgiveness, Survival, and My Journey from Homeless to Harvard* (Liz Murray)
- *All over but the Shoutin'* (Rick Bragg)
- *Always Running: La Vida Loca: Gang Days in Los Angeles* (Luis Rodriguez)

Fiction:
- *Of Mice and Men* (John Steinbeck)
- *The Absolutely True Diary of a Part-Time Indian* (Sherman Alexie)
- *Ordinary People* (Judith Guest)
- *To Kill a Mockingbird* (Harper Lee)
- *When the Legends Fall* (Hal Borland)
- *Catherine, Called Birdy* (Karen Cushman)
- *Whale Talk* (Chris Crutcher)
- *Annie John* (Jamaica Kincaid)

Short Stories:
- "Everyday Use" (Alice Walker)
- "The Lady or the Tiger" (Frank Stockton)
- "A Brief Moment in the Life of Angus Bethune" (Chris Crutcher)
- "The Scarlet Ibis" (James Hurst)
- "American History" (Judith Ortiz Cofer)

Common learning experiences:
- Daily Oral Language practice (editing and revising)
- Various lessons on the elements of poetry and literary devices/figurative language

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment:
Students will have written a personal memoir in the previous unit. This memoir will be used as the pre-assessment for the current unit.

Unit Post-Assessment:
This assessment is based on students reading and annotating the text(s) selected for Significant Task 3. The assessment will be graded using the 5 Level Rubric.

1. Students will read and annotate a short story, emphasizing the various literary elements presented in the story. As they annotate, students should be reminded that they are going to use the information as specific evidence in their literary analysis.

2. Students complete a graded pre-writing organizer (outline, graphic model, etc.) Students will develop and use the graphic organizer to write an essay that addresses the following: "Which force is most significant in the development of the protagonist?
   - role of family
   - role of environment
   - role of the individual

   Students will have the choice of completing an in-depth character study of one protagonist OR a compare/contrast study of both.

Teacher notes:

Core Literary Resources

Nonfiction:
- *Gifted Hands* (Ben Carson)
- *I Know Why the Caged Bird Sings* (Maya Angelou)
- *The Autobiography of Malcolm X* (Malcolm X and Alex Haley)
- *The Color of Water* (James McBride)
- *The Ditch Digger's Daughters* (Yvonne Thornton)
- *Falling Leaves: The Memoir of an Unwanted Chinese Daughter* (Yen Mah)
- *Breaking Night: A Memoir of Forgiveness, Survival, and My Journey from Homeless to Harvard* (Liz Murray)
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- *Always Running: La Vida Loca: Gang Days in Los Angeles* (Luis Rodriguez)

Fiction:
- *Of Mice and Men* (John Steinbeck)
- *The Absolutely True Diary of a Part-Time Indian* (Sherman Alexie)
- *Ordinary People* (Judith Guest)
- *To Kill a Mockingbird* (Harper Lee)
- *When the Legends Fall* (Hal Borland)
- *Catherine, Called Birdy* (Karen Cushman)
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Short Stories:
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- "A Brief Moment in the Life of Angus Bethune" (Chris Crutcher)
- "The Scarlet Ibis" (James Hurst)
- "American History" (Judith Ortiz Cofer)

Rubrics:
- 21st Century Learning Expectations Rubrics
- 5 Level Rubric
- Memoir Rubric

Key Vocabulary:
- scansion
- meter
- rhyme scheme
- symbols
- literary devices
- sound devices
- rhythm
- diction
- iambic pentameter
- imagery
- memoir
- anecdote
- explication
- MLA citation format
- writing process
- occasion

- thesis statement
- projected organization
- body paragraph
- topic sentence
- unity
- cohesion
- transition
- conclusion
- exemplar
- guided peer review
- narrative peer review

Windsor Public Schools
Curriculum Map for the Secondary Level
English 9: Critical Reading and Writing Foundations

Purpose of the Course:

This course provides students with the language skills and content knowledge necessary for mastering reading, writing and communicating for a variety of purposes. Students will read literature and literary non-fiction or examine visual texts to analyze themes and topics, and to write informative and explanatory texts based on the material.

Name of the Unit:	**Length of the unit**:
UNIT 4 - Heroes and Courage	13 Blocks

Purpose of the Unit:

This unit will establish an understanding of the role of culture in storytelling and the basis upon which societies identify their heroes. This unit will provide a basic background in mythology as a literary genre and make students familiar with mythological allusions that appear in literature and modern-day culture.

Common Core State Standards Addressed in the unit:

RL.9-10.6
Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature.

RI.9-10.1
Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

RI.9-10.3
Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.

W.9-10. 3
Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Big Ideas:	**Essential Questions:**
- Cultures shape the core beliefs of the individual. - The values of a culture define its heroes. - The myths of the past continue to be relevant to modern readers.	- How do the beliefs and values of a culture affect the lives of individuals? - Why has ancient mythology endured? - Can ordinary people be heroes?

- Heroes have the same capabilities and failings as the average person. - Heroes face challenges of their time, place, and circumstance with dignity, courage and perseverance. - Courage is shown in different ways in different situations. - Effective communication relies on the usage of proper forms.	- What does it mean to be courageous? - How is your style of writing influenced by your purpose?
Students will know: - an individual is a product of the culture in which he/she lives; - studying the mythology of other cultures helps modern individuals better understand their own; - heroes share similar personal characteristics; - courage takes many forms; - the purpose of a piece of writing determines the form it will take. **Refer to the links below**: Depth of Knowledge LA	**Students will be able to**: 1. Explain how the values of a culture are revealed through its myths. 2. Identify the traits/characteristics of an epic hero present in a myth; use evidence from the text to support the identification. 3. Identify the type and purpose of specific myths; use evidence from the text to support conclusions. 4. Apply knowledge of mythology to better understand the use of mythological allusions in literature and modern culture. 5. Write effective narratives based on Greek mythology. 6. Define these terms: - epic hero - tragic flaw - call to adventure - refusal of the call - mentor - crossing the threshold - supreme ordeal - resurrection - homecoming - cultural values

Significant task 1: *Hero's Journey*

In a whole class arrangement, the teacher will conduct a dynamic lecture (Interactive Lecture can be used) on the traits of the epic hero and the hero's journey. Students will take guided notes, in any format dictated by the teacher. See: (Power Point on the Interactive Lecture). Teachers who are extremely comfortable may

find that this is an excellent opportunity to experiment with the "Flipped Classroom."

Students will read the myth of Heracles as a class, with teacher guiding the annotation of the text to identify the characteristics of the epic hero and his journey. A "Think Aloud" annotation can occur on the projector or a document camera, like an Elmo. Students will be grouped in pairs to analyze and chart Heracles' journey. Pairs will report out to the whole class while teacher or student volunteer charts the journey using a copy of the Graphic Organizer displayed in annotation mode on the Epson Brightlink© Projector.

Students will then work either independently or with a partner to chart the journey of a second Greek epic hero. Based upon their choices, students will be given the stories of Perseus, Theseus, or Jason. Graphic novel versions of these myths may be available to supplement student reading. The myths may be assigned as homework or as an in-class assignment. Students will complete the graphic organizer for their particular hero. When students have completed the organizer for their story, they will be placed into three groups, one for each hero. Students will work together to create a Hero Poster that details the journey of their assigned hero, using Joseph Campbell's Plot Chart as a guide. After all posters are complete, the three student groups will tell the story of their hero and explain how this character exemplifies the classic Greek epic hero.

As an alternate method of completing this task, the teacher may work in a whole-class configuration to create a T-chart of the traits of the classic Greek hero and a modern-day hero. Once the T-chart is complete, students are assigned to either (a) read the myth of Perseus and identify the specific sections of the text that indicate his heroic traits (this reading may be in the form of text or graphic novel), or (b) review a visual representation of a comic book hero and identify his heroic traits. When groups have completed their work, the class will reconvene to share their findings. Students who read the text of Perseus may display their own work and teach the other class members how they identified the traits of a hero from specific passages in the Perseus myth.

Students will be assessed on the group work and the presentations using the 21st Century Skills Rubric. The content and layout of the poster will be assessed using Hero Poster Rubric.

Timeline: 3 – 4 Blocks

Key vocabulary:
- epic hero
- tragic flaw
- call to adventure
- refusal of the call
- mentor
- crossing the threshold
- supreme ordeal
- resurrection
- homecoming

Resources:
- myths of Heracles, Perseus, Theseus, and Jason
- all hyperlinked resources
- Visual Representation of Spiderman Hero
- Myth Web Story of Perseus
- Myth Web Story of Theseus

Significant task 2: *Modern-Day Hero*

In a whole class arrangement, students will read a biographical article about a modern-day celebrity hero. Using the graphic organizer developed in the previous task, students and teacher will work together to highlight traits/events related to the actual individual that fit into the classic epic hero's journey and personal

characteristics of the epic hero. Where information is missing or inconsistent with those of the classic tale, students will be encouraged to be creative and supply fictional details that will make the story a classic epic. Throughout this process, the teacher will reinforce the characteristics of the epic hero and his journey presented in the previous task.

In the computer lab, or by using school-approved devices in the classroom, students will be directed to the Oracle ThinkQuest Website titled "Heroism: Stories and Biographies." Students will select one of the individuals listed on the website for whom they will write an epic hero's journey myth. Prior to receiving approval for their selection, students must thoroughly read the information and answer the following question about their choice: "What is it about our cultural values that elevate this person to hero status?" Students will submit their selection to the teacher, who will approve it. Each student must research a different individual.

Students will conduct research to obtain information and use this information to complete the hero's journey Graphic Organizer. Where necessary, students will fill in fictional details to complete the myth. Using the graphic organizer as a starting point, students will write a myth that "stars" the individual they selected.

Research will be assessed using the 21st Century Skills Rubric.
Writing will be assessed using a 5 Level Rubric.

Timeline: 3 – 4 Blocks

Key vocabulary:
- cultural values

Resources:
- all hyperlinked resources
- computer lab

Common learning experiences:
- Review modern-day advertisements and identify/explain their mythological origins
- Direct instruction on the types of myths
- Read *The Odyssey*
- View video clips of *The Odyssey*
- Introduction to the Greek pantheon
- Daily Oral Language (editing and revising)

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment
The initial task- "Hero's Journey"- will be used as a pre-assessment. The teacher can also use common learning experiences to measure each student's prior knowledge.

Unit Post-Assessment
1. Objective Section
   - Students will demonstrate knowledge of the Greek pantheon and types of myths.
   - Students will identify/sequence the elements of the hero's journey.
2. Application Section
   - Students will identify the mythological reference that appears in a modern day advertisement. Students will identify the god (or character) represented in the advertisement and explain why the advertiser selected this individual to represent their product and/or service.

- Students will read myths (not previously addressed in class). Students will identify the type of myth and explain its significance.

Teacher notes:

Core Literary Resources:
- Rouse, W.H.D. *The Odyssey*. New York: Signet Classics.1937
- McCaugherean, Geraldine. *The Odyssey Retold*. London:Oxford University Press.1993
- Hinds, Gareth. *The Odyssey: A Graphic Novel.* Somerville, MA: Candlewick Press. 2010
- The Odyssey (poetic version) *Elements of Literature* (Third Course)
- Whitehead, Dan. *Jason and the Argonauts* (graphic novel). New Delhi: Kalyani Navyug Media PVT LTD. 2011
- Foley, Ryan. Legend: *The Labors of Heracles* (graphic novel). New Delhi: Kalyani Navyug Media PVT LTD. 2011
- Myers, Kathleen, Ed. *Classic Myths, vol 1*. Logan. IW: Perfection Learning. 1990
- Myers, Kathleen, Ed. *Classic Myths, vol 1*. *Teacher Resources*. Logan. IW: Perfection Learning. 1990
- Myers, Kathleen, Ed. *Classic Myths, vol21*. Logan. IW: Perfection Learning. 1990
- Myers, Kathleen, Ed. *Retold Classic Myths, vol 2*. *Teacher Resources*. Logan. IW: Perfection Learning. 1990
- Reece, Paula, Ed. *In the Time of Gods and Heroes.* Logan, IW: Perfection Learning. 2002
- Ofner, Terry. *Echoes from Mt. Olympus.* Logan, IW: Perfection Learning. 2006
- Ofner, Terry. *Echoes from Mt. Olympus, Teacher Guide.* Logan, IW: Perfection Learning. 2006
- Various nonfiction articles about modern-day heroes

Other Resources:
- The All-Purpose Guide to Epic Movies
- The Hero's Journey: An Interactive Website for Creating the Hero's Journey
- The Hero's Journey Graphic Organizer
- "Where I Find my Heroes" by Oliver Stone
- The Lion King: A Hero's Journey
- Star Wars: A Hero's Journey
- "Holding Out for a Hero" by Bonnie Tyler
- Song Lyrics and Worksheet
- YouTube Video
- "Superman" by Five for Fighting
- Song Lyrics and Worksheet
- YouTube Video
- How Have the Qualities of the Hero Changed Over Time? WebQuest
- Slide Show Presentation of the Story of Jason

Rubrics:
- 21st Century Learning Expectations Rubrics
- Hero Poster Rubric
- 5 Level Rubric, modified as appropriate for specific assignments

Key Vocabulary:
- epic hero
- tragic flaw
- call to adventure
- refusal of the call
- mentor
- crossing the threshold
- supreme ordeal
- resurrection

- homecoming
- cultural values
- Types of myths
    - creation
    - hero
    - scientific/nature
    - morality
- narrative writing

Windsor Public Schools
Curriculum Map for the Secondary Level
English 9: Critical Reading and Writing Foundations

Purpose of the Course:

This course provides students with the language skills and content knowledge necessary for mastering reading, writing and communicating for a variety of purposes. Students will read literature and literary non-fiction or examine visual texts to analyze themes and topics, and to write informative and explanatory texts based on the material.

Name of the Unit:	**Length of the unit**:
UNIT 5 – Shakespeare's Families	*15 Blocks*

Purpose of the Unit:

In this unit, students will be introduced to the plays of William Shakespeare, in particular, two plays which deal with the relationships of parents and children. Through their study of the language and story-telling expertise of William Shakespeare, students will develop an appreciation of the dramatic form and an understanding of similarity between the lives of teenagers in Shakespeare's time and their own.

Common Core State Standards Addressed in the unit:

RL.9-10.9
Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare).

RL.9-10.5
Analyze how an author's choices concerning how to structure a text, order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery, tension, or surprise.

W.9-10. 7
Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem;

Narrow or broaden the inquiry when appropriate;

Synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

W.9-10. 8
Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively;

Assess the usefulness of each source in answering the research question;

Integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

Big Ideas:	**Essential Questions:**
- Through time, great works of literature provided insights across cultures about the human experience. - Despite the passage of time, human nature has remained essentially the same. - Information can be acquired from various sources. - The research process requires the use of a variety of resources to ensure validity.	- How is the literature of the past relevant to modern readers? - How does the work of Shakespeare reveal the universality of man? - What are the benefits of using multiple media to locate information? - How do I know my information is reliable?
Students will know: - despite cultural differences, the issues and problems facing human beings are essentially the same; - Shakespeare has endured over time because his work reveals how the human condition has remained unchanged; - researchers use various types of resources to obtain different types of information; - a researcher's credibility is directly related to the validity of his/her sources. **Refer to the links below**: Depth of Knowledge LA	**Students will be able**: 1. Analyze and how Shakespeare uses mythology to develop the story in his plays. 2. Conduct research using a variety of sources. 3. Assess the validity and usefulness of research sources. 4. Synthesize information from multiple sources. 5. Integrate information into a text in order to: a. Maintain flow of ideas b. Avoid plagiarism 6. Accurately cite sources using MLA format.

Significant task 1: *Annotated Bibliography*

Teachers will develop a list of topics related to Elizabethan England that students may select for research. Depending on the class, the teacher may choose to assign topics to specific students, have students draw topics at random, or offer the option to choose topics of interest based on a lottery. Some possible topics include:

- Queen Elizabeth I's life and reign
- Elizabethan politics
- Everyday city life in London, England during the time of the Renaissance
- Elizabethan Theater (show business
- William Shakespeare's life and accomplishments
- The Globe Theater
- Fashion of the 1500-1600's in England
- The Elizabethan view of the universe (science)
- The four humors/psychology and physiology
- Sports, hunting, and gaming of Elizabethan England
- Courting and marriage customs
- The role of the church and religion
- Masques and masquerades
- Music of the Elizabethan Era
- Poetry of the Elizabethan Era
- The Black Death/ the plague
- Disease and medicine
- Schools and education
- Crime and punishment

- Arms and armory/weaponry
- The role of women
- The social classes

Teacher works in conjunction with library media specialists to organize instruction on the research process. This instruction, as well as the ensuing research is conducted in the Media Center.

- Introduction to the Sources Available (presented by library media specialists)
    - database
    - print sources
    - web sites
- Evaluating and Validating Sources (presented by library media specialists)

Students conduct research to locate information on their assigned topic. During this research process, the teacher and the media specialist(s) work as facilitators to assist students in the completion of the research. Students will be expected to record information on all sources they access using the library forms listed below. These forms are available on-line or in hard copy.

Teacher and/or media specialist(s) conduct direct instruction on the creation of the Annotated Bibliography. (This site gives a sample of a three-entry annotated bibliography on Elizabethan England.) There is a Power Point presentation on how to use the sources to create this product. It is advisable that this instruction take place in a computer lab, so that students have access to EasyBib.com, a software tool used to assist students in the citation of research information, including the development of an annotated bibliography.

Students work in computer lab to create the final annotated bibliography. If available, students should be encouraged to save their work in an Internet-accessible format, so that they may continue to work at home. This portion of the task will be assessed using the Annotated Bibliography Rubric.

Timeline: 2-3 Blocks

Resources:

Library forms for research

Free Online Images
In-text Citation Guide
MLA Style Guide - 7th edition
Notes by Source
Notes by Subtopic
Notes with Evaluation Criteria for Books
Notes with Evaluation Criteria for Databases
Notes with Evaluation Criteria for Websites
Evaluating Sources
Website Evaluation

Instructions for Using EasyBib.com

Significant Task 2: *Acting Companies: Preparing/Interpreting a Scene*

While reading the play, students will work continuously in acting companies to deepen their understanding of the play using the techniques outlined in the Folger Shakespeare Library's Shakespeare Set Free. Students will work together to assist one another to understand and interpret a Shakespearean play,. Their work will culminate in a dramatic performance of a key scene in the selected play.

Establishing Acting Companies

The class is divided into groups of five. This is the optimal configuration for most of the scenes in either of the two plays. Once the groups have been determined, the groups work together to select the following:
- A group name
- A meeting place

- Rotation order for directors
    - Responsible for maintaining the folder during the meeting, taking notes on activities, logging unanswered questions, keeping company on task

Working in Acting Companies

In subsequent classes, the acting companies will work together to read and interpret key scenes and dialogue, and to develop their own scene, once it has been selected. The work in the acting company will be scored using the 21st century learning expectation rubric on Working Collaboratively. Some of the specific activities in which the acting companies will engage are:

- Round robin reading
- Identification and definition of unknown vocabulary
- Paraphrasing
- Close reading of the text to determine the significance of playwright's decisions regarding character,
    - setting, plot movement
- Preparation of scene
    - Rehearsal (lines and blocking)
    - Setting (backdrops, music, etc)
    - Costumes
    - Props

Common learning experiences:

- Daily Oral Language practice (editing and revising)
- Review and instruction on the language of Shakespeare (For these activities, the teacher will reference the Folger Shakespeare Library text *Shakespeare Set Free*, edited by Peggy O'Brien).
    - Tossing Lines
    - Elizabethan forms: Second Person Familiar and Verb Inflections
    - The Rhythms of Shakespeare
    - Shakespeare's Unusual Language
        - Unusual word order
        - Omission of words
        - Archaic words and idioms
        - Words with old meanings
        - Old verb inflections
    - Shakespearean Insults
    - Analyzing Subtext
    - Paraphrasing Dialogue
- Close reading of the Play
- Memorization of a Key Speech

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment

Annotated Bibliography

Using research, students will compile an Annotated Bibliography (minimum of five sources). The bibliography will include:

- A written evaluation of the source
- MLA Works Cited page in proper format

Unit Post-Assessment

At the end of the unit, students will present their adaptation of a scene from the play they have studied. Students will be given a choice in how they choose to represent their scene. Some options are:

- Live traditional performance of the play using Shakespearean language
- Live traditional performance of the play in which students have "translated" Shakespeare's language
- Puppet show

- Videotaped performance
- Rap/hip-hop interpretation of the scene
- Dance interpretation of the scene
- Tableaux interpretation of the scene

This performance will be evaluated using the Performance Evaluation Rubric, which emphasizes:

- Understanding if the characters, plot and language of the original play
- Ability to use language to portray a character
- Ability to use movements and facial expressions to portray character
- Well designed and planned props, costumes and setting

Teacher notes:

Core Literary Resources

Drama
- *A Midsummer Night's Dream* (William Shakespeare)
- *Romeo and Juliet* (William Shakespeare)

Myth
- *Pyramus*
- *Thisbe*

Other Resources

- O'Brien, Peggy, Ed. *Shakespeare Set Free: Teaching A Midsummer Night's Dream, Romeo and Juliet, and Macbeth*. New York: The Folger Shakespeare Library. 1993.

Rubrics

- Windsor High School 21st Century Learning Expectations Rubric
- Promptbook Evaluation
- Performance Evaluation Rubric

Key Terms
- annotated bibliography
- aside
- blocking a scene
- dialogue
- drama
- Elizabethan England
- iambic pentameter
- irony (dramatic and situational)
- MLA Citation
- plagiarism
- poetic syntax
- prose
- soliloquy
- sonnet
- subtext
- website evaluation

Windsor Public Schools
Curriculum Map for the Secondary Level
English 9: Critical Reading and Writing Foundations

Purpose of the Course:

This course provides students with the language skills and content knowledge necessary for mastering reading, writing and communicating for a variety of purposes. Students will read literature and literary non-fiction or examine visual texts to analyze themes and topics, and to write informative and explanatory texts based on the material.

Name of the Unit:	**Length of the unit**:
UNIT 6 – The Search for Utopia	15 Blocks

Purpose of the Unit:

The purpose of this unit is to introduce students to the genre of dystopian literature. Emphasis will be placed on applying the concepts and ideas they have learned throughout the year to determine how authors use literature to convey an overall message. Focus during the unit will be on the attempts of human beings to create a perfect society and on the role of human nature in the success or failure of these societies.

Common Core State Standards Addressed in the unit:

RI 9-10.2
Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details;

Provide an objective summary of the text.

W 9-10. 7
Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem;

Narrow or broaden the inquiry when appropriate;

Synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

SL 9-10.2
Integrate multiple sources of information presented in diverse media or formats.

SL 9-10.2
Evaluate the credibility and accuracy of diverse sources.

SL 9-10.3
Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying fallacious reasoning or exaggerated or distorted evidence.

SL 9-10.1. b Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.

Big Ideas:	**Essential Questions:**
- People develop systems to manage conflict and create order. - One person's utopia can be another person's dystopia. - Different types of resources provide different types of information. - An author's personal bias affects the reliability of the information he/she presents.	- Why do human beings create/change societies? - What is the relationship between human nature and the attainment of utopia? - How do I determine the types of resources I should use for a specific task? - How do I know my information is reliable?
Students will know: - human beings seek order in their environment; - the differences among human beings make it difficult to design the ideal society; - meaningful research requires the use of multiple relevant resources; - careful evaluation of resources requires the researcher to identify and consider author bias. **Refer to the links below**: Depth of Knowledge LA	**Students will be able**: 1. Identify and analyze the theme of a work of literature. 2. Analyze an author's craft in developing a theme. 3. Conduct a research project. 4. Evaluate the validity of research sources. 5. Develop and deliver oral presentations, utilizing multiple reference sources. 6. Evaluate and assess an oral presentation. 7. Work effectively within various group configurations. 8. Define these terms: - utopia - annotated bibliography - database - web site - validity - reliability - MLA citation format

Significant task 1: *Research Presentation on Real-Life Utopian Experimental Societies*

Students will work in groups to research a real-life utopian society. The teacher will assign one of the following "utopian" societies to each group for research.

- Brook Farm
- Oneida Community
- Harmony Society
- The Farm
- Twin Oaks Community
- Sabbathday Lake

Note: Information on additional experimental utopian societies can be found on the Yale Library Website.

The links noted above lead to a number of websites that students will use for their research. Prior to conducting their research, students will conduct website evaluation, including identifying sites that are "red herrings." Those sites deemed appropriate for their research will be used and documented as an annotated bibliography in the final project.

Students will identify the chief characteristics of the society and determine the reasons for the society's success or failure. Students will continue to work within their groups to create a Power Point slideshow that addresses the questions presented in the Research Assignment:

- When was the real-life Utopia formed?
- Where was it formed?
- Who were the founders?
- Why was it formed?
- What was the community's philosophy
    - religious beliefs
    - organizing principles
    - views on the outside world
    - views on gender equality
    - methods of being self-sufficient
- Did it fail? Why did it fail?
- Did it survive? How is it different today as compared to its beginnings?

Timeline: 2 - 3 Blocks

Key vocabulary:

- utopia
- annotated bibliography
- database
- web site
- validity
- reliability
- MLA citation format

Resources

- Yale Library Website
- EasyBib.com
- all hyperlinked resources

Significant task 2: *Understanding Dystopian Societies*

In a whole-class configuration, students will take guided notes using any formats presented in previous units (Cornell, two-column, etc.) on a combination of teacher lecture and a Power Point on Utopian vs. Dystopian

Societies. The lecture and Power Point provide detailed information on the elements of a dystopian society. If students experience difficulty in organizing their notes, the teacher may choose to provide a Guided Note Taking Sheet. (An Answer Key is provided.)

In order to provide students with an opportunity to apply this knowledge, and to assess their understanding, students will read an Article about the PIXAR film *WALL-E,* which includes a discussion of Earth as Dystopia. Students will identify the elements of a dystopian society that are discussed in the article using the notes they completed above as a guide. Students will use this information to complete a Pre-viewing Worksheet. This activity is appropriate for a variety of groupings:

- whole-class reads the article together and completes the note sheet, or
- students work in pairs/groups to complete the note sheet and report out to the class.

The teacher will introduce and explain the use of the Graphic Organizer that details the dystopian elements present in the excerpt of *WALL-e* that the students are about to watch. Students will watch the opening 20 minutes of the film and complete the organizer. They will use their notes from the article and the film notes to write an essay titled Dystopia on Earth, or to complete a Journal Response that addresses the same issue. The writing assignments may be completed in class or assigned as homework. The writing will be assessed using the grade 9 Journal Response Rubric.

Timeline: 3 - 4 Blocks

Key vocabulary:

- utopia
- dystopia
- dystopian literature
- dystopian protagonist

Resources:

- *WALL-e* video
- Article about *WALL-e*
- all hyperlinked resources

Significant task 3: *Literature Circles*

The literature circle task is based on the work of Harvey Daniels. Two of his texts on literature circles are referenced in the Resources Section below. In a whole-class arrangement, the teacher will introduce and explain the concept and requirements of the literature circle format, which are detailed on the Exploring Dystopia through Literature information sheet.

In order to familiarize students with the novel choices available to them, they will be brought to the Media Center, where a media specialist will conduct book talks on the various novels. After listening to book talks in the media center, students will select the dystopian novel that they would like to read by completing a teacher-generated Selection Form. Students should be advised that they may not receive their first choice, as the teacher will have to make assignments based on the number of available texts or grouping considerations. They will be placed in literature circle groups based on their selections.

Teacher will introduce and model the various literature Circle Roles, answering any student questions or concerns.

Note: The teacher will determine which of the various roles he/she will use. It should be noted, however, that there will be specific roles that the teacher may designate as required.

Each individual group will set up its reading schedule, and assign roles. From this point on, students will read the books as required by the schedule, and complete the roles as assigned. (Should it become obvious that a

student(s) has not completed the reading, the teacher may choose to have the student complete the reading separate from the group, thereby losing the participation points associated with literature circle activities.)

During this segment of the task, the teacher will circulate and function as a facilitator, assisting groups with the completion of roles. In some cases, although all students have completed the reading, one or more of the role activities may not have been completed. The teacher may provide a List of Suggested Activities designed to help the group work together to complete the role assignment. In addition, the teacher will identify areas of common misunderstanding or need, and design and deliver various "mini-lessons" and activities that will enhance student understanding of their novel as an example of dystopia.

Timeline: 5 - 6 Blocks

Key vocabulary:
- literature circles
- literature circle roles
    - discussion director
    - illustrator
    - connector
    - DJ
    - summarizer
    - vocabulary enricher
    - predictor

Resources:
- all hyperlinked resources

Literature Circle Texts:
- *1984* (George Orwell)
- *Brave New World* (Aldous Huxley)
- *Lord of the Flies* (William Golding)
- *Delirium* (Lauren Oliver)
- *Divergent* (Veronica Roth)
- *The Hunger Games* (Suzanne Collins)
- *Matched* (Ally Condie)
- *On the Beach* (Nevil Shute)

Common learning experiences:
- Daily Oral Language practice (editing and revising)
- View and assess peer oral presentations

Common assessments including the end of unit summative assessment:

Unit Pre-Assessment:
As part of the research work, students will be assessed on their ability to evaluate websites, including the elimination of clearly inappropriate sources. The teacher will use the Website Evaluation Worksheet as the basis for this assessment.

Unit Post-Assessment:
The final assessment is based on the book students read as part of their literature circles. Students will be given a choice as to which three assessments they will complete. To review the various products and assessments available, see Unit Post-Assessment Materials, which are included in the Teacher Resource

section that appears at the end of this unit description.

Teacher notes:

Teacher Resource Materials:
- Daniels, Harvey and Nancy Steineke. *Mini-Lessons for Literature Circles*. Portsmouth, NH: Heinemann. 2004.
- Daniels, Harvey. *Literature Circles: Voice and Choice in the Student-Centered Classroom*. York ME: Stenhouse Publishers. 1994.
- Westphal, Laurie.e. *Differentiating Instruction with Menus*. Waco, TX:Prufrock Press, Inc. 2009.

Core Literary Resources:
- *1984* (George Orwell)
- *Brave New World* (Aldous Huxley)
- *Lord of the Flies* (William Golding)
- *Animal Farm* (George Orwell)
- *Delirium* (Lauren Oliver)
- *Divergent* (Veronica Roth)
- *The Hunger Games* (Suzanne Collins)
- *Matched* (Ally Condie)
- *On the Beach* (Nevil Shute)
- PIXAR article on WALL-E
- Articles on Real-life utopian experimental societies Yale Library website

Short Stories:
- "Harrison Bergeron" (Kurt Vonnegut) This text is available in the Elements of Literature anthology, and also on the audio CD provided with this text.
- "The Lottery" (Shirley Jackson)
- "The Machine Stops" (E.M. Forster)
- "There Will Come Soft Rains" (Ray Bradbury)

Rubrics:
- 21st Century Learning Expectations Rubric
- 5 Level Writing Rubric
- Grade 9 Power Point Rubric

Key Vocabulary:
- Dystopia
- Utopia
- Annotated bibliography
- Database
- Web site
- Validity
- Reliability
- Bias
- MLA citation format
- Dystopian Literature
- Dystopian Protagonist
- Literature Circles
- Literature Circle Roles
    - Discussion Director
    - Illustrator
    - Connector

- DJ
- Summarizer
- Vocabulary Enricher
- Predictor

Other Resources:
Film:
- WALL-E
- Harrison Bergeron

Unit Post-Assessment Materials:
- List of Assessment Products
- Description of Assessment Products
- Project Choice Proposal Form
- Tic Tac Toe Project Choice Form
- Sample Story Cube

Windsor Public Schools
Curriculum Map
Forensic Science

Purpose of the Course: The course is designed to demonstrate the application of concepts in biology, chemistry and physics to answer legal queries. Forensic science by its nature is interdisciplinary and calls for the use of skills and concepts in mathematics, civics, world language and a range of reading, writing and presentation skills. The one semester elective will be "gamified" and allow students to "level up" through the acquisition of XP's once mastery is achieved at one level, the student will proceed to the next level of mastery. Content will become more challenging as levels increase and student choice in content/assignments will be available at the upper levels.

Name of the Unit: Walking the Grid Unit 1	Length of the unit: 7 blocks (84 minutes)
Purpose of the Unit: This unit involves the discussion of what evidence is, how to identify it, and what probative value it may have in court. Students explore the credibility of eyewitness testimony and compare it with different types of physical evidence that they will study in more detail in other units. Once students learn how a scene is processed they navigate through an actual case before processing a mock crime scene with a "squad". This unit includes two levels - the first one with badge status of "flatfoot" after successful completion significant task 1 and the second badge status of "investigator" after successful completion of significant task 2.	

Common Core State Standards Addressed in the unit: College and Career Ready Attributes: Students demonstrate independence, build strong content knowledge, respond to varying demands or audience, task, purpose and discipline, value evidence, use technology and digital media strategically, and understand other perspectives and cultures.

Big Ideas:	Essential Questions:
Forensic science is the application of science concepts and skills to answer legal questions Physical evidence is more reliable than eyewitness testimony Evidence can be anything that links a suspect to a location (scene), event and/or the victim Different kinds of evidence vary in probative value	What is evidence? How does or can forensic science affect your life now or in the future? How can science answer legal questions even absent eyewitness testimony? Why do we process a crime scene?

Scientific literacy is essential when called to serve on a jury in civil or criminal case	Why is the role of scientific evidence different in civil versus criminal cases? What factors influence the outcome of a trial independent of the scientific evidence presented?
Students will know: • The definition of forensic science • The probative value of evidence varies • The components of processing a crime science • The various professionals/careers involved from collecting the evidence to presenting it to the jury	Students will be able to: • Identify the kinds of legal questions science may answer • Assess the probative value of evidence (DNA, spatter, trace, fingerprints, etc.) • Explain the implications of the 4th amendment search/seizure in a context • Apply the 5th amendment within a context • Correctly process a mock crime scene as an effective member on a team or "squad" • Assess the quality of the processing of a fictitious crime scene

Significant task 1: Forensic Science

As a whole group, students will discuss what makes forensic science different from other applications of scientific content. A list of legal questions that science may answer will be compiled and recorded by the class. An authentic case will be presented to the class for practice in identifying evidence and the veracity of witness statements. This will lead to opportunities for students to identify physical evidence and inconsistencies between the evidence and the assessment of "the facts" in the case. The status of the case will be shared for student reaction and to provide the context for the entire course.

In a Café conversation setting or other structured small group setting students will answer the following questions or other related questions: 1. What is evidence? And how do you know what evidence is when processing a scene or scenes? 2. Compare the value of physical evidence and eyewitness testimony? 3. What do you think is involved in processing a crime scene and why do we do it? 4. How may evidence become "corrupted" and lose its probative value? The collective answers will be shared in whole group.

As a whole group students will evaluate the limits of eyewitness testimony through programs such as FACES, Shodor online activities or other teacher designed activities. Students may be asked to individually write a description of a famous person or staff member. The descriptive narratives are exchanged among classmates to see if they can identify the person based on the written text provided. Students may use the FACES program to "reconstruct" the person's face as described by their peer.

Timeline: 4 blocks
Key vocabulary: Forensic, criminalistics, physical evidence, veracity, probative value, preponderance, criminal, civil
Resources: FACES software, markers, paper tablecloths, centerpieces, crime scene photos, sketch and notes

Significant task 2: Crime Scene and Warrants

Students work through a Jigsaw activity or other grouping strategy to learn how to process a crime scene (mechanics of the process, details of the sketch, storage of evidence, and chain of custody) The teacher will provide appropriate texts for each component of the process. Each student needs the others information and will verbally share out details as the chosen protocol dictates. Direct instruction will be given on the attributes of a warrant and "fruits of the poisonous tree". This may be face to face instruction or captured via a video technology for personalized pacing.

The teacher will post mock warrants on the class web page for each scene the students will process. Squads will access the appropriate warrant to gain entry into their assigned scene. In squads (3-4 students) students photograph, take notes, measure, sketch and properly collect/catalogue evidence from a mock scene within the building. The squad work may be posted on the class web page for peer/teacher evaluation. Students are not expected to evaluate any evidence at this point in time nor "resolve the crime". The exercise is to understand the judgments and processes associated with collecting evidence and how the quality of the process has enormous influence on the outcome of a case.

Timeline: 3 blocks of 84 minutes

Key vocabulary: grid, warrant, chain of custody, search and seizure, 4th amendment, 5th amendment

Resources: crime scene sketch templates, measuring tape, evidence markers, digital cameras, computers, evidence collection bags and tags, crime scene tape, fictitious evidence

Common learning experiences:

- "Do nows" that explore and develop observations skills (www.dcitybraingames.com penny slide, cow, flamingo picture, etc.)
- Problem Based Learning Strategies
- Walking the grid through a closed Connecticut case
- Assessment of the variation eyewitness statements/descriptions using FACES
- Rotation through evidence stations/evaluation of information different evidence can provide
- Discussion of the limitations of various types of evidence and direct instruction on chain of custody

- Introduction and exploration of the 4th amendment search/seizure laws in context
- Video clip (10-15 minutes) “Fruits of the Poisonous Tree” - OJ Simpson case
- Examining and writing a “search warrant”

Common assessments including the end of unit summative assessment:

- Individual/partner assessments of a fictitious crime scene processing scenario
- Mock crime scene processing including photographs, sketch, evidence log and report (squad/team work)
- Warrant writing/revision

Teacher notes:
Sensitivity to crime scene context-warn students about the context and make arrangements for alternative assignment if there are issues.

Students will want to “solve” the crime scenes they are processing. Remind them this exercise is to sensitize them to the subjective attribute of crime scene processing and the many opportunities for evidence to be corrupted and never get to the jury. There will be many opportunities throughout the course to use their scientific skills to “solve a crime”. Teams also find difficulty in maintaining their specific roles. Frequent reminders are necessary.

The resource officer can provide examples of redacted warrants. The students are generally surprised at the detail of writing involved in this process and the fact the judge may not sign the document. This is an opportunity to speak about “revisions” in writing within the career world.

Windsor Public Schools
Curriculum Map
Forensic Science

Purpose of the Course: The course is designed to demonstrate the application of concepts in biology, chemistry and physics to answer legal queries. Forensic science by its nature is interdisciplinary and calls for the use of skills and concepts in mathematics, civics, world language and a range of reading, writing and presentation skills. The one semester elective will be "gamified" and allow students to "level up" through the acquisition of XP's once mastery is achieved at one level, the student will proceed to the next level of mastery. Content will become more challenging as levels increase and student choice in content/assignments will be available at the upper levels.

Name of the Unit: Trace Evidence and Spatter Unit 2	Length of the unit: 8 blocks (84 minutes)

Purpose of the Unit: This unit introduces students to different kinds of trace evidence and how each is processed, evaluated and used to link a suspect to a victim/location/crime. All students will complete the human hair module and choose two of three other modules to complete. Specialty areas students may choose from include animal fur, fiber evidence or blood spatter to complete this level. Probative value and statistical likelihood of specific trace evidence being found at crime scenes will be examined. Extra XP's and/or badges are available for completing additional modules beyond the first two. This is level three in the course with badge status as "junior lab technician".

Content Standards addressed in this unit:

From Molecules to Organisms: Structure and Processes (Hair/fur modules)
HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out essential functions of life through systems of specialized cells.

Structure and Function-Disciplinary Core Ideas

- Systems of specialized cells within organisms help them perform essential functions of life. (LS1-1)

From Matter and Its Interactions (Fiber module)
HS-PS1-3 Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.

Planning and Carrying Out Investigations-Science and Engineering Practices

- Plan and conduct an investigation individually or collaboratively to produce data to serve as the basis for evidence, and in the design decide on types, how much, and accuracy of data needed to produce reliable measurements and consider limitations on the precision of data and refine the design accordingly. (PS1-3)

Structure and Properties of Matter-Disciplinary Core Ideas

- The structure and interactions of matter at the bulk scale are determined by electrical forces within between atoms. (PS1-3)

Patterns-Crosscutting Concepts

- Different patterns may be observed at each of the scales at which a system is studied and can provide evidence for causality in explanations of phenomena. (PS1-3)

From Motion and Stability: Forces and Interactions (Blood spatter module)

HS-PS2-1 Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and it acceleration

Forces and Motion-Disciplinary Core Ideas

- Newton's second law accurately predicts changes in motion of macroscopic objects (PS2-1)

Cause and Effect-Crosscutting Concepts

- Empirical evidence is required to differentiate between cause and correlation and make claims about specific causes and effects. (PS2-1)

Analyzing and Interpreting Data-Science and Engineering Practices (PS1-1)

College and Career Ready Attributes

Students will demonstrate independence, strong content knowledge, respond to the varying demands of audience, task, purpose, and discipline, comprehend as well as critique, value evidence, and use technology and digital media strategically and capably.

Big Ideas:	Essential Questions:
Human hair and animal fur have similar and yet distinctive characteristics that can be used to identified the source of the hair/fur. Physical and chemical structures of materials dictate the unique reaction/behavior in the presence of other chemicals and may be used to identify the material. Newton's Laws of Motion apply to all objects in motion including blood. Mathematical formulas can be used to reconstruct a blood spatter event and or evaluate the statistical significance of specific evidence.	How do everyday interactions contribute to the evidence available for evaluation in an investigation? How can common objects transferred readily such as hair, animal fur, and fiber evidence have any probative value in a case? What can blood evidence at a crime scene tell an investigator? (Newton's Laws, DNA, blood type, etc.) How does the language of mathematics support scientific and legal investigations?
Students will know: • The basic structures of human hair, medulla, cortex, cuticle, follicle, root ball • The basic structures of animal fur (cat, dog, rat, horse, etc.) • Newton's Laws apply to the fluid dynamics • At least two mathematical methods to locate the point of origin on the donor's body (height above floor where injury	Students will be able to: • Identify human hair among other hair samples and describe the basic structures accurately • Identify animal fur among a sample pool by using specific morphological attributes • Predict the angle of impact of a blood droplet by applying Newton's Laws • Effectively use a mathematical model

exists) • How statistics and probability contribute to the resolving a case • Fibers may be natural, synthetic or a blend of both and have unique chemical and physical properties	(trigonometry or 3 dimensional modeling) to determine how far off the floor the injury is that is the source of the spatter • Examine a series of cases with various trace evidence in common and understand the statistics/probability used to link them • Use the properties of fluorescence, solubility, flammability, chemical reaction to dyes and fiber count to identify the specific kind of fiber evidence and its source

Significant task 1: Human hair All students will complete this significant task. In a whole group students will be introduced to the morphology of human hair, hair growth and the process of creating a standard collection. In teams of two students will work to document/sketch observations of various samples of human hair. Students will create nail casts with clear finger nail polish to assist in identification of cuticle/scale patterns The team will then examine and record characteristics of their own hair. Unknown samples may be available for matching as a mechanism to assess mastery in this module. Timeline: 2 blocks of 84 minutes Key vocabulary: medulla, cortex, cuticle, pigment granules, interrupted medulla, continuous medulla Resources: Prepared slides with a range of human hair samples including treated hair, microscopes, clear nail polish, slides and cover slips.
Significant task 2: Animal fur (Student choice module) In a small group students will compare the morphology of various animal fur characteristics with human hair. In teams of two students will work to document/sketch observations of various samples of animal fur. The team will then examine and record characteristics of their own hair. Unknown samples may be available for matching as an extension. Students will summarize what they have learned on video or screencast to provide other classmates access to the content. Timeline: 2 blocks of 84 minutes Key vocabulary: medulla, cortex, cuticle, pigment granules Resources: Prepared slides with a range of animal fur samples including treated hair, microscopes
Significant task 3: Fiber evidence (Student choice module) In teams of 2-4 students will explore how various fibers (natural, synthetic, blends of polymers) behave when introduced to a common chemical (black or brown dye). Based upon those observations students

will develop their own questions to investigate about the polymers which may include solubility, flammability, thread count, fluorescence, behavior in other dyes, structural formulas, etc. Squads or teams will share out their observations and all students will document the content for future use in investigations. Students will summarize what they have learned on video or screencast to provide other classmates access to the content.

Caution: 6 M HCl and 6 M NaOH are caustic and must be used with extreme caution under a properly functioning hood with goggles and other safety precautions. Direct supervision by the teacher is absolutely necessary for this exercise if it is offered.

Timeline: 2 blocks of 84 minutes

Key vocabulary: polymer, synthetic polymer, natural polymer, blend polymer, flammability, solubility, fluorescence, structural formula, thread count

Resources: multi-fiber ribbon kit, magnifying glasses or stereoscopes, metric rulers, tweezers, unscented tea lights, matches, 6 MHCl/6 M NaOH, hood, test tubes, stirring rods, uv handlights appropriate UV goggles.

Significant task 4: Blood spatter (Student choice module)

In teams of 2-4 students will explore the patterns simulated blood makes falling from different heights and angles. Connections will be made to the inertia and momentum of fluids in motion like blood droplets and how inertia influences the shape of the droplet. Through direct instruction students will learn the trigonometry involved in using the shape of a spatter droplet to determine the angle of impact and subsequently the height from which the spatter originated. Students will practice measurements and calculations in a dry lab mock up before beginning the performance assessment. As a performance assessment, teams will be given a spatter pattern and select a series of droplets (at least 10) from which they will determine the point of origin. Students may use straightforward trigonometry once the droplet ratios are obtained or create a three dimensional model using string to determine the point of origin. Students will summarize what they have learned on video or screencast to provide other classmates access to the content.

Timeline: 2 blocks

Key vocabulary: spatter, sine, arc sine, inertia, momentum, projectile

Resources: Scientific calculators/trig tables, simulated blood, string, meter sticks, metric rulers, tape, various surface samples (tile, flooring, rugs, glass, paper)

Common learning experiences:

- Human hair direct instruction and investigation
- Review of slide preparation and microscope protocols
- Direct instruction of the Locard's Principle
- Statistical analysis of trace evidence (Wayne Williams Case)
- Video clips TBD
- Creation and review of screencasts/videos

Common assessments including the end of unit summative assessment:

- Human hair portfolio
- Animal fur portfolio (if this module is selected)
- Fiber examination portfolio (if this module is selected)
- Blood spatter reconstruction including procedure, pictures and calculations to support conclusion (if this module is selected)
- Screencasts/videos demonstrating evidence of understanding in elective modules

Teacher notes:
This is the first unit where students have some choice in the modules they engage in. It would be beneficial to give a brief overview of each module and the corresponding significant task before students make their selection. Be sensitive to instructional timing as this will also be the students' first time producing instructional videos or screencasts and technical issues and edits should be anticipated.

It is advisable to have standard samples of human hair, fur and fiber prepared in advance. Organizers from hardware stores that are used to store nails, picture hangers, etc. make for great storage devices for these prepared slides. Each drawer can house a specific exemplar. Students/colleagues have access to all sorts of animal samples and should be encouraged to add to the collection.

For the blood spatter module, students who select the most arrow droplets versus the round ones will get the most precise results. Remind students not to include the "tail" of the droplet when recording measurements. It is helpful to take some time when doing the dry lab to ensure students are using the ruler correctly and starting to measure from the first hatch mark and not the end of the ruler and they are correctly entering the measurements into their calculators.

The teacher may want to consider adding glass evidence as a module choice and have students design an investigation using Archimedes' Principle to evaluate density of samples and continue with a refraction investigation.

Windsor Public Schools
Curriculum Map
Forensic Science

Purpose of the Course: The course is designed to demonstrate the application of concepts in biology, chemistry and physics to answer legal queries. Forensic science by its nature is interdisciplinary and calls for the use of skills and concepts in mathematics, civics, world language and a range of reading, writing and presentation skills. The one semester elective will be "gamified" and allow students to "level up" through the acquisition of XP's once mastery is achieved at one level, the student will proceed to the next level of mastery. Content will become more challenging as levels increase and student choice in content/assignments will be available at the upper levels.

Name of the Unit: Leaving an Impression Unit 3	Length of the unit: 7 blocks (84 minutes each)
Purpose of the Unit: The purpose of this unit is to explore the shift from the use of Bertillon measurements to the use of fingerprint evidence to identify a specific individual. This will serve as an example of how advancements in science and technology change how investigations unfold and what evidence has the greatest value. Students will study the chemistry and biology behind fingerprints and the various processes available to make the invisible visible on a variety of surfaces. All students will complete the fingerprint module and then choose from one of two other modules: tool marks or or footwear impressions. This is level four the course with badge status as "senior lab technician".	

Common Core State Standards Addressed in the unit:

From Molecules to Organisms: Structure and Processes
HS-LS1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells. **(Fingerprint module)**

Science and Engineering Practices:

- Constructing Explanations and Designing Solutions (HS-LS1-1)

Disciplinary Core Concept:

- All cells contain genetic information in the form of DNA molecules. Genes are regions in the DNA that contain the instructions that code for the formation of proteins, which carry out most of the work of cells.

College and Career Ready Attributes: Students will demonstrate independence, strong content knowledge, respond to the varying demands of audience, task, purpose, and discipline, comprehend as well as critique, value evidence, and use technology and digital media strategically and capably.

Big Ideas:	Essential Questions:
The uniqueness of fingerprint pattern to a specific individual makes it a valuable piece of evidence. Evidence with enormous probative value may be invisible to the naked eye but can be retrieved/developed through the use of chemistry. Many ordinary products leave impression evidence behind and can link a suspect to a crime scene/victim.	How does the advancement of science and technology change the probative value of evidence? If there are three categories of fingerprints: loops, whorls and arches, how can a fingerprint be unique to an individual? How can consumer products like shoes, tires and tools link a suspect to a scene/victim?
Students will know: • The chemical composition of a fingerprint • The three basic categories of prints • What minutiae characteristics are and the names of the most common ones • How the AFIS system "matches" a print • An human expert is still needed in court to testify a print is a match • The factors that influence the appearance of a fingerprint • What is not looked for will not be found • Footwear, tool mark and tire impression evidence can be important physical evidence • Class and identifying characteristics of footwear	Students will be able to: • Develop fingerprints identifying and using the appropriate technique: magnetic and or powder dusting, superglue fuming, ninhydrin (iodine sublimation demo only) • Identify the characteristic pattern given a print • Calculate the frequency of each print in the class population and the percent error against accepted frequency in the general population • Identify the donor of an unknown print against a sample of known prints (fingerprint, footwear print, tire impression, tool mark)

Significant task 1: Bertillon System and Fingerprint Evidence

Students in teams will explore the flaws of the Bertillon measurement system by creating Bertillon cards and answering guiding questions about the limitation of this identification system used in a pre-TV, pre-computer, pre-internet environment. As a whole group the downfall of the Bertillon system of measurement will be reviewed using the Will/William West case. Students will be introduced to the basic characteristics of fingerprints, minutiae and the frequency of each in the general population. Each student will roll their right thumb print, categorize it and post it for analysis and frequency calculations. Students will work in teams of two to create individual fingerprint portfolios to display their ability to develop/retrieve prints from various items and surfaces. Some students will need repeated trials to lift or develop good quality prints. (Caution: masks must be used when dusting for prints as the black powder and magnetic dusts may trigger respiratory events. Black powder is extremely messy and tracks easily around the building) Complete the task with a whole group debrief on the probative value of fingerprint evidence versus Bertillon measurements.

Timeline: 3 blocks of 84 minutes

Key vocabulary: loop, arch, whorl, minutiae, sublimation

Resources: magnetic dust, various powders, non-latex gloves, brushes, magnetic brushes, lifing tape and dispensers, fingerprint standards, index cards, print samples, superglue, fuming tank or fish tank, coffee warmer, aluminum foil, alternative light sources and goggles. (ninhydrin and iodine for teacher demos)

Significant task 2: Footwear impressions (Student choice module)

In small groups students will create relief impressions of their own shoes using baby powder, carbon paper and newspaper. The small group will receive direct instruction in class/identifying characteristics using student exemplars as reference points. Exemplars will be displayed with brand name, shoe size with class/identifying characteristics noted. Team will research other methods of retrieving footwear impressions including electrostatic retrieval, casting methods, photographic preservation and lifts. Students may practice casting methods with dental stone. Connections may be made to other items such as tires that leave similar impression and may serve as valuable evidence in an investigation. Students will summarize what they have learned on video or screencast to provide other classmates access to the content.

Timeline: 3 blocks

Key vocabulary: electrostatic, class characteristics, identifying characteristics, endothermic, exothermic

Resources: carbon paper, baby powder, newspapers, casting frames, dental stone, spatulas, hairspray, mixing bowls, soil and aluminum trays for casting, digital camera

Significant task 3: Toolmarks (Student choice module)

Students will examine different sets of like tools and observe/record how they leave unique striations in tin, wood, soap or other materials selected by the teacher. Unknown samples will be available for matching. Students will summarize what they have learned on video or screencast to provide other classmates access to the content.

Timeline: 3 blocks

Key vocabulary: striation

Resources: tool sets, materials including tin, wood, soap and unknown samples

Common learning experiences:

Bertillon card production
Direct instruction on the function of the organ called skin, the chemical composition of sweat and the anatomy of a fingerprint
Direct instruction on the physical and chemical retrieval mechanisms
Fingerprint development/practice/retrieval
Creation and review of video/screencasts – 1 block

Common assessments including the end of unit summative assessment:

Fingerprint portfolio
Video/screencast of optional module
Digital media product for student choice module
Mini-whodunit incorporating content from Units 1, 2 and 3.

Teacher notes:

Caution! Carbon powder may trigger asthmatic attacks and masks are recommended.
Superglue tank needs proper ventilation and direct supervision.

It is helpful to have a series of “known suspect” fingerprints available on FBI cards, ask staff members if they would be willing to “donate prints” for use in “whodunits”.

Windsor Public Schools
Curriculum Map
Forensic Science

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Name of the Unit: Skeletal Evidence Unit 4	Length of the unit: 8 blocks of 84 minutes
Purpose of the Unit: The purpose of the unit is for students to learn about the function and structure of the human skeletal system and how it can provide an enormous amount of information about the identity of a person including age, health, gender, ancestry, hobbies and economic status. Students will also learn that some skeletal differences among the gender groups and racial groups are ordinary. This level 5 in the course and students are eligible for the badge status of "Windsor CSI". Additional badges/XPs/privileges may be available for extended learning in skeletal remains of animals, reading/critiques of books approved by the teacher.	

Common Core State Standards Addressed in the unit:

From Molecules to Organisms: Structure and Processes

HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.

- Systems of specialized cells within organisms help them perform essential functions of life (LS1-A)
- All cells contain genetic information in the form of DNA molecules. (LS1-A)
- Feedback mechanisms maintain a living system's internal conditions within certain limits and mediate behaviors, allowing it to remain alive and functional even as external conditions change within some range.(LS1-A)

HS-LS3 Heredity: Inheritance and Variation of Traits
HS-LS3-3: Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.

- Environmental factor also affect the expression of traits, and hence affect the probability of occurrences of traits in a population. Thus the variation and distribution of traits observed depends on both genetic and environmental factors. (LS-B)

College and Career Ready Attributes
Students will demonstrate independence, strong content knowledge, respond to the varying demands of audience, task, purpose, and discipline, comprehend as well as critique, value evidence, and use

technology and digital media strategically and capably.

Big Ideas:	Essential Questions:
The skeletal system protects soft organs and is a framework for the muscular system. Some differences are ordinary Hobbies, diet, genetics, historical context and economic status influence wear and tear on the skeletal system throughout one's lifetime Regression formulas can be used to reconstruct the height of a person when skeletal remains are available Skeletal remains can also be evidence in criminal cases	How can skeletal remains tell a story about a person's life and death? Why are skeletal traits different depending upon ancestral origin? How will human skeletal evaluation change over time as the world becomes smaller? How can non-human remains be important evidence in a criminal case?
Students will know: The function of the skeletal system. The major skeletal features used to determine gender including skull features The names of the major bones in the body, especially those used to determine gender and race. Know the species most vulnerable currently to poaching	Students will be able to: Identify the race, gender, age, height, handedness, hobbies/career from skeletal clue and regression formulas Identify individuals in their class based upon skeletal evidence. Use the correct nomenclature for major bones in the body including the skull Identify the sources that are available to assist in the evaluation and identification of skeletal remains Analyze the remains of poaching crimes

Significant task 1 – Human Skeleton Basics Students in small groups or teams of two are given a reference of the human skull with major bones and sutures labeled. They are also provided with sketches of a male and female skull. Using the reference

students are asked to use the correct nomenclature to distinguish between the genders with at least 10 pieces of evidence. After students conclude this activity direct instruction will continue to highlight other indications of a particular gender including but not limited to the pelvic structure and y chromosome fluorescence test. The teacher demonstrates the "pencil tests" for racial identification using a reproduction of a human skull and the students will work in groups of three or four with sketches of these skulls to compare and contrast the features of the three racial anthropological categories: caucasoid, mongoloid and negroid. Again students must use the appropriate nomenclature in completing the task and cite at least 10 differences among the three groups. Whole group discussion about the reasons supporting structural differences should be guided by the teacher with an emphasis on structural differences being ordinary. Block two may be "closed" via a whip around, geometric exit slip or any other reflection technique. (See teacher notes).

Timeline: 2 blocks of 84 minutes
Key vocabulary: Caucasoid, negroid, mongoloid, regression formula, mandible, maxilla, zygomatic process, frontal bone, occipital bone, parietal bone, mastoid process, occipital protuberance
Resources: gender and racial skull references diagrams with labels of sutures and bones.

Significant task 2: "Windsor Warrior Skeletons"
As a whole group students brainstorm the evidence skeletal remains may afford. The obvious characteristics will emerge early: gender, age, height, dental history leading to possible identification. Through the use of a mini-case student of a sample skeleton the teacher may tease out other characteristics: health, handedness, economic status, hobbies or employment. Students will be work in pairs to take measurements of their long bones (femurs) and enter their data into an excel sheet to predict approximate height of a person. Class will debrief the accuracy of the estimations in a whole group setting and discuss the use of regression formulae and limitations presented by these formulae. Following this activity the students will evaluate descriptions of a series of "Windsor Warrior Skeletons" representing peers in their class with ossification evidence, dental evidence, long bone measurements, bone fractures, sketches of pelvic/skull evidence, Y-chromosome fluorescence test results, and bone wear to analyze.

Timeline: 2 blocks
Key vocabulary: fusion, cranial sutures, ossification, zygomatic process, nasal sill, femur, tibia, fibula, Y-chromosome fluorescence test, skull sutures, condyles, regression formula,
Resources: parents/families, measuring tape ,computer access, excel sheet, regression formulas, human skull model

Significant task 3: Yellowstone Park Mystery
Students in small groups are presented with a poaching crime scene and physical evidence to evaluate. Students will investigate research and determine if a crime has been perpetrated. They will produce an investigative report with a choice in format: Windsor Production, written format or oral presentation with appropriate supporting visuals that may include a slideshow, a screencast or other digital media. Each product must have a specific audience: DEP, general public, prosecutor, park ranger, etc.

Timeline: 4 blocks of 84 minutes
Key vocabulary: poaching, Department of Environmental Protection, prosecutor
Resources: case study, physical props for investigation of the case

Common learning experiences:

Direct instruction in the function of the skeletal system and basic skeletal structures, distinguishing features and tests used to evaluate skeletal remains.

Measure and document students' own long bones, calculate height based upon the use of regression formulas. Measurements will added to a data base.

Interpretation of ossification charts to determine age

Article/video clip on Bill Bass and the Body Farm

Poaching case study

Possible guest speaker: Nick Bellatoni, CT State Archaeologist or Forensic Artist/Facial Reconstructionist from the State Crime Lab in Meriden

Viewing other video clips-TBD

Common assessments including the end of unit summative assessment:
(Provide link to assessments and rubrics.)

Gender and Race Skull Compare/Contrast evaluations
Regression formula study-reconstructing heights from the length of femur bones
Windsor Warrior Skeleton Activity
Product from poaching investigation

Teacher notes:
Prepare consent form for participants in Windsor Warrior Skeleton Lab
Investigate other skeletal investigation kits: Ward's Scientific

Closure ideas:
The Whip Around: Each student writes down 3 things he or she has learned on an index card. When all the students have the list complete everyone stands. The teacher randomly calls on students to read an item off their list. Students cross off any item on their list once it has been announced. The process continues until all students have crossed off each of the items and are seated. Good review for Task 2 as it is rich in content and this provides a review.

Geometric Exit Slip:
Pre-print slips with three figures: a circle, a square and a triangle
The students write a connection they made to the content next to the circle, something new they learned next to the square, a question they have or change they would have made to their work next to the triangle.

Windsor Public Schools
Curriculum Map
Forensic Science

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Name of the Unit: Toxicology Unit 5	Length of the unit: 8 blocks/84 minutes each
Purpose of the Unit: The purpose of this unit is to learn about the concept of chemical toxicity. Students will learn about the history of toxicology and how it is a quantitative science. During the unit students will learn about how toxins/poisons are detected, what physiological effects the have on the body and examples of contemporary events/cases. This level 6 in the course with the badge status of "Forensic Toxicologist". Additional badges/XPs/privileges may be earned by reading and critiquing novels/true crime stories approved by the teacher, investigate and report on a poison or toxin, or writing a "whodunit" in collaboration with the teacher for use in another section of forensics.	

Common Core State Standards Addressed in the unit:

Matter and Its Interactions

HS-PS1-2 Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table and knowledge of the patterns of chemical properties.

Chemical Reactions-Disciplinary Core Ideas

- The fact that atoms are conserved, together with knowledge of the chemical properties of the elements involved, can be used to describe and predict chemical reactions.

HS-PS1-8 Develop models to illustrate the changes the composition of the nucleus of the atom and energy released during the processes of fission, fusion, and radioactive decay.

Nuclear Processes-Disciplinary Core Ideas

- Nuclear processes, including fusion, fission, and radioactive decays of unstable nuclei, involve release or absorption of energy. (HS-PS1-8)

HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

Structure and Function-Disciplinary Core Ideas

- Multicellular organisms have a hierarchical structure organization, in which any one system is made up of numerous parts and is itself a component of the next level. (HS-LS1-2)

Systems and System Models-Crosscutting Concepts

- Models (physical, mathematical, computer) can be used to simulate systems and interactions

including energy, matter and information flows within and between systems at different scales. (HS-LS-2)

HS-LS1-3 Plan and conduct an investigation to provide evidence that feedback mechanism maintain homeostasis.

Structure and Function-Disciplinary Core Ideas

- Feedback mechanisms maintain a living system's internal conditions within certain limits and mediate behaviors, allowing it to remain alive and functional even as external conditions change within some range. Feedback mechanisms can encourage (through positive feedback) or discourage (through negative feedback) what is going on inside the living system. (HS-LS1-3)

College and Career Ready Attributes: Students will demonstrate independence, build strong content knowledge, responsiveness to the varying demands of audience, task, purpose, and discipline, value evidence, use technology and digital media strategically and capably.

Big Ideas:	Essential Questions:
Anything can be a poison. "All substances are poisons. There is none which is not. The right dose differentiates a poison and remedy." Paracelsus (1495-1541) Swiss physician and chemist Toxicology is quantitative in nature and scientific evaluations can determine if the poisoning is intentional or accidental. Poisons are stealthy weapons but can be detected. Poisons are detected through a variety of quantitative chemical techniques and diagnosis of symptoms. The danger of using alcohol and how quantitative levels of alcohol correlate to the legal definitions of intoxication.	How can a substance necessary to sustain life become a poison? How do we determine the difference between accidents and intentional harm? How has the use of poisons changed over time? What do poisons have in common as it relates to cellular metabolism? How can blood levels of alcohol be detected, and analyzed to determine levels of intoxication?
Students will know:	Students will be able to:
That forensic toxicology is the science of drugs and poisons and the medicolegal consequences of their use Relationship between quantity of a potential toxin and the detrimental effects of that toxin. History of toxicology and how technology is improving our detection of toxins A poison is a stealthy weapon but can be detected.	Explain how common poisons/toxins interfere with cellular metabolism and the symptoms associated with each Communicate and defend a scientific argument Investigate, graph and discuss the connection among ethanol levels to the law, incapacity and the BAC level.

Structure of a toxin dictates how it will function in the body, how it can be detected and the effects on cell structures.	Draw conclusions about the contribution of a toxin as a cause of death, a contributing factor to a death, a cause of impairment or an explanation of a person's behavior

Significant task 1: As a whole group the class observes a simulation or demonstration of how a poison interrupts cellular function. Direct instruction informs students about the mechanics of various poisons: heavy metals, alkaloids, radioactive materials. Connections may be made to the summer reading book: *The Devil's Rooming House*. Following this instruction and the first three common learning experiences students in a jigsaw read and report out on historical time periods of Napoleon's life to set the stage for a case study. Students in small groups share clues about the death of Napoleon and determine if the death was intentional, accidental or a medical malpractice based upon the evidence presented. Students must use the evidence to support their findings.

Timeline: 2 blocks

Key vocabulary: arsenic, toxicology, Gosio's Disease, carcinogen, chronic, acute, dosage, toxin, poison, enzyme, cellular respiration

Resources: Serial Killers in History/History Channel from crime library.com, Napoleon Case Study

Significant task 2: Poison Jigsaw - Mini Research Project
Students work through a Jigsaw activity to learn about toxicology. The class will be divided into three expert groups (1.) history of poisoners, (2.) detection of poison, (3.) research specific poisons including plant toxins and poisonous animals for the case study. The teacher will provide appropriate texts for each component of the process. The students will be organized into "home" and "expert" groups. Students will be responsible for "specializing" in their topic and teaching their material to the students in their "home" group. This home group is will then work together on each of the unit tasks, and the expert roles will continue through the unit. In the gamification model these "home" groups will be identified as an investigation team, with each student investigator being responsible for different parts of the unit investigations.

Timeline: 2 blocks
Key vocabulary: toxicity, poison (lead, heavy metal), neurotoxin, lethal dose 50, forensic toxicology, hemlock, arsenic, rincin, dioxin, botulin toxin, venom, immunoassay, chromatography
Resources: articles (the bite that heals (http://ngm.nationalgeographic.com/2013/02/venom/holland-text), forensic toxicology resources (textbooks, articles), websites (www.atsdr.cdc.gov, http://sis.nlm.nih.gov/enviro/toxtutor.html)

Significant task 3: Ethanol and crime scene investigation

The class stands as the teacher announces a series of distractions common among drivers. Individuals sit when they hear a distraction they have engaged in as a driver. The list continues until all students are seated. In teams of two students explore what this means in terms of reaction time by using a BAC simulator. Students calculate the total stopping distance of a car when sober and then after ingesting some ethanol. Depending upon the season students may go outside and measure the two distances versus graphing it on paper. BAC results should be captured and graphed collectively for display and further discussion about gender and ethanol absorption/elimination. A follow up activity on absorption/elimination of various experienced drinkers prompts further conversation about similarities and differences among people. (See resource list) As a whole group students view the behavioral changes of adults driving in a controlled study after ingesting ethanol. Students in small groups solve the case of the "Cough Syrup Defense" and defend or refute the defense of the driver arrested for DUI or another authentic case.

Timeline: 3 blocks

Key vocabulary: elimination, peak absorption, stopping distance, breaking distance, reaction time, blood alcohol concentration (BAC)

Resources: BER workbook pp 78-79, BAC reaction time CD, NH Department of Public Safety Video. Cough Syrup Defense Case-*CRASH! The Science of Collisions*.

Common learning experiences:

- Reading and discussion of *The Death of Alexander Litvinenko*, ChemMatters, April 2007.
- Direct instruction of vocabulary used in forensic toxicology.
- Toxic Tales reading exercise with guiding questions
- Plant Pigment Chromatography Lab-botanical evidence
- Book/Content Pass - introduce the different historical connections to poisoning/ toxicology

Common assessments including the end of unit summative assessment:

- Napoleon Case Study
- Chromatography laboratory investigation
- Toxic tales responses
- The Cough Syrup Defense
- The Case of Two Sick Dogs, 3 days Kathy Hoppe, Instructional Specialist in Science from the National Center on Teaching Through Case Studies: http://sciencecases.lib.buffalo.edu/cs/collection/

Teacher notes:
It is important to identify roles and develop an atmosphere of collaborative learning. Designing and

maintaining groups with appropriate daily feedback is key to supporting student collaboration. Problem based learning - http://www.studygs.net/pbl.htm

Napoleon case study requires folders, scissors and glue to facilitate the clue sharing.

The Case of Two Sick Dogs, case study is the summative assessment for the unit and it will require two class periods. The plant chromatography lab can be used as an opening activity to introduce the plant vocabulary and detection techniques for the case study.

Windsor Public Schools
Curriculum Map
Forensics

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Name of the Unit: DNA Unit 6	Length of the unit: 10 blocks/84 minutes
Purpose of the Unit: The purpose of this unit is for students to understand the structure of the DNA molecule, its function and its unique ability to identify an individual from the general population. Students will learn about the DNA molecule, how it is processed to form a "fingerprint" and how to interpret the results of gel electrophoresis test. Students will solve legal questions by interpreting dry lab and wet lab DNA electrophoresis results. This laboratory experience will be applied to current investigations in Connecticut where DNA evidence is used to exonerate the unjustly accused and convicted. Extension activities on contrasting mitochondrial DNA, structure, function and probative value with nuclear DNA will be available. This level 7 in the course with the badge status of "special agent". Additional XPs/badges/privileges may be earned through reading/critiquing novels or true crime stories approved by the teacher or writing/filming a context for a whodunit in collaboration with the teacher for use in another section of forensics.	

Common Core State Standards Addressed in the unit:

HS-LS1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.

Science and Engineering Practices:

- Constructing Explanations and Designing Solutions (HS-LS1-1)

Disciplinary Core Concept:

- All cells contain genetic information in the form of DNA molecules. Genes are regions in the DNA that contain the instructions that code for the formation of proteins, which carry out most of the work of cells.

Structure and Function:

- Investigating or designing new systems or structures requires a detailed examination of the properties of different materials, the structures of different components, and connections of components to reveal its function and/or solve a problem.

College and Career Ready Attributes:
Students demonstrate independence, build strong content knowledge, value evidence, use technology and digital media strategically, and understand other perspectives and cultures.

Big Ideas:	Essential Questions:
Most human cells contain nuclear DNA. The DNA fingerprint of a person is unique to that person (except identical twins). A very small amount of DNA can be amplified to "run a gel" and identify an individual. Mitochondrial DNA is inherited from the maternal side of the family.	Why does the DNA molecule have strong probative value? What processes allow scientists to "fingerprint" a DNA sample? Is it possible for mitochondrial DNA to have any probative value? Why is mitochondrial DNA different than nuclear DNA?
Students will know:	Students will be able to:
The structure location and function of nuclear DNA. The DNA molecule is unique to each individual (except identical siblings). Where DNA evidence may be found and collected at a crime scene. How DNA is "digested" and processed to create a fingerprint. The difference between nuclear and mitochondrial DNA. The advent of DNA evidence has led to the release of innocent people from incarceration and the resolution of "cold cases".	Describe the function of the DNA molecule and how it relates to the cell, the nucleus, a chromosome, and a gene Explain the process of DNA fingerprinting Analyze the results of a gel electrophoresis test Conduct a gel electrophoresis wet lab and interpret the results correctly Compare and contrast nuclear and mitochondrial DNA including the probative value of each Refer to the links below. Discuss the societal benefits and legal/moral implications of the "Innocence Project"

Significant task 1: DNA as evidence

Students will use a Micro Lab grouping strategy to review the basic structure, role, function of the DNA molecule. Direct instruction will occur to the extent needed to ensure all students understand the location, function and probative value of the DNA molecule. Several interactive

applets/simulations/videos can reinforce these key concepts. Class discussion should guide students to think about the variety of sources DNA evidence may be retrieved from including envelopes, chewed gum, toothbrushes, etc. Students in pairs explore the process of DNA fingerprinting and practice interpreting DNA evidence on paternity and dry lab crime scene simulations. In small groups students will run gel electrophoresis tests to solve a crime or paternity test. Students will prepare written lab reports explaining the process and analysis.

Timeline: 3 blocks/84 minutes each

Key vocabulary: nuclear DNA, gel electrophoresis, restriction enzyme, PCR, mitochondrial DNA, exoneration

Resources: pre-digested DNA kit for analysis, gel chambers, buffer solution, power packs, gel trays, computer access, dry lab cases, video clips, YouTube video or Khan Academy video review of the DNA molecule, structure and function, Micro Lab protocol available at www.nsrfharmony.org, Paternity test simulation kit http://www.edvotek.com/114

Significant task 2: The Innocence Project

Students will visit the Innocence Project website and select two cases, one of current case where an appeal is underway to exonerate an accused person and a successful case where a wrongly accused person was exonerated through the Innocence project. Students will compare and contrast the process, evidence of the cases and discuss implications to science and jurisprudence. Reports on the cases may be in written format, as an oral presentation with appropriate visual tools or in a video format A visit from a Connecticut Innocence Project attorney may be scheduled to inform the students how the Project is in action in Hartford.

Timeline: 2 blocks/84 minutes each
Key vocabulary: exonerate, burden of proof, Innocence Project
Resources: Internet access, http://www.innocenceproject.org/

Significant task 3: Mitochondrial DNA (optional module)

Students are introduced to the genetic origins of mitochondrial DNA, this may be done in a whole group or through an individual reading assignment. In a whole group discussion students will compare and contrast the structure, function and probative value of nuclear versus mitochondrial DNA. A graphic organizer may be provided to organize this work. Students will investigate the historical use of mitochondrial DNA evidence in the post Peron era in Argentina to re-unite families. In pairs the students will complete the dry lab investigation, The Power of Mitochondrial DNA-The Case of Disappeared Children of Argentina.

Timeline: 2 blocks of 84 minutes
Key vocabulary: maternal, mitochondrial DNA, Juan Peron

Resources:
http://enotes.com (Disappeared Children of Argentina) and (Mitochondrial DNA Analysis)
http://geneticorigins.org/mito/mitoframeset.htm

BioinformaticsBank-Mitochondrial DNA lab and answer key at http://teachingbioinformatics.fandm.edu

Common learning experiences:

- Review of the structure and function of the DNA molecule
- Viewing of Paul Andersen's video on DNA fingerprinting
- Clarification of the relationship among the nucleus of the cell, the chromosome, the DNA molecule and a gene
- Computer simulation of gel electrophoresis at http://learn.genetics.utah.edu/content/labs/gel/
- Bank heist-solve a crime with DNA http://www.pbs.org/wnet/dna/pop_soup/index.html
- Mitochondrial DNA analysis (student choice-see Significant task 3).

Common assessments including the end of unit summative assessment:
(Provide link to assessments and rubrics.)

- Dry lab paternity test simulation
- Crime lab simulation with DNA analysis
- DNA gel electrophoresis lab report
- Innocence Project report
- Case Study –Disappeared Children of Argentina
- At the conclusion of Unit 6 all students will participate in a large scale "whodunit" the context of which will change each semester, but will include content from all units. Students will have opportunities to work alone and on "squads" for different components of the assessment. 3 blocks

Teacher notes:

Students will have studied DNA in biology class but may need support in understanding the structure, role and function of the molecule and it the weight of its probative value. If this is the first time the students have operated under a Micro Lab protocol, it is advisable to practice the protocol with prompts that are not content specific before proceeding with the science content questions.

See Paul Andersen's You Tube video on DNA fingerprinting (May 12, 2012) as a resource for the entire class, for those students in need of additional support or for those students who were absent during the direct instruction.

For the optional mitochondrial DNA module it would be helpful for the students to research the basic dynamics of the Peron and Post-Peron era in Argentina to understand the context behind the use of mitochondrial DNA to return children to their biological families.

Windsor Public Schools				
Curriculum Map				
Forensic Science				
Explanation of Gamified Units and Terms				
Unit	**"Gamified" Level**	**Badge Status at the Completion of Unit**	**Special Badges to represent XP points**	
1: Walking the Grid	1 and 2	Flatfoot, Investigator	Problem Based Learning Specialist	
2: Trace Evidence and Spatter	3	Junior Lab Technician	Fur Specialist, Fiber Specialist, Blood Splatter Specialist, Video Specialist	
3: Leaving an Impression	4	Senior Lab Technician	Footwear Specialist, Toolmarks Specialist	
4: Skeletal Evidence	5	Windsor CSI	Animal Skeletal Specialist, Library Specialist, Whodunit Specialist	
5: Toxicology	6	Forensic Toxicologist	Plant Detective, Forensic Historian, Animal Toxin Specialist	
6: DNA	7	Special Agent	True Crime Specialist	
	some special badges are available in mutiple units - Library, Whodunit, Video			
Helpful Definitions:				
gamification	using game-like thinking and elements in places that aren't traditionally games; use of			
	game mechanics and dynamics to improve student motivation			
level up	increase in skill level after mastery of previous level			
XPs	experience points; rewards for mastery/completion			
badges	earned at the completion of a level to represent a student's status and level of completion			

BUDGET INPUT FORM DIVISION: High School

TEXTBOOK ADOPTION SITE: Windsor High School

WPSD DEPARTMENT: World Languages

FISCAL YEAR: 2012-2013

SUBJECT AREA: World Languages

GRADES: 9-12

IDENTIFIED NEED AS APPROVED BY THE CURRICULUM COUNCIL:

- Current textbook is over 10 years old. It is outdated in the information and pictures. It is not relevant. Websites for internet activities do not exist. Communicative activities are limited. Culture is also very limited. Current textbook is not engaging for our students. Current textbook is also not aligned to the ACTFL National Standards. Grammar exercises sometimes don't make sense and are confusing. Audio activities are outdated, confusing and irrelevant for students and teachers.

QUANTITY: 100

ESTIMATED ITEM COST: $8, 958.80

ESTIMATED SHIPPING CHARGES: $940.67

PROPOSED BUDGET: $9,899.47

TOTAL: $9,899.47

PREPARED BY: Blanca Jaramillo Date: 20 June 2021

Note:
This is the final level of the series used in the middle school and the high school for Spanish 1-3.

DATE: **April 10, 2013** NAME: **Blanca Jaramillo** AREA: **World Languages**

AGENDA ITEM: Spanish 4 textbook

Background/Identified Need:
Textbook series was completed in 2011-2012 for Spanish 3. Current textbook for level 4 is outdated, irrelevant, literature based, aligned with old ACTFL standards, communicative activities and Internet activities are limited. Ancillary materials are a writing and audio activities workbook. Listening activities are limited and confusing for students. There are not video activities. Audio assessments occur every 2 units of study. Students cannot relate to themes in the textbook. There is no integration of skills.

Proposal for Change:
The Avancemos series is used in the middle school and the high school up to level 3. At the time of the proposal, we did not expect to add the level 4 textbook. With the success of the series, and the changes to the AP Spanish Language for the 2013-2014 school year, students need to be exposed to topics that are engaging, relevant, and performance based. The Avancemos 4 series offers structure in their chapters, comparisons to other cultures, vocabulary and vocabulary in context, listening activities, online practice and grammar explanations, reading strategies, video vignettes, literary selections, connections with other disciplines, writing and cultural activities.

Student Outcomes:
Students are expected to be more engaged with an updated textbook series. Oral communication is expected to be more common in the lower level since a lot of the textbook and ancillary materials are geared towards communication. Culture is a big part of this textbook so students are expected to have to gain a better understanding of Hispanic cultures.

Relation to Board of Education Goals and Mission Statement:
By studying another language students get a better understanding of other subjects. Students learn Spanish by reading, writing and speaking. Students will improve this in their English reading and writing skills because they will also do it in Spanish.

Timeline (Significant deadlines):
Would like to purchase textbook before the end of the year, so that teachers can plan their lessons over the summer with the new textbook.

Budget Implications: $9,899.47 for 100 books.

Estimated Time of Presentation to Curriculum Council: 10 minutes (max)

Information and Materials Needed by Council Members to Participate in an Informed Discussion: None

CLASS SCREENING FORM FOR NOMINATING STUDENTS FOR GIFTED IDENTIFICATION

Teacher _____ **Date** _____

This form is intended to help you think critically about the talents and abilities of the students in your class. When you think about them as a group, which students stand out? For each item below, write the names of up to 3 students in your class who first come to mind. The same student may be listed multiple times. You do not need to fill in every space if no student, or fewer than three, comes to mind for a particular item. When you have completed this form, please complete a Teacher Rating Form on your student(s) whose name(s) appeared most frequently (at least 6 times).

1. Achieves on a superior level in:
   - Reading _____ _____ _____
   - Writing _____ _____ _____
   - Math _____ _____ _____
   - Science _____ _____ _____
   - Verbal Communication _____ _____ _____
2. Is unusually inquisitive, curious _____ _____ _____
3. Accurately uses an extensive vocabulary _____ _____ _____
4. Quickly masters and recalls information _____ _____ _____
5. Generates unique ideas, original variations _____ _____ _____
6. Is a self-starter, is internally motivated _____ _____ _____
7. Is an independent learner _____ _____ _____
8. Raises probing, often unusual, questions _____ _____ _____
9. Seeks out academically challenging activities _____ _____ _____
10. Views situations from different perspectives _____ _____ _____
11. Has an advanced sense of humor for age _____ _____ _____
12. Is a keen observer, recalls many details _____ _____ _____
13. Is adventurous, likes making discoveries _____ _____ _____
14. Fantasizes, imagines, manipulates ideas _____ _____ _____
15. Is widely informed on many topics _____ _____ _____
16. Appears easily bored, often tunes out _____ _____ _____
17. Is argumentative, highly opinionated _____ _____ _____
18. Lacks organization skills _____ _____ _____
19. Is easily distracted, inattentive _____ _____ _____

Creative Producers

Compacting and Differentiation—required

- Classroom teacher
- Challenge Resource specialist
- Math and literacy staff
- In class
- Small group as appropriate

Sample Services

- Type I, II, and III experiences
- Literary arts magazine/school newsletter
- Arts residencies
- Inquiry teams
- Geography Bee, Invention Convention, Canstruction, etc.

TALENT DEVELOPMENT

Exceptional "schoolhouse" learners ; "outliers" on variety of assessments or on the bell curve

Exceptional or developing passion within a specific talent area e.g. Civil War Battles; Astronomy; Civil Engineering; Creative writing



Assessment Process

- Concrete and specific
- Local norms
- Small # of students (3-5%)
- Special ed. i.d. with PPT

Assessment Process

- Fluid & ongoing
- Demonstrated
- Anecdotes
- Products
- Student initiated (light bulbs)
- Interviews/contracts

"Gifted behavior consists of behaviors that reflect an interaction among three basic clusters of human traits - above average ability, high levels of task commitment, and high levels of creativity. Individuals capable of developing gifted behavior are those possessing or capable of developing this composite set of traits and applying them to any potentially valuable area of human performance. Persons who manifest or are capable of developing an interaction among the three clusters require a wide variety of educational opportunities and services that are not ordinarily provided through regular instructional programs." (Renzulli)

Slocumb-Payne Teacher Perception Inventory,
"A Scale for Rating Superior Students from Diverse Background" Developed by Paul D. Slocumb, Ed.D, and Ruby K. Payne, Ph D., Aha Process, Inc . 2000

Student's Name _____ **Date** _____
Teacher filling out form _____**Time you have known this student?** _____

Directions: Put a score in the Rating box for each item on the form. The scores are on a scale of 1 to 4. The score indicates how frequently you see the student demonstrate this kind of behavior. Do all of the items. Choose the side of the Attributes that is more like the student. Then rate it once.

Key: 4 = almost always, 3 = Frequently, 2 = Occasionally, 1 = Seldom or never

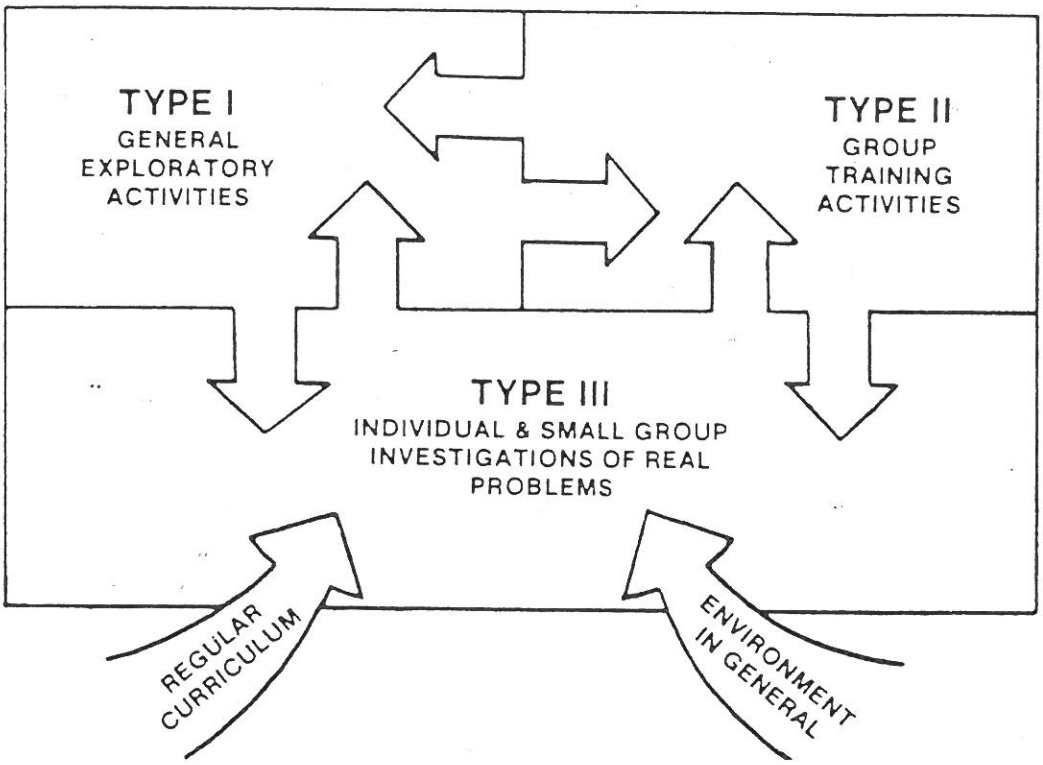
Choose one side **or** the other for each question.
Then rate the frequency of the behavior.

Perception of Attributes	***Rating***	***Perception of Attributes***
1.Curious about information; **inquisitive**; doesn't accept information at first glance.		1. Obnoxious with questions; likes to "stump" people with hard questions; enjoys questions with "shock value"; **questions authority; unwilling to follow rules**
2. **Stubborn**; avoids tending to other things that need to be done just because he/she is not through with his/her priority		2. **Sticks to task;** gets job done; doesn't give up easily even when things are difficult
3. Finds it **hard to wait** for others; **unwilling to do detail** work; shows reluctance to do some assignments because he/she **already "knows" content** or skill		3. **Learns at faster rate** than his/her peer group; absorbs more with less practice; able to accelerate his/her learning; displays **eagerness to do work**
4. Understands **subtleties of language** in his/her primary language**; uses language in powerful way;** displays unique sense of **humor**; able to use language to build personal relationships		4. "Smart mouth"; **master at put-downs** of others; uses humor in destructive manner; unable to relate to peers because his/her sense of humor isn't as sophisticated; **class clown**
5. Thirsts for knowledge; **seeks answers** to questions; motivated to do research to find answers to questions; likes rhetorical questions; **curious about ideas**		5. Shows **little interest in what is to be learned**; wants to **pursue only those things that spark his/her** curiosity; is **more curious about people** than events
6. Has difficulty completing tasks; **unaware of deadlines**; oblivious to those around him/ her; very **focused on** and committed to **his/her priorities**		6. Commits to long-range projects and tasks; **focused; goal-oriented;** strives to **meet high standards**
7. **Loves ambiguity** and dislikes being given specific directions and/or parameters; **unable to be specific** with other people who need specific direction; comes across as **highly creative/inventive**		7. **Able** and willing **to** ascertain and **solve problems**/ **does not need specific directions;** may **set own goals** that surpass teacher's expectations

8. Deeply **interested in many things**; loves to learn new things		8. Unable to make decisions – or makes decisions quickly without regard for consequences; may hop from one thing to another without experiencing closure in anything; **random**
9. Develops high standards and expectations of self; **self-starter** who needs little supervision; has self-control		9. **Perfectionist;** nothing is ever good enough; can't finish something because it still isn't correct; may display low self-image about academic performance
10. Has trouble listening while others talk; **interrupts** others to point of rudeness; talks at inappropriate times; may be reluctant to write; very expressive in casual register		10. Excellent **facility with language**; can elaborate on thoughts and ideas; uses formal register when communicating with others
11. Highly developed social conscience; **concern for social issues** and problems; awareness of global issues; has internal locus of control		11. Over concern for social problems and issues to extent that depression results; **doomsday view of life**; overwhelmed with despair in world/community; sees self as victim
12. Able to **comprehend complex ideas** and thoughts; able to learn advanced and more complex content		12. Out of touch with reality, day-to-day routines; bored by simpler things in life; **unwilling or unable to abide by basic requirements** and/or rules
13. Unwilling to learn facts to support generalizations; can be **great "talker" but** is unable to produce because **work lacks substance**		13. Sees patterns in things; can transfer learning to new situations; **sees big picture;** discovers new information; **supports generalizations with facts/details**
14. **Makes connections**; sees relationships between/among diverse ideas and events		14. Difficult to stay focused because of random thought/ ideas; **highly creative but perceived as "weird"** by peers
15. Shows clever, **unique responses** to questions and problems**; often** responds with **humor or** offers **"silly"** response to questions		15. Generates **large number of ideas** of solutions to problems and questions; often offers **unusual, unique**, clever **responses**
16. Appreciates color; **likes to doodle and draw;** has affinity for graffiti		16. Sensitive to beauty; **tunes in to aesthetic** characteristics of things
17. Uninhibited in expressions of opinion; sometimes radical and spirited in disagreement; **tenacious**		17. Uninhibited in expressions of opinion; sometimes **appears radical and disagreeable**; may show anger when disagreeing with others
18**. High risk-taker in academic** endeavors; adventurous and speculative in his/her thinking		18. Risk-taker; **dares to break rules** and then **challenges authority** when caught; unafraid to challenge others
19. Criticizes openly; **unwilling to accept authoritarian rules** and procedures; orally and openly condemns them; may irritate others		19. **Criticizes constructively** in socially acceptable manner; unwilling to accept authoritarian pronouncements without critical examinations
Ratings Total		

Key: 4 = almost always, 3 = Frequently, 2 = Occasionally, 1 = Seldom or never

THE ENRICHMENT TRIAD MODEL



TYPE I ENRICHMENT

Type I Enrichment consists of experiences and activities that are designed to bring the learner in touch with the kinds of topics or areas of study in which he or she may develop a sincere interest. Through involvement in Type I experiences, students will be in a better position to decide if they would like to do further research on a particular problem or area of interest.

TYPE II ENRICHMENT

Type II Enrichment consists of materials, methods and instructional techniques that are concerned with the development of higher-level thinking and feeling processes. These processes include critical thinking, problem solving, inquiry training, divergent thinking, awareness development and creative or productive thinking. Type II activities are open-ended and allow students to escalate their thinking processes to the highest levels possible. Type II activities are also designed to introduce students to more advanced kinds of studies.

TYPE III ENRICHMENT

Type III Enrichment consists of activities in which the student becomes an actual investigator of a real problem or topic by using appropriate methods of inquiry. The success of a Type III activity depends on the interest and task commitment of the individual student. Examples of intensive, long-range Type III activities include: the creation of a walking robot; the production of a dramatic marionette show which outlines the development of clowns from the thirteenth century to the present; a continuation of Tolkien's *Lord of the Rings* in the form of a novel; the writing and illustration of a Children's Christmas Book; etc.

Procedures for Gifted Learner Identification and Programming

2013-2014 School Year

Submitted by Challenge Resource Teachers:

Mary VanDerMeid, JFK School

Lisa Thomas, Clover Street School

April 2013

Definition of "Gifted Learner"

"Gifted behavior consists of behaviors that reflect an interaction among three basic clusters of human traits - above average ability, high levels of task commitment, and high levels of creativity. Individuals capable of developing gifted behavior are those possessing or capable of developing this composite set of traits and applying them to any potentially valuable area of human performance. Persons who manifest or are capable of developing an interaction among the three clusters require a wide variety of educational opportunities and services that are not ordinarily provided through regular instructional programs." (Renzulli)

Windsor Elementary Schools Challenge Resource Program Philosophy

The Challenge Resource Program supports an educational program that provides dynamic learning experiences and challenges to each student through high quality differentiated instruction. The Program recognizes these students' unique academic and social-emotional needs that require a flexible program of specialized instruction and services that respond to the distinct profiles of gifted learners. This program includes:

- advanced instruction that equips students with the skills to think critically about complex ideas, problem solve innovatively, collaborate effectively, and communicate with a purpose, while supporting interpersonal and intrapersonal needs
- formal and informal opportunities to build relationships with intellectual peers
- a continuum of services that systemically promotes accelerated learning in our most advanced learners
- programming that involves parents, guardians and the community as partners

Challenge Resource Program Belief Statements

1. Gifted programming requires a continuum of services offering multiple learning experiences and settings, matching the service to the needs of individual gifted learners.
2. A comprehensive and coherent system for identifying gifted students, applied consistently, should be flexible, include multiple sources/criteria, balance quantitative and qualitative measures, and reflect the diversity of the community in order to determine eligibility for gifted education services.
3. Gifted services should provide students the opportunity to investigate and study topics of their own interest while promoting advanced rates of cognitive development. The services must include a significant level of student choice. Gifted learners must not only master the essential core curriculum but also be provided additional instruction which encourages levels of sophistication beyond the regular education program in the areas of critical thinking, problem solving, collaboration and communication.
4. Gifted children have unique social and emotional needs that should be understood, nurtured and addressed.
5. Gifted children benefit from the opportunity to meet regularly with intellectual peers and need structured opportunities to interact with peers of similar interest and abilities in order to nurture and support their cognitive and affective needs.
6. A strong partnership through effective communication with all stakeholders, including parents and the community, as well as regional colleagues and advocacy groups, is integral to the success of the program. Especially important is a strong collaboration with classroom teachers.

Challenge Program Goals

1. Gifted learners will be provided with a continuum of service options to best meet the needs of the individual learner. Such options will include, but not be limited to, small group pull out instruction to ensure that gifted students learn from and with intellectual peers, partial or full acceleration of content, curriculum compacting, cluster grouping, and targeted enrichment opportunities.

2. Written procedures for the nomination and screening process will be made available to all stakeholders. The nomination and screening process will be applied consistently, using quantitative and qualitative data to determine eligibility and programming priorities.

3. Information regarding practices and processes will be disseminated regularly. Challenge Resource Teachers will maintain regular contact with regional colleagues and advocacy groups.

4. Challenge Resource Teachers will actively engage in professional development focused on the nature and needs of gifted learners, as well as effective instructional strategies.

Closing the Achievement Gap

Every child should have the opportunity to develop his or her exceptional talents regardless of race, ethnicity, gender, or economic status. Intelligence is multifaceted, developmental, and dynamic. Therefore the Windsor Intermediate Schools Challenge Resource Program uses multiple criteria, both standardized and product-based, to identify students for its talent pool. The program strives to use identification tools that are sensitive to culturally diverse populations. Programming provides multiple and diverse options for talent development through inquiry based learning in a variety of settings.

Continuum of Services

Because every child is different, there is no "one perfect program" for teaching gifted students. Rather than any single gifted program, a continuum of programming services must exist for advanced learners. The National Association for Gifted Children recommends in the NAGC Pre-K- Grade 12 Gifted Program Standards that "a continuum of services must exist for gifted learners". The Challenge Resource Program provides for this through the Schoolwide Enrichment Model.

Program development efforts for advanced learners require careful planning, development, and implementation. A continuum of services recognizes that giftedness is multi-faceted and may manifest itself in many different ways and many degrees across groups of learners. Hence, one program option will not serve all gifted learners equally well.

Educators must consider and create opportunities that match student needs to levels of services. Essentially, a "continuum of services" provides administrators, teachers, parents, and students with a menu of educational options that are respectful of individual student differences while carefully considering the capacity and resources of the classroom, district, and community. The range of services offered in the continuum of the grades 3-5 program is dynamic and evolves over time to match the academic and social-emotional needs of a changing student population. These services may include the following:

- Various targeted enrichment opportunities which, depending on the specific enrichment offering, are either aptitude-based, interest-based, or a combination thereof.
- Curriculum compacting leading to interest driven inquiry.
- Differentiated instruction which is provided in the regular education classroom to match instruction and materials to the readiness level of advanced learners.
- Flexible grouping strategies which are provided to meet academic and affective goals.

Challenge Resource Program Services

Program Implementation

- Screening and identification
    - During September and January, Challenge Teachers will meet as a PLC to further coordinate talent pool and identification screening, including review with staff how to complete recommendation forms
- Grant writing
- Coordinating programming i.e. town meetings; student of the month; visiting artists; experts for Type I experiences; morning/afternoon announcements
- Type III "light bulb" evaluations/interviews/contracts with students
- Planning

Interest Based Inquiry

- Type I (interest exposures)
- Type II (how to inquire within area of interest/ tools of the professional)
- Type III (real world investigations)
- National programs and competitions (e.g. Geography Bee; On-Line Math League contest)
- Fab Friday

Teacher Support in Differentiation and Compacting

- Provides time for identified students to pursue inquiry learning
- Provides time for non-identified students to revolve into inquiry learning experiences as appropriate

(Additional support provided through Professional Learning Community meetings. Challenge Resource Teachers rotate through grade levels to provide professional development related to the Challenge screening and program services.)

Non-program commitments:

- Assigned duties
- Lunch

Identification and Services Continuum

Information Gathering Process/Flex group instruction	Evaluation and Identification	Continuum of Program Services
Teacher Recommendations for flex groups based on: • "Class Screening Form For Nominating Students for the Challenge Resource Pool" • 90% and above on any two of the three MAP assessments administered in fall • Classroom assessments i.e. Running records, CFAs, Unit assessments, DRP, writing prompts • Other appropriate measures/observations • Teacher(s) complete Recommendation for Windsor Intermediate Schools Challenge Resource Pool Grades 3-5 ***Placement in the Challenge Resource Pool is for the current academic year***.	**Student Portfolio Review:** *Students who were recommended for the Challenge Resource Pool and who demonstrate well above average ability or creativity and task commitment may be referred for identification as a gifted learner. The classroom teacher, Challenge Resource teacher, or a specials area teacher may complete a Referral for PPT form. Parents may also make referrals. Portfolios are reviewed by a district screening team composed of Challenge Resource Teachers, administration, and pupil personnel staff. The top 5% of referred students will be identified under special education as "gifted learners"* . .• Referring teacher completes "Recommendation for Windsor Public Schools Identification as a Gifted Learner" • Portfolio contains all materials listed in column one, anecdotal records, student products, as well as any other data or products the teacher wishes to include • Slocumb Payne behavior checklist completed by classroom teacher and challenge teacher/special area teacher for each student referred to PPT • 95% and above on any two of the three MAP assessments administered in winter • Performance in Challenge Resource pool flex groups • PPT for purpose of identifying students as "academically gifted learners"	**Inquiry Based Learning:** • Challenge Resource Pool students complete interest surveys to guide programming options • In-class enrichment, differentiation, and Type III projects are possible services for students in the talent pool • Pull out for students in the Challenge Resource Pool when appropriate e.g. book clubs, math contests, Type I, II & III skills and investigations • Beginning in September: curriculum compacting and small group support, as appropriate, may be provided for students already identified as gifted learners in addition to other available Challenge Resource Pool services. • The Challenge Resource Pool will be formed at the beginning of each year. Every student has the opportunity to be evaluated and selected to participate in the Challenge Resource Pool during the school year.

Recommendation for Windsor Public Intermediate Schools Challenge Resource Pool
Grades 3-5

Student's name:_____ Grade: _____

Recommending Teacher(s): _____

Criterion	**Score**	**Date student completed task**
MAP fall, or winter, assessment **reading**	____%	
MAP fall, or winter, assessment **language usage**	____%	
MAP fall, or winter, assessment **math**	____%	
DRP (Fall of current year)		
Other*		
Other		
Other		
Other		
Other		
Other		

* "Other" may include unit assessments; running records; common formative assessments, writing prompts, student products, etc.

Teacher's anecdotal observations that lead to recommendation:

_____
_____
_____
_____
_____
_____
_____
_____
_____

Which content area(s) most need extension for this student?

_____

_____

Does this student receive any other special education services?

_____

Teacher's signature _____

date_____

Teacher's signature _____

date_____

Enrolled in talent pool: YES NO

Date notification letter sent home if enrolled in talent pool: _____

Recommendation for Windsor Public Schools Gifted Learner Identification

Student's name:_____ Grade: _____

Referring Teacher(s): _____

Criterion	Score	Date student completed task
MAP winter assessment reading*	____%	
MAP winter assessment language usage*	____%	
MAP winter assessment math*	____%	
DRP (s)		
Writing prompt (s)		
Math unit assessments		
Literacy assessments		
Other*		
Other		
Other		

* Score must be 95% or above; assumes 90% or above on fall assessment

** "Other" running records; common formative assessments, writing prompts, student products etc.

Please provide examples of how this student demonstrates well above average ability as well as creativity and/or task commitment.

Well above average ability:

_____
_____
_____
_____

Creativity:

_____
_____
_____
_____
_____

Task Commitment:

_____
_____
_____
_____
_____

Slocumb-Payne scale completed? YES NO

Additonal anecdotal comments (may be provided by classroom and/or specials area teacher):

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Teacher's signature _____ date _____

Teacher's signature _____ date _____