Windsor BOE Curriculum Committee Meeting

Wednesday, April 3, 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. **Math Curricula: Grades K, 2 and 7**
3. **Language Arts Curricula: Grades 1, 7 and 8**
4. **Summer Reading List**
5. **Adjournment**

Windsor Public Schools
Curriculum Map for the Elementary Level
Grade 2

Purpose of the Course (from CCSS): In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

Name of Unit 1: Problem Solving with Fact Strategies (Addition and Subtraction up to 20)	Length of the unit: 6 weeks
Purpose of the Unit: To review/develop and reinforce addition and subtraction fact strategies in the context of solving one step problems with unknowns in all positions. In later units, ability to solve two step word problems will be addressed. To know and show or explain how addition and subtraction within 100 works using strategies based on place value, properties of operations, number patterns and the relationship between addition and subtraction.	
Standards addressed in this Unit: **2.OA.1: Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.** **2.OA.2: Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers** **2.NBT.5: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.** **2.NBT.9: Explain why addition and subtraction strategies work, using place value and the properties of operations.** 2.OA.3 Determine whether a group of objects (up to 20) has an odd or even number or members, eg. By pairing objects or by counting by 2's, write an equation to express an even number as a sum of two equal addends (doubles facts) 2.MD.10: Draw a picture graph and a bar graph (with a single unit scale) to represent data set with up to four categories. Solve simple put together, take-apart and compare problems using information presented in a bar graph.	
Big Ideas: 1. Knowing properties of operations and number patterns allows us to be flexible when working with numbers. 2. Addition is putting together or adding to and subtraction is taking apart or taking from. 3. Addition and subtraction are inverse operations; that is they undo each other. 4. Data is collected/presented in different	Essential Questions: 1. What strategies can we use to make solving addition and subtraction problems easier? 2. What types of questions does adding and subtracting answer? 3. How are addition and subtraction related? 4. How do we collect data and what does the data we collect tell us?

ways and can be used to solve problems.	
Students will know: 1. a variety of addition and subtraction fact strategies 2. addition and subtraction are inverse operations 3. word problems can involve situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions 4. in a story problem, the symbol for an unknown represents a number 5. an odd number of items will contain leftovers when the items are paired 6. attributes of a bar graph	Students will be able to: 1. solve one step story problems within 20 involving addition and subtraction by using drawings and equations with unknowns in all positions. 2. add and subtract within 20 using a variety of strategies 3. explain and show how addition fact strategies work using place value, properties of operations and number patterns 4. collect and organize data in a bar graph and pictograph. 5. solve simple put together, take-apart and compare problems using information presented in a bar graph. 6. Use a strategy to find out whether a number up to 20 is odd or even.

Significant task 1 a & b: What Can We Learn from Data?

In this task students will participate in two teacher guided labs, ***one at the beginning and one at the end of this unit,*** that requires students to conduct an investigation, collect and organize data in a table, make and interpret bar graphs, make predictions and use the data to solve problems.
The first will involve an investigation of student's birth months and they will conduct a teacher led investigation to find out how many children were born in each month of the year. Teacher will model the TIMS laboratory method that includes having them draw a picture, collect and organize data (using a two column data table), graph the data and explore the data. Students will then answer questions and record answers about their data as a group. This will require students to solve problems involving situations of adding to, taking from, putting together, taking apart, and comparing.

The second will continue the use of the laboratory method to graph and explore data collected about their favorite lunches. Students will be introduced to new vocabulary and the three column data table. This time, tally marks will be introduced as a data collection method and will be used by students to collect the data. Teacher will model the completion of a vertical bar graph using the key vocabulary. A differentiated option would be to have students complete their own graph along with the teacher individually or in pairs. Students will answer questions about the data orally in a teacher led discussion

and then read and interpret a comparable graph about a fictional class on their own. They will solve story problems related to the graph and record their answers.

Timeline: 5 days- 1a (2 days) 1b (2-3 days)
Key vocabulary: bar graph, data table, least common, most common, prediction, horizontal axis, tally mark, vertical axis
Resources: Trailblazers URG 1 Units 1 Lesson, Math Trailblazers URG 2 Lesson 3 , Common Addition and Subtraction Situations Sheet

Significant task 2: Adding to Solve Problems

In this task (after Baseline Grade 2 Math Facts Assessment is given) students begin by applying basic math fact strategies learned in grade one through the Mastering Basic Math Facts program while exploring various strategies to use when solving mathematical problems in context. They start by using bar models to visualize word problems with unknowns in various positions and move to using equations with a symbol representing the missing number. The lesson “Giant Story Problems” is an appropriate way to begin or end this unit as it provides the teacher with a way to show mathematical story problems in a literary context and guide students through how to “examine” them as a piece of text before solving them mathematically.

Using demonstrated lessons in On Core, real life math situations are presented to provide students with practice in this visual problem solving method. Additional problem solving methods are further explored in a Trailblazers activity that integrates literacy and math. Using math fact strategies such as counting all, counting on, counting back, drawing a picture or using counters students work in pairs to solve high interest problems in the “Animal Trading Cards” gift shop activity where students make decision about what they can purchase with given amounts. Students work in pairs and use number sentences to record their thinking. Students continue to practice solving problems involving situations of adding to, taking from, putting together, taking apart and comparing with unknowns in all positions as they review math facts strategies such as using ten frames to make a ten and others. A practice opportunity to review addition with 3 or more addends is also provided.

At the conclusion of this task students will be formatively assessed on their efficacy with math fact and problem solving strategies. Lessons and activities will be provided for review, re-teaching and/or small group instruction if needed and fact fluency practice and assessment will take place throughout the year and after each Unit Assessment.

*Differentiation: Students may arrive with various levels of math fact and problem solving skills. Concrete and visual models should be available for students to use throughout the unit as well as during group and independent practice. The goal is to move students from concrete to visual to abstract strategies when solving math problems. Students will need to develop and demonstrate a variety of ways to solve mathematical problems. Students will also begin moving from concrete to visual to mental strategies for memorizing math facts to 20.

Timeline: 10 days
Key vocabulary: add, subtract, sum, more, less, equal, equation, putting together, taking apart, taking from, bar model
Resources: On Core Mathematics Lesson 1 & 2, Math Trailblazers URG 1 Lesson 3,4,5, Math Trailblazers URG 2 Lesson1, A Cache of Jewels and Other Collective Nouns by Ruth Heller, Giant Story Problems

Significant task 3: Subtracting to Solve Problems

In this essential task students begin by reviewing basic math fact strategies learned in grade one through the Mastering Basic Math Facts program while exploring various strategies to use when solving mathematical problems in context. They start by using a Whole-part-part mat to physically model word problems with unknowns in various positions and move to using equations with a symbol representing the missing number. Using a demonstrated Trailblazers Lesson called Our Own Stories, real life math situations such as paying for rides at a theme park or carnival are presented to provide students with practice in this concrete/visual problem solving method that provides practice in partitioning numbers when solving subtraction story problems. Use of a thematic approach will create the context necessary to engage students in this activity. Suggested themes include balloons, farms, zoos or collections that would generate student interest. Students work in pairs during this activity and stories can include math facts to 20.

Students then extend their work with the 100 chart and are introduced to the 200 chart. They develop their ability to use this tool for addition and subtraction while strengthening their understanding of the relationship between addition and subtraction (+10,-10, +1, -1). There is an emphasis on finding patterns, skip counting by 2's, 5's and 10's. They play a game, Moving on the 200 chart, to develop proficiency using the 200 chart as a tool for addition and subtraction. Students also explore the idea of even and odd numbers and begin work with intervals. Even and odd numbers are introduced by pairing cubes of different amounts and discovering if there are leftovers. In this way, students will develop a strategy for finding whether a number up to 20 is even or odd.

Students then work together to solve three different types of subtraction problems and discuss strategies for solving subtraction problems in a real life context of a Carnival or Fair (counting up, counting back and using a related addition fact or thinking addition). Tools are made available such as a 100 or 200 Chart, connecting cubes and ten frames to support students in their work. A discussion of three different subtraction strategies helps students verbalize number relationships and encourages them to think about solving math problems them in new ways. This task also provides opportunities for teachers to elevate student's mathematical discourse by asking students questions that lead them to understand the concept "What do you see, How do you know?" or "Show and Explain" as a chance for them to demonstrate their problem solving strategies. Practice of subtraction/problem solving strategies continue through a game of "Cover–Up" and can be evaluated formatively through the literacy based lesson "The Zoo Gift Shop" where students calculate and solve problems about buying power using previously explored subtraction strategies.

Differentiation: Students may arrive with various levels of math fact and problem solving skills. Manipulative (concrete) and visual models should be available to students throughout the unit as well as group and independent practice. Goal is to move students from concrete to visual to abstract representational strategies when solving math problems and for students to develop and demonstrate a variety of ways to solve them. Students will also begin moving from concrete to visual to mental strategies for memorizing math facts to 20.

Timeline: 10 days
Key vocabulary: counting up, counting back, thinking addition, Whole-Part-Part Mat, column, even, interval, odd, row
Resources: Alexander Who Used to be Rich last Sunday by Judith Viorst, Mastering Basic Math Facts book, Math Trailblazers Grade 1 URG 8 Lesson 2, Math Trailblazers URG 2 Lesson 2-Exploring the 200 chart, Lesson 5-Subtraction Facts, Lesson 6-Cover Up, Lesson 7-The Zoo Gift Shop,

Common learning experiences:
WPS Math website:
http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_2/Mathematics/Math_Links

On Core lesson 19 “Even and Odd” numbers can be used as an additional lesson for the whole class or in targeted instruction to support the concept of even and odd numbers.
The Spin and Add game can be used to reinforce skip counting and the use of the 200 chart as a tool for addition.
On Core Lessons 3, 4, 5, 6, 7, 9, 10, 11, 14, provide lessons for reinforcement and/or enrichment for the standards in this Unit. WPS math website activity “That’s a Fact” can provide ongoing practice in math fact acquisition for students at their level. The time can be adjusted on this program so students can also increase fluency gradually as they master additional facts.

Literature: Subtraction Action Loreen Leedy

Common assessments including the end of unit summative assessment:
L:\Grade 2\Assessments\Assessment Fact Checks\Gr 2 Facts Benchmark Assessment beginning and end of year.doc
L:\Grade 2\Assessments\Unit Assessments\Grade 2 Unit 1.doc
L:\Grade 2\Assessments\Assessment Fact Checks\Fact Check Unit 1 Assessment +1+2-1-2.doc
L:\Grade 2\Assessments\Scoring Guides\Grade 2 Unit 1 Scoring Guide.doc
L:\Grade 2\Assessments\Assessment Results for Parents\Gr 2 Unit 1 parent letter.doc

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and perserve in solving them, reason abstractly and quantitatively, and construct viable arguments and critique the reasoning of others.

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Curriculum Map for the Secondary Level
Grade 2

Purpose of the Course (from CCSS): In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

Name of the Unit: Unit 2 Place Value	Length of the unit: 5 weeks
Purpose of the Unit: In this unit students extend their understanding of the base-ten system. This includes skip counting by 5's, 10's and 100's and understanding that a quantity of 100 can be thought of as a bundle of ten, tens. Students will understand, read and write multi-digit numbers (up to 1000) in base ten notation recognizing that the digits in each place represent amounts of thousands, hundreds, tens or ones (e.g. 853= 8 hundreds + 5 tens + 3 ones.) Students will also compare up to 3 digit numbers using math symbols to make comparisons.	
Common Core State Standards addressed in the unit: **2.NBT.1: Understand that the three digits of a three- digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:** **2.NBT.1a: 100 can be thought of as a bundle of ten tens—called a "hundred."** **2.NBT.1b: The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).** **2.NBT.2: Count within 1000; skip-count by 5s, 10s, and 100s.** **2.NBT.4: Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.** 2.NBT.3: Read and write numbers to 1000 using base- ten numerals, number names, and expanded form.	
Big Ideas: 1. Numbers can be represented in multiple ways and for a variety of purposes. 2. Our number system is a system of patterns. 3. Place value is based on groups of ten. 4. 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. What are the benefits of representing a number in any given way? 2. What patterns do you see in counting? 3. How does a digit's placement in a number affect its value?
Students will know:	Students will be able to:

1. a three digit number represents amounts of hundreds, tens and ones 2. 100 can be thought of as a bundle of ten tens called a "hundred" 3. when you skip count by 5's, 10's or 100, there is a pattern that increases or decreases by 5, 10 or 100. 4. in a three digit number, where a number is placed determines its value 5. numbers can be written with words, numerals and using expanded form	1. skip count by 5's, 10's, 100's within 1000 2. show that 100 is ten tens by grouping them 3. show a number more than one way 4. tell the value of a number in the ones, tens or hundreds place 5. read and write numerals to 1000 6. compare numbers up to 3 digits using greater than, less than, and equal, symbols 7. write a number up to three digits in expanded form

Significant task 1: Counting Patterns

In this task students continue exploring patterns of counting by 2's, 5's, 10's as they did in the previous unit when exploring the 200 chart. They expand on that by counting 100's, ordering numbers and then comparing them in a more independent problem solving context. The task begins with students being asked to solve a problem about the number of legs in their classroom. The Investigations activity Grouping by 2's, 5's and 10's asks the teacher to elicit ideas on how to solve this problem from students and asks them to share with the class. By encouraging students to suggest ways to solve the problem, the teacher not only acknowledges that there is more than one way to think about the problem, but may also broaden student's ideas on how it can be solved. Students should have access to Unifix cubes and the teacher will present a class list as another tool for solving this problem. Students are then asked to solve the problem alone or with a partner, but each student must show and explain their strategy. A written prompt is placed on the board to guide students in their "show and explain" response. Students are then asked to count aloud around the room to double check the number of legs in the classroom. The teacher collects the data and asks students if they notice any patterns. They look for patterns in the numbers and try to find a general rule for finding the number of legs for any group of people. Students are given a riddle to solve and are asked to use people or pets at home to create a riddle of their own.

In activity two of this task "Exploring Multiples of 5", students begin by exchanging the People and Pet Riddles they created in the previous activity and work in groups of three or four to solve and explain to each other their problem solving strategy. The teacher can walk around the room and observe strategies and point out clues in riddles that are confusing or unclear and ask the author to correct them. These riddles can be used as a follow up each day for morning practice and will give students an opportunity to hear each other's problem solving techniques over time. Next students are asked work with a partner. The teacher distributes cubes and asks each group to create a train of 5 cubes. The cubes are collected in a box and the 100 chart is used to keep track of the counting and provide a visual for students to follow as the trains are collected. The 100 chart is marked (the Smartboard interactive 100 Chart can be used for this) and students begin to discover the counting 5's pattern. Leave the chart marked for the next activity.

Session 3 of this task has students working in pairs to express numbers in multiples of 5 and then explore counting objects in more than one way. They are introduced to tallies as a way of keeping track

of groups of 5. Students are asked to think of ways of making 50 using only the numbers that are highlighted on the chart from the previous lesson, using addition, subtraction or both in their number sentence. Teacher provides students with a visual example of three of four expressions of 50 so students understand the task. Students record and share their solutions for Ways to Make 50 at the end of the task.

Next Counting bags are used so the teacher can observe who may need more concrete experiences with counting in groups or who has reached proficiency in counting in groups. Counting bags contain objects to count and students work with partners to agree on two different ways to count them. When students are finished they record how many objects were in the bag and how they counted. Some students may use number sentences, some tallies and some may explain in words. An exploration of their strategies will give the teacher an opportunity to move students into the use of tally marks as a way of counting. The teacher demonstrates the method asks the students to use tallies to represent the number of students in the class. Lesson 2 in Investigations Session 3, (Student Sheet 11) provides a home extension to this activity.

The third activity in this task is Counting Choices (Counting Bags and Counting On Our Fingers). Students work on activities they have been introduced to before during the lesson or targeted learning. In addition to Counting Bags, students are given a counting problem that involves counting the total number of fingers in the classroom. The work is focused on counting by 2's, 5's and 10' and recording strategies*. The teacher should make sure the counting opportunities extend up to 120 since students have done this work in grade one. These activities provide an opportunity for the teacher to do some observations of student's counting strategies and to provide direct instruction to students who need it on how to record their strategies.

Differentiation: All of the activities above lend themselves to differentiation simply by changing the amounts counted and adjusting the level of tool used. More concrete students can continue to work with tools like Unifix cubes while other students can move to visual representations such as drawings and 100 charts. Students who are able to think more abstractly can create their own number lines or use number sentences (algorithms) to represent their thinking. On Core Lesson 24 Counting Patterns Within 100 could be used to assist children in deepening their knowledge of place value as they count by 1', 5' and 10's. Classes or groups of students who are ready for enrichment can explore counting by 25's and/or can extend the counting patterns to within 1000 using a 200 or 1000 chart as a visual and/or the ON Core Lesson 25, Counting Patterns within 1000. This lesson could also be used for whole class instruction after students have mastered counting within 100.
*See teacher notes

Timeline: 3-5 days
Key vocabulary: pattern, counting, strategy, record
Resources: Investigation 2: Counting by 2's, 5's and 10's (pp.54-75), ON Core Lesson 24 Counting Patterns, On Core Lesson 25 Counting Patterns to 1000.

Significant task 2: Exploring Place Value

In this task students have a variety of activities that invite them to explore larger numbers through, grouping, counting and representing quantities and in turn, place value concepts. To begin, students estimate and count a large collection of buttons in the Trailblazers Lesson Button Place Value. Students record an estimate of their total and brainstorm ways to group and count them using paper cups, plastic bags and a place value chart. The teacher divides the class into five groups and the class works together

to find the total number of buttons in 100's, 10's and 1's. This activity is guided by the teacher through questioning with the students doing the sorting. There is a home extension called "Guess and Group" that can be assigned for additional practice.

Next, in the Pasta Place Value Lesson and activities, students review grouping by ones, tens and hundreds by using pasta and connecting cubes. This activity focuses explicitly on place value. That is, the value of the digit is determined by its place or position in multi-digit numbers. Students will use math skills such as estimating, grouping and counting by ones, tens and hundreds. They will also represent numbers using connecting cubes, place value mats and place value recording sheets. Students use calculators to see if their estimates are close and to check their groups against the standard algorithm they are representing. In part 2 of this activity, the teacher ask students to work in groups and solve story problems that involve adding 2 digit numbers using connecting cubes and place value mats. They also represent three digit numbers using the tools introduced. The stories are about buying pasta at the grocery store, continuing the pasta theme. For further reinforcement of place value concepts in the activity students, in groups of two or more, play the game "Not More Than 100" after it is modeled by the teacher.

Next in this task, students are introduced to base-ten pieces (bits, skinnies and flats) as a convenient tool for representing quantities as they continue to group and represent numbers using ones, tens and hundreds. The teacher makes the connection for students to the previous lesson where students used cubes to record their counting and explains that base-ten pieces are another tool they can use to represent numbers. Students are given many opportunities to practice representing up to 3 digit numbers with base-ten pieces until they are comfortable with them. Once they are comfortable, the teacher provides additional opportunities for students to represent quantities, and determine a quantity from an arrangement of base-ten pieces.

The teacher moves next to introduce the base-ten recording sheet as an additional tool to represent numbers and demonstrates how the same number can be represented in more than one way. Students practice representing quantities in more than one way and record their answers while discovering which arrangements align more closely with the written number. In this way the students begin to understand the concept of trading or exchanging ten bits for a skinny or ten skinnies for a flat.

Differentiation: In this task students begin to make the connection between numeric representations using concrete tools (such as cubes and base-ten pieces) to the abstract concept of a digit's value based on its position in a number. It's important to understand that children may be at different stages when moving from the concrete to the abstract, and will need access to all tools for as long as is required. If a student has difficulty making the transition, they can always continue to use connecting cubes instead of base-ten pieces until they are comfortable with the transition. Repeated practice opportunities in representing numbers and showing them in more than one way, will need to be provided. Counting and grouping objects will provide the foundation for those who have difficult with this concept.

Timeline: 5-7 days
Key vocabulary: digit, hundreds, ones, tens, place value, flat, skinny, bit, base-ten pieces
Resources: Trailblazers Unit 3 Lesson 6, "Button Place Value" (DAB pp.133-142), Trailblazers Unit 6 Lesson 2, "Pasta Place Value", Trailblazers game-Not More than 100.

Significant task 3: Exploring Larger Numbers

Now that students are able to use base-ten pieces as a tool to represent numbers and understand that the placement of a digit determines its value, they are ready for activities that expand and reinforce place value concepts and increase their ability to use larger numbers. They will demonstrate their knowledge of the value of digits in the ones, tens and hundreds place through expanded notation, and will come to understand that when moving to the left in a three digit number, each digit's value is ten times more than the digit to its right. In One Core Lesson 27 (Expanded Form) students are introduced to expanded notation through teacher modeling as they write two digit numbers in expanded form. On Core Lesson 21 (Hundreds, Tens and Ones) goes one step further in providing practice in expanded notation of three digit numbers from pictorial models.

At this point in the task On Core Lesson 28, "Different Ways to Write Numbers", students are introduced to writing numbers in words. They express a number such as 73 as 70 + 3, 7 tens and three ones and seventy-three. A reference chart is provided with number words for the teacher to use when teaching this lesson to students. The teacher then provides additional practice using CCSS Activity 10 Student Master 2, to have children write three digit numbers in standard, expanded form and words.

Next, students are introduced to the Trailblazers game in the lesson "Take Your Places Please", which utilizes digit cards and is played in groups of two to five students. The goal of the game is to form either the largest or smallest number. The teacher announces the goal before each round; reviews the rules and models the game with students in the class. Students use a Place Value Chart Game Page to record their numbers and wins. Students will have an opportunity in the next task to play this game again and practice reading and writing number names and expanded form.

Differentiation: Students may need to use concrete manipulatives to assist them in visualizing numbers in their expanded form. Reproducing the chart of number words found in ON Core Lesson 28 for students to use a resource at their desk is advisable, especially for those students with reading difficulties. Once again the games can be modified so students can practice at their developmental level, starting with one digit numbers all the way up to four digit numbers. On Core lesson 31 "Number Names" provides more practice in writing 3-digit numbers in words. Arrow cards and place value dice provided another means of having students practice expanded notation of two and 3 digit numbers and can be used beyond 3 digit number for enrichment.

Timeline: 4-5 days
Key vocabulary: larger than, smaller than, greater than, less than, equal to, digit
Resources: On Core Lesson 27, 21, Trailblazers Unit 6 lesson 4, "Take Your Places Please".

Significant Task 4: Ordering and Comparing Numbers

In this task, the Trailblazers activity, Exploring the Number Line, emphasizes number relationships by focusing on the size of the number and its relationship to other numbers. Students identify the locations of numbers on a number line and compare them using greater than or less than symbols. Students have been introduced to these symbols in first grade, but this will be the first time they see them in second grade. Teachers begin by guiding students through an inquiry around whether 27 cents is a small or large amount of money. Through questioning techniques, the teacher encourages students to demonstrate their number sense by naming numbers that are much more, much less, a little more and a little less than 27 cents. These types of questions are repeated to develop number sense and the

concept of making comparisons.

Next, the number line from 0-20 is drawn and introduced by the teacher and students are guided to fill in the numbers that are omitted. Student volunteers will continue this exercise with different number lines displayed showing other numeric intervals such as 60-70. Students practice this skill independently. Students then go back to the number 27 (which has been placed on an index card), find its place on the number line and a discussion takes place about what numbers it is located near and why it was placed in that position. Other numbers are shown and students place them in the same way and students while being encouraged to explain why they placed the cards at the location they chose on the number line. There are several opportunities for independent practice and a home extension in this activity.

The next activity, CCSS Activity 6, is a teacher led extension of the previous lesson as children use the number line to order and then compare numbers using the greater than or less than symbol. This is a teacher led activity that utilizes student volunteers to assist as the problems are modeled on a large number line. A review of the greater than or less than symbol might be necessary at this time since students last exposure was in grade one. Students practice independently, after the introduction, using a number line and visual representations of base-ten pieces to assist them in comparing 3 digit numbers. Further practice is provided in CCSS Activity 10 with Student Master, after a brief mini lesson review given by the teacher. The mini lesson focuses on greater than and less then symbols along with guided practice in comparing larger numbers. Independent student practice follows this lesson.

To conclude this task, students return to a game they were introduced to earlier called “Take Your Places Please” where they used digit cards to form 3 digit numbers and recorded three-digit them on a place value chart to see who made the largest or smallest number. To provide practice in using symbols to compare numbers, teachers have students write down a number sentence after each round of play, including the two numbers and the greater than and less than symbols. The revisiting of this game also provides an opportunity to practice reading and writing numbers using number names and expanded form. After students finish playing the game, the teachers uses the numbers students recorded on Student Guide page 55 (or in their math journal) to fill out CCSS Activity 11 Student Master, “Writing More Numbers”. If necessary, the teacher can model a few for the class before students work independently on recording the numbers in the place value chart, writing the number name in words and then writing the expanded form of that number. This activity will provide the teacher with a formative review of the place value skills previously taught in place value, comparing and writing numbers in words and expanded form.

Differentiation: On Core lesson 35 “Compare Numbers” can be used to give additional support in small groups for place value modeling and making comparisons using greater than and less than. On Core Lesson 32 “Different Forms of Numbers” adds drawing base ten pieces as an alternate strategy for students who need practice with showing numbers in different forms such as expanded.

Timeline: 3-5 days
Key Vocabulary: number line, greater than, less than
Resources: Trailblazers Unit 5 Lesson 2 Exploring the Number Line along with CCSS Activity 6, CCSS Activity 10 with Student Master, CCSS Activity 11 with Student Master.

Common learning experiences:
http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_2/Mathematics/Math_Links

Literature:

The story Strega Nona by Tomie de Paolo would provide an interdisciplinary literature connection for this unit since it features the "magic pasta pot".

A Fair Bear Share by Stuart Murphy-place value and re-grouping

Ten Times Better-Richard Michelson- extending Place value

There is a follow up activity for students to do at home called, Fingers and Toes at Home and Building Numbers that provide further practice for Significant task 2.

On Core lessons 19, 23, 26 provide targeted learning lessons and activities for use with students who may need additional support when moving from concrete and pictorial models to symbolic representations of numbers up to 3 digits.
On Core lesson 29 "Different Names for Numbers" provides targeted practice in showing numbers in different ways.
On Core Lessons 30, 31, 32, 33 provide additional targeted instruction and activities for use during targeted learning. Arrow Cards and Place Value Dice can be used to provide support an addition concrete method for teaching place value concepts in this unit.

Common assessments including the end of unit summative assessment:
L:\Grade 2\Assessments\Unit Assessments\Grade 2 Unit 2.doc
L:\Grade 2\Assessments\Assessment Fact Checks\Grade 2 Unit 2.doc
L:\Grade 2\Assessments\Scoring Guides\Grade 2 Unit 2 Scoring Guide.doc
L:\Grade 2\Assessments\Assessment Results for Parents\Gr 2 Unit 2 parent letter.doc

Teacher notes:

- Process standards to highlight through instruction: model with mathematics, use appropriate tools strategically, look for and express regularity in repeated reasoning.
- A common misconception for students who are still developing place value concepts and learning to use place value tools such as base ten pieces, is to see a "skinny" as having a value of one instead of ten. It is important for those students to continue use unifix cubes in trains of ten until they are able to make the transition to the "skinny" base ten piece.
- For significant task 1 and 2 the "Teacher Note" titled "Writing and Recording" gives teachers a detailed explanation on how to encourage students to explain their problem solving strategies in writing and with pictures and diagrams. The "Dialogue Box" provides examples questions to promote mathematical discourse in this unit.

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Grade 2

Purpose of the Course (from CCSS): In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

Name of the Unit: Unit 3 Money	Length of the unit: 3-4 weeks
Purpose of the Unit: This is the first time money is formally introduced as a standard, so in this unit students will have numerous experiences with coin recognition and values of coins before using coins to solve problems. Once students are solid with coin recognition and values, they will begin using the coins to count sets of coins, compare two sets of coins, make and recognize equivalent collections of coins, select coins for a given amount and make change.	
Common Core State Standards Addressed in the unit: **2. MD. 8: Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?** **2. NBT. 2: Count within 1000; skip-count by 5's, 10's and 100's.**	
Big Ideas: 1. Knowing properties of operations and number patterns allows us to be flexible when working with numbers. 2. When comparing two objects you need to use a common or standard unit of measure.	Essential Questions: 1. How do pennies, nickels, dimes, quarters and dollars relate to each other? 2. Why do we use standards units of measure?
Students will know: 1. the penny, nickel, dime, quarter, dollar and their values. 2. the dollar and cents symbol is used when notating money amounts 3. different combinations of coins or dollars can have the same value	Students will be able to: 1. recognize penny, nickel, dime, quarter and dollar 2. make and count coin combinations to involving either dollars or cents 3. solve word problems involving dollars or cents 4. use the dollar and cents sign symbols when notating money 5. identify equivalent sets of coins up to $1.00 6. make change involving dollars and cents

Significant task 1: Identifying and Counting Coins

Pre-Assessment is given at the beginning of the task to assess student's ability to identify coins and their values. It may be necessary to teach coins and coin values individually based on the results of the pre-assessment. Practice in coin identification can be reinforced daily through morning meeting or daily practice activities. Skip counting by 5, 10's and 1's, covered in the previous unit, will be used as a strategy for coin counting in this unit.

The task begins with students examining coins through an activity called "Exploring Coins". Students collectively examine individual coins with other students and record their observations on chart paper noting what is special about them, for example, their value, color, face and back designs. These posters can remain in the room as a visual reminder of coin identity and value.

Next students use skip counting to count combinations of coins through two lessons in ON CORE and in a counting game called "Collect 25¢". This game is played with a partner or a small group. The teacher might want to have two students demonstrate the game first as he/she guides them. The rest of the class observes while the teacher uses guiding questions to model the thinking that takes place when trading equivalent coin amounts. The purpose of the game is for students to share information about coin equivalencies by rolling cubes 1-6 and collecting the amount shown on the cube in coins. At their turn, they can trade coins to receive a coin of an equivalent value such as five pennies for one nickel. The teacher can use this as another informal assessment of student's knowledge of coins and should try not to guide students into making the trades since the investigative nature of the game will assist the teacher in discovering the student's level of understanding about coin values. The game continues until someone reaches 25¢. When the game is over, the teacher discusses the names of the coins used. It is possible that all amounts rolled can be taken in pennies, but trading is modeled and encouraged.

*Differentiation: The game Collect 25¢ can be adapted to higher or lower (10¢) amounts based on student's need. Playing two cubes or raising the amount to 50¢ will increase the opportunities to trade for equivalent coin combinations and is also played later in the unit.

Timeline: 5 days-plus ongoing practice
Key vocabulary: nickel, dime, penny, cent sign , cube
Resources: Pre-Assessment Money Diagnostic, Investigations Activity: Exploring Coins, On Core Lessons 85, 86 and Investigations Session 2-Counting Coins, Counting Choices (Collect 25¢),

Significant task 2: Coin Combinations (Ways to make 15¢ and Matching Coins and Coupons)

As a whole class, students play the game "Ways to Make 15¢ and examine all the different ways to make 15¢ after being given pennies, nickels and dimes. Studemts share coupons they have brought from home or those provided by the teacher, find different ways to sort them, and discuss the coin values of their coupons. They also discover that coupons are usually multiples of five and ten and that skip counting, once again, is a strategy for calculating matching coin values. The task focuses on: becoming familiar with coin values; finding all possible combinations of coins to equal 15¢; and matching coin combinations to cents notation.

Students use pennies, nickels and dimes and have fifteen minutes to work on a problem in the context of going to the store to purchase an item that costs fifteen cents. Students are challenged to find as many ways as they can to make fifteen cents with the coins provided. Teacher then records the results shared by the students and charts the combinations. Students are asked to share verbally and show how

they recorded their combinations. Any recording system is acceptable if they understand it and their combinations equal fifteen cents. When all combinations are listed and explored, students are asked why they are sure that all have been recorded. This activity is then extended to the next day and the amount of 25¢. Students can be re-introduced to the quarter and quarters are added to their collection of coins for "Ways to Make 25¢".

The next activity has students are working in pairs to sort and categorize manufacturer's coupons in "Coins and Coupons". This is an opportunity for the teacher to make a cross curricular connections with a study of nutrition in science and set the context of grocery shopping with a family member for this activity with students. After sorting coupons, students choose one group of coupons and use coins to show the amount on each coupon. Students can check each other's recording of the solutions. The teacher will introduce the dollar sign notation during this activity as students reach coupon amounts to $1.00 or more.

To finalize this task, students will go back to the familiar games and activities they learned, but the amounts will be increased. They will play "Collect 50¢" and extend the "Coins and Coupons" activities to larger dollar amounts. Students can continue to record their combinations and share solutions in pairs or in a whole group share out with the teacher recording, based on the ability level of students. They will also be able to count larger collections of coins up to $1.00. Students will learn and practice how to order coupons by value; demonstrate how to show coin amounts in more than one way, and draw or writing word names for coins using ON CORE lessons that require students to use the prerequisite skills they have learned such as ordering numbers and understanding coin values and equivalent amounts.

Differentiation: Students who have trouble identifying plastic coins could be provided with actual coins. Challenging students to find more than one way to show coupons amounts can extend learning. Providing coupons of varying amounts from as low as 5 cents to as high as $1.00 and increasing the amounts on the "Collect" games, allows students to have opportunities to participate at their appropriate level and extend their learning as the activity progresses.

Timeline: 7 days
Key vocabulary: coupon, quarter, collect, trade, dollar sign, cent sign, dollar
Resources: Investigations Lessons: Ways to make 15¢, Coins and Coupons-sessions 7, 8 & 9 (all Choice activities).

Significant task 3: Problem Solving with Money
In this task students will apply their knowledge to solve problems that mirror "real-world" situations dealing with money. They will develop strategies introduced by the teacher such as "act it out" and "drawing pictures" and use appropriate concrete materials to help them make sense of the questions they need to answer. Children who use manipulatives in this way make sense of problems and persevere in solving them.

Children will review penny, dime, nickel, quarter and dollar values and then work in pairs to "act out" the problem in an On Core Lesson with manipulative coins and dollars to problem solve with money. They will record their answers by drawing the coins and bills to demonstrate their solution.
Students will then use a Trailblazers lesson Called "Button Solutions" to solve more word problems involving money while continuing to practice the strategies of using manipulatives and drawing. Teachers will also model how to use number sentences as a problem solving strategy and how to communicate solution strategies orally and in writing. This is all done in the context of purchasing items

in a boutique.

Timeline: 3-4 days
Key vocabulary: coupon, quarter, collect, trade, dollar sign, cent sign, dollar
Resources: On Core Lessons 87, 88 and 89,Trailblazers Unit 3 Lesson 5 Button Solutions, On Core Lesson 91

Common learning experiences:
Extensions can be provided using On Core Lessons 90 and the Investigations activity Creating Coupons. Increasing or lessening the money amounts in each of the Choice Activities listed in the tasks above will modify those activities for use in targeted groups. Once the Choice activities are taught they can be used for independent group work, targeted groups or homework based on student need.

The WPS Math website has activities children can use to reinforce money concepts. The Coins in a Cup activity has students counting coins and Money to Build a Robot.
http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_2/Mathematics/Math_Links/5__Money

Common assessments including the end of unit summative assessment:
L:\Grade 2\Assessments\Unit Assessments\Grade 2 Unit 3.doc
L:\Grade 2\Assessments\Scoring Guides\Grade 2 Unit 3 Scoring Guide.doc
L:\Grade 2\Assessments\Assessment Results for Parents\Gr 2 Unit 3 parent letter.doc
L:\Grade 2\Assessments\Assessment Fact Checks\Fact Check Unit 3 Assessment Using Doubles.doc

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and preserve in solving them, attend to precision, look for and make use of structure.
- Problems should focus on whole dollar amounts or cents since students have not been introduced to decimals.

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 2

Purpose of the Course (from CCSS): In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

Name of the Unit: Unit 4 Time	Length of the unit: 2 weeks
Purpose of the Unit: In this unit students extend their work with telling time to the hour and half hour in First Grade in order to tell time (orally and in writing) indicated on both analog and digital clocks to the nearest five minutes. They use the pre-requisite skill of counting by 5's to discover that an hour is equal to 60 minutes that can be broken into 5 minute intervals. Students will also indicate if the time of an activity presented in scenarios, some related to their own lives, is in the morning (a.m.) or in the afternoon/evening (p.m.) as they record time.	
Common Core State Standards Addressed in the unit: **2.MD.7: Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.** 2.NBT.2: Count within 1000; skip-count by 5s, 10s, and 100s.	
Big Ideas: 1. Knowing properties of operations and number patterns allows us to be flexible when working with numbers. 2. When comparing two objects you need to use a common or standard unit of measure.	Essential Questions: 1. Why do we use standards units of measure? 2. How do minutes, hours and days relate to each other? 3. What patterns do you see in counting?
Students will know: 1. components of analog and digital clocks 2. clocks are useful tools 3. there are two cycles of 12 hours in each day: a.m. & p.m. 4. time can be represented with numerals and words	Students will be able to: 1. tell and write time from an analog clock to the nearest five minutes 2. tell and write time from a digital clock to the nearest five minutes 3. tell and write time using a.m. and p.m. 4. utilize skip counting by 5's to tell time

Significant task 1: Learning to Tell and Write Time to the 5 minutes (Analog and Digital Clocks) In first grade students learned to tell time to the nearest hour and half hour* (see common learning box). In this task, students learn to build on this understanding by skip counting by 5 to recognize 5-

minute intervals on the clock. Students will be exposed to analog and digital clocks in the three part "Take Your Time" activity in Trailblazers. They will construct their own analog and digital paper clocks and use this while teacher models the activities using a large scale clock of their own that they construct or create on the Smartboard. Activities include: exploring the parts of the clocks, the clock hands, the minute intervals, etc. The book Clocks and More Clocks by Pat Hutchins can be used as a literacy connection and introduction to this unit to provide context for learning to tell time to the 5 minutes.

Students are first introduced to the long hand and are led by the teacher in skip counting by fives around the clock while discovering the tick marks showing each minute. The teacher connects the tick mark arrangement to a number line drawn with intervals of five that are not numbered and then wraps it around the clock to demonstrate the pattern to students. As the task continues students explore the short hand as the teacher moves it around the clock while asking students to tell the time to the hour. The teacher records the times visually for students and students do the same, showing the time using numbers and words. Practice on the analog clock continues in a guessing game format with the teacher posing times and students demonstrating their answers on the clock or writing the times shown. This activity can continue daily during morning meeting for additional practice.

Students then move to the digital clock and practice telling and writing the time in digital format. It would be helpful for the teacher to have an analog and digital clock in the classroom or on the Smartboard for students to observe. The teacher models the comparison between the analog and digital clock. The students are shown that on a digital clock the display shows 5 minutes as 05 and two o'clock is shown as 2:00. They continue to practice telling and writing time in the digital format using a guessing game format led by the teacher. Students can record the answers on paper and/or show the times on their own paper digital and analog clocks along with the teacher.

In part two, students closely examine the minute hand and how it moves throughout an hour's time on the clock. Teacher once again will model the movement of the minute through different times within the hour as students follow along using their own clocks. When the half hour is reached, the teacher will ask students how they know which hour it is and point out the hour hand position that illustrates it is past the hour and not yet the next. This is a difficult concept for some students so they will need opportunities to verbalize their strategy ("the hour hand has passed the two, but it hasn't reached the 3 yet, so it is after two o'clock"). Using the phrase "What time (hour, minute) do you see and how do you know?" guides students in creating responses that demonstrate their reasoning. Practice with this skill should be provided daily until students master it.

In Part 3 of the task the teacher models problems for students ("Show me 3:45") and ask them to show their answer digitally or on an analog clock or both. Students can also be asked to write out the times in words and it is important to do all three when possible throughout the task so that students get additional practice with the three methods. Students can challenge each other by replicating this activity in pairs and recording their answers. They will also have an opportunity for practicing and applying their skills in telling time in an On Core activity that uses riddles to review and practice telling time. This activity can be used in small targeted learning groups or can be modeled to the whole class, based on student need.

Timeline: 5 days with ongoing practice
Key vocabulary: analog clock, digital clock, hour hand, minute hand, tick marks
Resources: Math Trailblazers Unit 6 Lesson 1-Take Your Time, On Core Lessons 82 & 83. Judy Clocks, Smartboard clock (digital and analog), Clock and More Clocks by Pat Hutchings

Significant task 2: Exploring A.M. and P.M.
In this task the teacher uses a story to develop student's understanding of the concept of the 24 hour day and how it is split into two 12 hour cycles (A.M., P.M.) First, In the On Core lesson, students are introduced the idea that in the span of one day, the hour hand points to each number twice. This can be modeled with a large clock. For example, school starts at 9 a.m. and bedtime is around 9 p.m. After several examples and a paper and pencil activity, the teacher will lead a discussion that will be the springboard (along with the story) for building student's background knowledge about the types of things they do in their daily life and whether they happen in the a.m. or p.m.

Armadillo Families is a story from the Trailblazers Adventure book that is also available on the Trailblazers website and can be projected onto the Smartboard for whole class viewing. As teachers read the story with students they will review the process of collecting data while having an opportunity to practice telling and writing time using a.m. and p.m. The lesson is then extended using the CCSS Activity #30 Telling and Writing Time. Students, along with the teacher, break out the events of the story and look at clocks showing different times in which the events might have taken place. Students record the times shown and choose a.m. or p.m. according to what is happening in the story. To conclude the task, students can work in school or at home to record the times they do certain activities on a clock face such as, eating breakfast, doing homework or eating dinner and label it a.m. or p.m. This real-world application allows students to make a personal connection to Time standards, and how they apply to them.

Another book that has a multicultural theme and addresses the concept of time around the world using with a.m. and p.m. is Nine O'clock Lullaby by Marilyn Singer. This could also be used to support students understanding of this concept. Making a classroom schedule that includes a.m. and p.m. notation or having students keep their own time journal of events throughout their day at school and at home can also provide continued exposure and practice.

Timeline: 5 days
Key vocabulary: a.m. ,p.m., data, schedule
Resources: Clocks and More Clocks, On Core Lesson 84, A.M. & P.M., Trailblazers Unit 19 Lesson 1 Armadillo Families Adventure book along with CCSS Activity 30, CCSS Activity 14

Common learning experiences:

*On Core lesson 81 can be used as a short pre-assessment for telling time to the hour and half hour which is a first grade skill. The SRBI Time Diagnostic Assessment can also be used to assess the ability to tell time at all levels.

The book Clocks and More Clocks by Pat Hutchins is read as a literacy connection at the start of this unit for the concept of measuring time. Armadillo Families, the Trailblazers Adventure Book/website is read to introduce and contextualize the concept of a.m. and p.m. The book Nine O'clock Lullaby by Marilyn Singer can be read as a literacy connection to support the concept of a.m. and p.m. and the 24 hour day.

Various games and activities such as Telling Time Bingo, Time guessing games with Judy Clocks, lessons from the Math Protocol Binder in the Time section and the Windsor Math website can be used during

targeted instruction to provide continued practice and instruction and extensions for students.

http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_2/Mathematics/Math_Links/7__Time

Common assessments including the end of unit summative assessment:
L:\Grade 2\Assessments\Unit Assessments\Grade 2 Unit 4.doc
L:\Grade 2\Assessments\Scoring Guides\Grade 2 Unit 4 _Scoring Guide.doc
L:\Grade 2\Assessments\Assessment Fact Checks\Fact Check for Unit 4 Making Ten add and subtract.doc
L:\Grade 2\Assessments\Assessment Results for Parents\Gr 2 Unit 4 parent letter.doc

Teacher notes:

- Process standards to highlight through instruction: reason abstractly and quantitatively, use appropriate tools strategically, attend to precision.
- A common difficulty for students is their ability to distinguish the correct hour when the minute hand goes beyond the 30 minute mark. Having them explain their reasoning aloud deciding on the hour will help students solidify this concept.

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 2

Purpose of the Course (from CCSS): In Grade 2, instructional time should focus on four critical areas: (1) Extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

Name of Unit 5: Measurement and Data	Length of the unit: 4 weeks
Purpose of the Unit: In this unit students will recognize the need for standard units of measure (centimeter and inch) having explored non-standard units if first grade. Students use rulers and other measurement tools (yardsticks, meter sticks, measuring tapes) to gain an understanding that linear measure involves an iteration of units and that the smaller the unit of measure, the more units needed to cover a given length. Students measure the lengths of single and multiple objects and select the appropriate tool for each measuring task. Students will also estimate lengths, compare lengths of objects and generate measurement data on a line plot. Creating a bar graph and solving word problems related to their measurement data will also be part of this unit.	
Common Core State Standards Addressed in the unit: **2.MD.1: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.** **2.MD.2: Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.** *2.MD.3: Estimate lengths using units of inches, feet, centimeters, and meters.* *2.MD.4: Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.* *2.MD.5: Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.* *2.MD.9: Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot. Where the horizontal scale is marked off in whole number units.* *2.MD.10: Draw a picture graph and a bar graph (with a single unit scale) to represent data set with up to four categories. Solve simple put together, take-apart and compare problems using information presented in a bar graph.*	
Big Ideas: 1. When comparing two objects you need to use a common or standard unit of measure.	Essential Questions: 1. Why do we use standards units of measure? 2. How do inches, feet, yards, centimeters

2. The choice of measurement tool depends on the measurable attribute and the degree of precision required. 3. Data is collected/presented in different ways and can be used to solve problems.	and meters relate to each other? 3. How do we collect data and what does the data we collect tell us?
Students will know: 1. there are two standard measurement systems used in the USA; metric (centimeters and meters) and customary (inches and feet). 2. there is a need for standard units of measure in order to communicate accurately about an object 3. benchmarks can be used when estimating measurement 4. the size of the unit of measurement relates to the number of units needed 5. components of a bar and pictograph.	Students will be able to: 1. measure the length of objects to the nearest whole unit in inches and centimeters 2. select the appropriate tool such as rulers, yardsticks, meter sticks and measuring tapes when measuring the length of an object 3. use a benchmark to estimate a measurement 3. explain why we use standard units of measure 4. fill in a data table and construct a bar or picture graph with a single unit scale 5. Solve simple put together, take apart and compare problems using information presented in a simple bar or picture graph

Significant task 1: High, Wide and Handsome Lab

In this task students use science tools to investigate the height and arm span of each student using non-standard units of measure (links). Working in pairs or small groups, students measure, record and examine data, they find the most common height and arm span for the class. As a class, students determine the range of class heights and arm spans to predict whether other students will fall within the range. Students then have an opportunity to explore the relationship between height and arm span by classifying students' measurements into three categories. Students then graph those measurements, analyze the results and make conclusions. Next students conduct the High, Wide and Handsome lab with students in a different age group (K students) and compare this new data with data from their class. Conclusions are drawn based on the results.

In the next activity students continue their exploration of non-standard units of measure using hand spans and cubits to estimate length and distance. Students discuss situations in which estimating a measurement is not only convenient, but desirable. Students measure a variety of objects using hand spans and cubits, estimating first, and record their data to be shared in a group discussion. Other measurement benchmarks are also introduced at this time, such as adult thumb width for an inch, and a discussion about the accuracy of using non-standard units is led by the teacher using the "hand spans

and cubits" data collected by students. The teacher leads further discussion by using the "Could Be or Crazy" sheet that asks students to rate an estimate as reasonable or not based on their experience with measurement so far. At this point in the activity, students may see that the measurements they collected throughout the activities differed because the length of the hand spans and cubits are different for each person. The teacher utilizes this as a springboard for a discussion about why we use standard units of measure in the next task.

Differentiation: Some teachers may decide to project the Trailblazers student graphs on the smartboard to provide a large visual for students. Having students work in pairs and groups while measuring allows all students to participate and support each other with the fine motor tasks and those that require precise measurements. Journal prompts can be utilized for students whose auditory direction following is not a relative strength, i.e. We will collect data from a group of_____. We will record our data on the data table. For those students who may be reluctant to crawl on the floor to measure with their cubit or hand span, suggest they use connecting cubes to measure their cubit and then use that length of cubes as the measuring tool.

Timeline: 8 days
Key vocabulary: arm span, range, variable, rectangle, square rectangle, approximate, cubit, estimate, hand span
Resources: Math Trailblazers URG 4 Lessons 1, 2, 3, and 4

Significant task 2: Centimeters and Meters (Metric Measurement)

In this task students use centimeters and meters as standard units of measurement to explore and estimate length. Students begin the task by building their own meter measuring tape that they may use throughout this activity. The teacher leads a discussion of why we use standard units of measure by reviewing the unreliability of hand spans and cubit measurements in the last task before. This leads to the introduction the centimeter and meter. Working small groups or pairs, students use their meter tapes to measure a variety of objects in their classroom and are encourage to estimate before measuring.

Once students are familiar with how to use the measuring tape they use the TIMS laboratory problem solving method to investigate how far different toy vehicles roll in the "Rolling Along in Centimeters " activity. Working in small groups or pairs, students roll each vehicle down a ramp three times and find the median distance rolled. This activity allows students to practice collecting, organizing, graphing and analyzing data along with measuring skills.

Differentiation: Constructing the meter tape may be challenging for some students. It is suggested students color each section of the tape with alternating colors before assembling to help make actual construction easier.

Timeline: 5 days
Key vocabulary: centimeter, meter, standard units of measure, trial
Resources: Math Trailblazers URG 5 Lessons 3, 4

Significant task 3: Customary Measurement (Inches and Feet)

In this task teacher focus primarily on using On Core lessons (66,67,69,72) to provide direct instruction and activities for teaching students how to measure in customary measurement (inches and feet). Students begin by using color tiles to measure as the teacher points out that the tiles are all the same

size; about one inch long. Students then make their own rulers with one inch segments and practice measuring objects in the classroom. Next students measure with an inch ruler as they are led through an example that demonstrates how to correctly line up the zero on a ruler with the end of an object they want to measure. The concept of "nearest inch" is discussed and students apply this skill by measuring more objects that students encounter every day. Students will then be led by the teacher through a comparison of inches and feet by a demonstration using a file folder as a model. The ruler is introduced and students work in pairs to measure classroom objects in feet. At the conclusion of the activity, students discuss when and why they might measure in feet instead of inches.

Now that students have had a variety of experiences with customary and metric measurement, the teacher leads a discussion on many real-life situations in which people need to measure and compare lengths i.e. tracking a child's growth, finding a box that is the right size for a gift. Students then work through several examples that require them to measure and compare lengths (On Core Lesson 78), and solve problems involving lengths (79, 80).

Differentiation: There are many types of rulers and concrete tools, such as inch tiles, to assist students with visual or motor difficulties that may affect their ability to measure accurately. Allowing students to work in pairs may assist students who need to attend to precision.

Timeline: 7 days
Key vocabulary: length, inch, foot
Resources: On Core lessons 66, 67, 68, 69, 72, 78

Common learning experiences:

Literature Connections:
How Big is a Foot
Measuring Penny-Loreen Leedy

Fact Strategies focused on: Using Tens

There is a home extension for Significant task 1 that allows students to collect data at home on the color of shoes in their house and answer questions about the data collected. In another home extension for Significant task 1, students are also given a home extension activity called "Handy Measurements at Home" that allows them to practice the skill of estimating beyond the classroom.

There are two home extension activities for Significant task 2: "10-centimeter Treasure Hunt" and "Thumbs Up." In addition, CCS activity 7 is an extension of the centimeters and meters activity that has the teacher instructing students on how to use the measurement data they collected to create a line plot as another way to express the results.

Targeted Learning: On Core lessons 70, 71 & 73 for metric measurement and 74, 75, 76, 77 for estimating measurement for targeted learning groups.

Common assessments including the end of unit summative assessment:

L:\Grade 2\Assessments\Unit Assessments\Grade 2 Unit 5.doc

L:\Grade 2\Assessments\Scoring Guides\Grade 2 Unit 5 Scoring Guide.doc
L:\Grade 2\Assessments\Assessment Results for Parents\Gr 2 Unit 5 parent letter.doc
L:\Grade 2\Assessments\Assessment Fact Checks\Fact Check Unit 5 Using Tens.doc

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and perserve in solving, use appropriate tools strategically, and attend to precision,

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 2

Purpose of the Course (from CCSS): In Grade 2, instructional time should focus on four critical areas: (1) Extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

Name of the Unit 6: Addition and Subtraction Within 100	Length of the unit: 6 weeks
Purpose of the Unit: Students use their understanding of addition to develop fluency with addition and subtraction within 100. They utilize 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. Students will communicate precisely by engaging in discussion about their reasoning using appropriate mathematical language. Students solve word problems involving lengths.	
Common Core State Standards Addressed in the unit: **2.NBT.5: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.** **2.NBT.9: Explain why addition and subtraction strategies work, using place value and the properties of operations.** ***2.NBT.1: Understand that the three digits of a three- digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:*** ***2.NBT.1a: 100 can be thought of as a bundle of ten tens—called a "hundred."*** ***2.NBT.1b: The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).*** ***2.OA.1: Use addition and subtraction within 100 to solve one and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.[1]*** *2.NBT.6: Add up to four two-digit numbers using strategies based on place value and properties of operations.* 2.MD.6: Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, and represent whole-number sums and differences within 100 on a number line diagram.	

Big Ideas:	Essential Questions:
1. Place value is based on groups of ten. 2. Knowing properties of operations and number patterns allows us to be flexible when working with numbers. 3. Addition is putting together or adding to and subtraction is taking apart or taking from.	1. What types of questions does adding and subtracting answer? 2. What strategies can we use to make solving addition and subtraction problems easier? 3. How does the position of a digit affect its number value? 4. What are the benefits of representing a number in any given way?
Students will know: 1. models and properties for addition and subtraction can be used to make computation more efficient and accurate 2. mathematical tools can be used to assist with addition and subtraction of larger numbers 3. the standard algorithm for addition and subtraction with regrouping	Students will be able to: 1. fluently add and subtract within 100 using strategies based on place value, properties of operations and/or the relationship between addition and subtraction 2. explain why addition and subtraction strategies work, using place value and properties of operations 3. use the standard algorithm for adding two digit numbers

Significant task 1: Ways of Adding Larger Numbers

Students begin their exploration of adding larger numbers by learning about numbers, their magnitude and their relationship to one another in an activity called “In the Ballpark”. Working in small groups, children practice estimating and develop an awareness that there are times when they do not need to know the exact amount, but merely that they are “in the ballpark”. The teacher guides the students through an activity where they estimate quantities of familiar objects, like pencils, based on a sample or “benchmark” collection. Then they estimate the total cost of several objects using computational estimation and mental math. An extension is provided (CCSS Activity 15) that encourages students to use any of the strategies they have learned to this point (such as using coins, skip counting or breaking apart numbers) when adding up to four 2 digit numbers.

In the next activity, “An Addition Seminar” children share ideas during a full class discussion about how to solve problems when adding multi-digit numbers. Some strategies that are introduced or reinforced are; mental math, using tallies and using the 200 chart. An imagined grocery store shopping trip and a trip to the baseball game provide the context for these activities. CCSS Activity 16 extends this lesson to include practice with adding and subtracting 10 and 100 mentally and using a number line.

Next, students are introduced to base ten pieces as a tool for finding sums and use them to solve addition problems. This is an exploratory activity led by the teacher and should be approached in that fashion. Students should be allowed to use the pieces freely and share their thinking in a variety of ways. Many concrete examples of regrouping will need to be demonstrated and practiced as this is a more difficult concept for students. ON Core lesson 64 provides direct instruction with regrouping using base

ten pieces and can be used with the whole class or during small group instruction based on classroom need. The lesson is extended in CCSS Activity 17 as students are given an opportunity to practice writing their addition problems using numbers in expanded form.

Now that students have been introduced to a variety of strategies to solve addition problems and understand that each digit represents a number of tens and ones, the teacher introduces a two digit paper-and-pencil algorithm. Students must also have a solid understanding of the concept that ten ones can be exchanged for a ten and ten tens can be exchanged for a hundred before they proceed to the algorithm. The teacher uses base ten pieces to model the problem and also illustrates the similarities between the paper and pencil method and the base ten pieces method. Students are shown this method as one, of a number of ways, to solve an addition problem. The teacher continues to ask students to solve problems using more than one approach in the practice examples.

To conclude this task, students solve multiple addend problems while demonstrating a variety of ways to solve them. Students are introduced to the calculator as an additional tool for problem solving and may use them to check their answers after they have worked in pairs on a problem solving strategy. Snack Shop Addition uses the context of a Children's Restaurant Menu to provide students an opportunity to choose a problem solving strategy and show and explain their thinking. It may be necessary to review and explain dollar and cents notation in this activity.

Differentiation: Providing students with materials that range from concrete to abstract will allow students to work on their developmentally appropriate level. ON Core lesson 64 provides direct instruction with regrouping using base ten pieces and can be used with the whole class or during small group instruction based on classroom need. An extension can be provided using CCSS activity 19 that expands the problem solving to adding up to four two digit numbers in pairs or alone.

Timeline: 15 days
Key vocabulary: Benchmark, estimation, number sense, reasonable, seminar, fluent, compose, decompose, place value, digit, ten more, ten less, one hundred more, one hundred less, add, subtract, sum, equal, addition, subtraction
Resources: Math Trailblazers URG 9 Lesson 1, 2, 4, 5, 6, On Core lesson 64

Significant task 2: Ways of Subtracting Larger Numbers

This task parallels the previous one except that it focuses on subtraction. The students begin with a subtraction seminar led by the teacher, where they share their ideas about subtraction. They discuss and categorize subtraction problems based of level of difficulty and work as a class to solve and check two digit subtraction problems. They explore and use a variety of strategies they developed in the previous unit such as the 200 chart and tallies. They review using a number line and place value strategies like minus 10 and minus 100, when the problems are made easier by using them. Modeling of these strategies is provided through CCSS activity 20 which is led by the teacher in small groups or whole class.

Next the teacher reviews how to use base ten pieces to solve subtraction problems while continuing to encourage students to use more than one strategy. The paper-and-pencil method is also introduced when students have had a few days of experience with the base ten pieces method. Students are guided through using the algorithm to solve 2 digit subtraction problems by the teacher. They practice this and other methods while sharing their solution strategies orally and in writing.

To conclude this task students go back to the "Snack Shop" to solve addition and subtraction problems based on the children's menu introduced in the previous task. Students calculate the total snack shop bill and determine the amount of change or the additional money needed using the problem solving strategies they have learned so far (200 chart, number line, expanded notation, base ten pieces etc.)

Differentiation: Additional days of practice can be provided along with direct instruction in small groups for students who need additional time to solidify their subtraction problem solving strategies. Continued practice with addition and subtraction facts using "That's A Fact" on the computer will support this unit's objectives. Coins could also be used to support the snack shop problem solving in this task.

Timeline: 10-15 days
Key vocabulary: compose, decompose, place value, digit, ten more, ten less, one hundred more, one hundred less, add, subtract, sum, equal, addition, subtraction, number line
Resources: Math Trailblazers URG 11 Lessons 2, 4, 5, 6

Common learning experiences
http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_2/Mathematics/Virtural_Manipulatives

http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_2/Mathematics/Math_Links/4__Addition_and_Subtraction_wi

Targeted Learning:
Add to 100 game
CCSS Activity 19- Extension lesson for Task 1 Adding Larger Numbers
On Core Lesson 46 provides instruction in breaking apart ones to add 2 digit numbers
On Core lesson 47 provides instruction in making a ten to add 2 digit numbers
On Core lesson 48 provides instruction in applying place value concepts to add 2 digit numbers
On Core Lessons 39 & 40 provide instruction with using the number line for 2 digit subtraction
On Core lesson 45 provides instruction on using addition to find differences
On Core Lessons 36, 37 38 provide instruction on using the algorithm for 2 digit addition
On Core Lessons 41, 42, 43, 44 provide an extension/instruction on using the algorithm for 2 digit subtraction
On Core Lessons 49 provides instruction in using or drawing base ten pieces when adding 2 digit numbers
On Core Lessons 50 & 51 provide extension/practice in ways to add 3 or 4 addend

Common assessments including the end of unit summative assessment:
Unit assessment TBD
L:\Grade 2\Assessments\Assessment Fact Checks\Fact Check Unit 6 Near Doubles.doc
Scoring Guide TBD
Parent Letter TBD

Teacher notes:

- Process standards to highlight through instruction: construct viable arguments and critique the reasoning of others, model with mathematics, use appropriate tools strategically, attend to precision

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 2

Purpose of the Course (from CCSS): In Grade 2, instructional time should focus on four critical areas: (1) Extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

Name of the Unit 7: Addition and Subtraction Within 1000	Length of the unit: 4 weeks
Purpose of the Unit: Students extend the work from 2.NBT. to 3 digit numbers. Students will have ample experiences using concrete materials and pictorial representations to support their work in adding and subtracting numbers within 1000. Students will also compose and decompose a ten including strategies such as making a ten, making a 100, breaking apart a ten or creating an easier problem. Students will learn how to add or subtract either a 10 or 100 to any number between 100 and 900 and understand that when doing so, the digit changes in the corresponding tens or hundreds place. Students will continue to increase their problem solving ability, explain their mathematical reasoning and support it with drawings and objects.	
Common Core State Standards Addressed in the unit: **2.NBT.1: Understand that the three digits of a three- digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:** **2. NBT.1b: The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).** **2. NBT.7: Add and subtract within 1000 using concrete models or drawings and strategies based on place value, properties of operations and/or the relationship between addition and subtraction. Understand that in adding or subtraction three digit numbers, one adds or subtracts hundreds and hundreds, then and tens and ones and ones and sometimes it is necessary to compose or decompose tens or hundreds.** 2. NBT.8: Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900. 2. NBT.9: Explain why addition and subtraction strategies work, using place value and the properties of operations.	
Big Ideas: 1. Place value is based on groups of ten. 2. Knowing properties of operations and number patterns allows us to be flexible when working with numbers. 3. In the base ten number system numbers	Essential Questions: 1. What types of questions does adding and subtracting answer? 2. What strategies can we use to make solving addition and subtraction problems easier?

to the left of the digit are ten times larger and numbers to the right are ten times less.	3. How does a digit's placement in a number affect its value?
Students will know: 1. models for addition and subtraction can be used to make computation more efficient and accurate 2. mathematical tools can be used to assist with addition and subtraction of larger numbers 3. at least two mathematical strategies to add and subtract numbers within 1000	Students will be able to: 1. add and subtract within 1000 using strategies based on place value, properties of operations and/or the relationship between addition and subtraction 2. explain why addition and subtraction strategies work, using place value and properties of operations

Significant task 1: Adding within 1000
In this task, the teacher reviews the strategies used in Unit 6 "Addition and Subtraction to 100" to extend students ability to problem solve when adding and subtracting to 1000.

The task begins with a review of how to use place value to find ten more, ten less, 100 more and 100 less using base ten pieces to model in ON Core Lesson 62 and extends to counting on and back by 10 and 100. Then students once again us the place value strategy to explore number patterns with larger numbers and practice counting by tens and hundreds to 1000 using a section of a 1000 chart in ON Core Lesson 63. Next. A third place value strategy is reviewed (breaking apart numbers or expanded notation) to practice adding 3 digit numbers in On Core Lesson 53.

After the review of place value strategies, the teacher leads the students through two additional strategies already introduced in Unit 6, using base ten pieces or drawing base ten pieces, to add 3-digit numbers (On Core Lessons 52, 54 and 55). After students have had a thorough review of all strategies for adding larger numbers and an opportunity to practice them through; direction instruction, guided instruction, small group instruction and independently, students may be exposed to the paper and pencil strategy using CCSS Activity 18 (Student Master).

Adding within 1000 using the algorithm is NOT a requirement at this grade level, however, being able to do so by using concrete models or drawings and strategies based on place value, properties of operations and/or the relationship between addition and subtraction, is.

Differentiation: Any and all problem solving strategies are acceptable in this unit. Students working in pairs or small groups allows for students to see a variety of strategies used and not just the one they are familiar or comfortable with. Providing a context for this unit will be necessary since most of the lessons are direct instruction and practice.

Timeline: 10 days
Key vocabulary: base-ten blocks or pieces,
Resources: On Core Lessons 62, 63, 52, 53, 54, 55 Math Trailblazers URG 9 Lesson 5 CCSS Activity 18 only

Significant task 2: Subtracting within 1000
In this task students solve problems involving 3-digit subtraction by using the strategy "make a model" and applying place value understanding to the regrouping process. In problem solving, knowing when to subtract and when to regroup requires higher level conceptual development. This development can be achieved by using models and other strategies they have been shown in earlier units such as using a 1000 chart, a number line and breaking apart numbers (expanded notation). Students are given an additional strategy for problem solving, a graphic organizer, to assist them in "unlocking" a math problem. It leads them to; identify the question, find important information and to show and explain.

The teacher will model subtraction problems throughout this task as students work along with them. Three digit subtraction without regrouping, with regrouping in the tens and hundreds and regrouping with zeros will be explored. The standard algorithm is displayed, but students focus will be on demonstrating their problem solving strategies, not using the standard algorithm.

Differentiation: Although the lessons rely primarily on modeling with base ten pieces, the teacher will elicit from students or demonstrate at least one additional strategy to solve the subtraction problems in this unit. All problem solving strategies that lead students to the correct answer are acceptable.

Timeline: 10 days
Key vocabulary:
Resources: On Core Mathematics Lesson 57, Math Trailblazers URG 11 Lesson 4 CCSS Activity 21 only, Lesson 5 CCSS Activity 22 only , ON Core Mathematics Lesson 58, 59, 61, 57

Common learning experiences:
http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_2/Mathematics/Virtural_Manipulatives

http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_2/Mathematics/Math_Links/8__Addition_and_Subtraction_wi

Enrichment Lessons utilizing the standard algorithm inly can be found in ON Core Lessons 56 & 60.

Common assessments including the end of unit summative assessment:
Unit assessment TBD
Fact Check Mixed
Scoring Guide TBD
Parent Letter TBD

Teacher Notes:

- In problem solving, knowing when to subtract and when to regroup requires higher level conceptual development. This development can be achieved by using models and other strategies they have been shown in earlier units such as using a 1000 chart, a number line and breaking apart numbers (expanded notation).

- Process standards to highlight through instruction: make sense of problems and persevere in solving them, 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.

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 2

Purpose of the Course (from CCSS): In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

Name of the Unit 8: Reasoning with Shapes	Length of the unit: 4 weeks
Purpose of the Unit: Students will analyze, identify, describe and draw shapes by examining their sides, angles and faces. They will use the repetition of shapes to create rectangular arrays and find the total number by writing an equation to express the sum. They will also partition shapes into fractional parts and reinforce their understanding of odd and even numbers of objects.	
Common Core State Standards Addressed in the unit: **2.G.1: Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.[1] Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.** **2.G.2: Partition a rectangle into rows and columns of same sized squares and count to find the total number of them.** 2.OA.4: Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends. 2.G.3: Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	
Big Ideas: 1. Attributes allow us to name and categorize shapes. 2. 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 3. Fractions represent a relationship between a part and a whole.	Essential Questions: 1. How are geometric figures constructed? 2. How can two dimensional shapes be described? 3. How can fractions be modeled? 4. What are different ways to count?
Students will know: 1. how to identify shapes using attributes 2. creating an array to group objects makes counting them easier 3. that fractions partition equal size pieces but the two pieces need not have the	Students will be able to: 1. recognize shapes such as triangle, quadrilaterals, pentagons, hexagons and cubes 2. draw shapes such as such as triangle, quadrilaterals, pentagons and hexagons

same shape	3. partition a rectangle into rows and columns of the same sized squares and count to find the total number of them 4. use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns and write and number sentence to express the sum as the total of equal addends 5. partition circles and rectangles into 2, 3 or 4 equal parts and describe the parts using the words halves, thirds, fourths 6. recognize that equal shares of identical wholes need not have the same shape

Significant task 1: Geometry All Around
In this task students share prior knowledge about plane geometry shapes and practice drawing, creating, identifying and labeling shapes. The task begins with the teacher reading "The Greedy Triangle" by Marilyn Burns. It provides an introduction to shapes and a jumping off point for an activity where students make shapes with their arms and hands while working with partners. Next using chart paper with a drawing of each shape on it (about 5 shapes total), the teacher asks students what they know about each shape and records their ideas without making corrections. The class will reassess the ideas later in the task. A guessing game is played next and student's write shape names and draw shapes with activity sheets provided by the teacher.

Throughout the week students will be teaching the class about shapes for a part of the lesson through an activity titled "You Be the Teacher". Each student signs up to choose a shape to learn about and brings a sheet home to collect information about their assigned shape. Over the next week, the teacher asks for volunteers to share their findings and they are posted by shape in the classroom. Students discuss their findings and articulate the types of objects found that matched their shape and what type of attributes they have in common. In class, students work on creating a shapes book in work-stations set up with magazines, paper, crayons, etc. Students name and describe shapes, draw them, and may use pictures from magazines as illustrations. A shape book is completed as their finished product.
At the end of this task is a series of mini lessons or small group activities on sorting and classifying polygons by attributes such as the number of sides and identifying parallelism. This could be done through stations that students would circulate to.

Timeline: 5-7 days
Key vocabulary: shape, circle, square, triangle, rectangle, pentagon, quadrilateral, hexagon, trapezoid, attribute, parallel
Resources: Geometry All Around Great Source Education Group (in binder), The Greedy Triangle-Marilyn Burns

Significant task 2: What is a rectangle?
In this task students delve further into shapes by exploring quadrilaterals (four-sided polygons). They

start by playing “Guess My Shape Rule” and sort Shape Cards by the number of sides. They discuss whether all three sided shapes are triangles and then sort shapes with four sides in different ways. They write an answer to the question: “What is a rectangle?” to conclude the activity.

In the next activity students use color tiles to build rectangles and describe and draw what they’ve made. Students investigate the number of rectangles that can be made from a given number of tiles and create different rectangular arrays in “Building Rectangles, Describing Rectangles, and Picturing Rectangles” activities. Drawing them on squared paper and labeling the rows and columns numerically record representations of those arrays. Then they create number sentences to count the number of squares in the array and develop a basic understanding of repeated addition as a foundational strategy for multiplication.

Timeline: 5-6 Days
Key vocabulary: shape, circle, square, triangle, rectangle, pentagon, quadrilateral, hexagon, trapezoid, attribute, array, graph paper, rows, columns,
Resources: Investigations-Investigating Quadrilaterals, Building Rectangles, Describing Rectangles, Picturing Rectangles

Significant task 3: Fractions of Geometric Shapes

In this task students begin by using two colors of tiles to make a rectangular array that are half one color and half another in the “Halves of Rectangles” activity. Students use two colors to color the same rectangle in two ways to show halves and not halves. Circles and halves of circles will need to be introduced here since it is included in the standards.

Next students fold and cut different shapes into congruent halves, then make a shape of their own that can be cut and folded in half (include circles) through the context of Mr. Shape-O and his shape shop. The activity concludes with a teacher led discussion about which rectangles make halves using number values for each student created rectangle.

Students are then guided in creating rectangular flags divided into halves with each fractional part of the flag a different color in the Fraction Flags activity. Students decide on the size of the flag and how to divide it in half using color tiles to design them and finish this activity by copying the flag designs, using construction paper squares, onto large paper to create a finished product. Pictures of flags can be used as a starting point for this activity.

Students end this task by using color tiles to find rectangles that can be divided into fourths and thirds and make fraction flags to show thirds and fourths. Two-dimensional arrays are constructed with color tiles and are divided into thirds and fourths. Students describe fractional parts of an array as fractions of a rectangular region. Those same arrays are also described as fractional parts of the set of tiles used to construct the array.

Timeline: 5-6 Days
Key vocabulary: halves, half, whole, thirds, fourths, congruent, fraction
Resources: Investigation 3 Geometric Shapes Sessions 1-8

Common Learning Experiences:

http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Grade_2/Mathematics/Math_Links/2__Reasoning_with_Shapes

Targeted Learning: On Core mathematic provides lessons and activities for remedial and enriched instruction in small groups in the following categories:

- Equal Groups and Repeated addition-Lessons 17 & 18
- Two and three dimensional shapes-Lessons- 99,100,101,102,103
- Partitioning rectangles-Lesson-104
- Fractions-Lessons-104, 105, 106, 107
- Problem solving fractions- 108

The Dialogue Box in this unit provides talking points and questioning techniques for teachers to guide discussions with students on major concepts.

Common assessments including the end of unit summative assessment:
TBD Unit 8 Assessment
TBD Unit 8 Scoring Guide
TBD Unit 8 Parent letter
L:\Grade 2\Assessments\Assessment Fact Checks\Gr 2 Facts Benchmark Assessment beginning and end of year.doc

Teacher notes:

- Process standards to highlight through instruction: construct viable arguments and critique the reasoning of others, model with mathematics, and reason abstractly and quantitatively.

Sage Curriculum Unit Sequencing

Grade 7

Math 7	Honors Math 7 (Pre-Algebra)
Unit 1 – Adding and Subtracting Rational Numbers (Integrated Unit)	
Unit 2 – Multiplying and Dividing Rational Numbers (Integrated Unit)	
Unit 3 – Applications of Proportions (Integrated Unit)	
Unit 4A – Connecting Tables, Equations and Graphs	**Unit 4 – Linear Relationships and Equations**
Unit 4B – Expressions and Equations	
Unit 5 – 2D and 3D Geometry and Measurement (Integrated Unit)	
Unit 6 – Probability (Integrated Unit)	
Unit 7 – Samples and Populations	**Unit 7 – Congruency, Similarity and Pythagorean Theorem**

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 7

Purpose of the Course (from CCSS): In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

Name of the Unit: Unit 1 Adding and Subtracting Rational Numbers (Integrated)	Length of the unit: 5 weeks

Purpose of the Unit: This unit builds on students' work in 6th grade comparing the values of rational numbers and extends this understanding to discover how these numbers act when they're combined. Students will work with manipulatives, pictures, and number lines to model problems in context and develop their own algorithms for addition and subtraction of signed numbers.

Common Core State Standards Addressed in the unit:

7.NS.1: Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

a. Describe situations in which opposite quantities combine to make 0. ***For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.***

b. Understand $p + q$ as the number located a distance $|q|$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.

c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.

d. Apply properties of operations as strategies to add and subtract rational numbers.

7.NS.3: Solve real-world and mathematical problems involving the four operations with rational numbers. (NOTE: Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)

7.EE.3: Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9*

inches from each edge; this estimate can be used as a check on the exact computation.	
Big Ideas: 1. Operations can be modeled with a visual representation. 2. A number and its opposite combine to make zero. 3. Addition and subtraction are inverse operations.	Essential Questions: 1. When is the sum or difference of two numbers positive, negative or zero? 2. What are the benefits of representing a relationship in any given way? 3. How are addition and subtraction related?
Students will know: 1. the sign of a number impacts which direction you move on the number line 2. subtraction can be re-written by adding the opposite 3. an equal number of positives and negatives combine to make zero pairs 4. when combining two rational numbers, the sign of the sum will be the sign of the one with the larger absolute value 5. the standard algorithms for adding and subtracting rational numbers	Students will be able to: 1. model addition and subtraction of integers on a number line 2. model addition and subtraction of integers with positive and negative symbols (the charge-back model) 3. write numeric equations based on a number line model 4. write and solve numeric equations to model a real-world problem 5. use algorithms to solve addition and subtraction problems with rational numbers 6. describe situations in which two quantities combine to make zero 7. compare the absolute values of two numbers and describe how that impacts their sum or difference 8. describe a situation that could be modeled by a numeric equation involving rational numbers

Significant task 1: Addition of Rational Numbers

Significant task 1 is grounded in Investigations 1 and 2 of the Accentuate the Negative book. Starting in full class discussion, students will be introduced to visual models, such as number lines and positive and negative symbols. Students will then investigate the results of combining opposites and all integers in small groups and pairs. They will build off of their understanding from 6th grade about the absolute value of numbers to reason about how the magnitude of numbers impacts the final sum. Students will look at strategically grouped addition equations to develop algorithms for adding integers with the same signs and with different signs. They will then extend these rules to work with all rational numbers. Throughout the task, students will be exposed to multiple real-world contexts for both positive and negative numbers, including temperature, banking, velocity, football, and elevation. Students will be asked to write and solve equations to model these situations. Full class discussion will focus on how students use the models to solve addition problems.

This task directly addresses the following standards: 7.NS.1 and 7. NS.3

Timeline: 10 days
Key vocabulary: sum, absolute value, opposites, zero pairs, rational number, integer
Resources: Accentuate the Negative Investigations 1 and 2, Pizzazz worksheets

Significant task 2: Subtraction of Rational Numbers

Significant task 2 is grounded in the remainder of Investigation 2 of the Accentuate the Negative book. Students will work in pairs, building off of their understanding of zero pairs from significant task 1 to reason about how to model subtraction. They will use these models to discover relationships between subtraction and adding the opposite. After establishing an algorithm for these inverse operations, students will extend these rules to work with all rational numbers. Students will continue to be exposed to real-world contexts, including temperature, banking, velocity, football, and elevation. Students will be asked to write and solve equations to model these situations. Full class discussion will focus on the reasoning behind adding the opposite, and students' solution methods.

This task directly addresses the following standards: 7.NS.1 and 7. NS.3

Timeline: 10 days
Key vocabulary: difference, absolute value, opposite, fact families, inverse operation, rational number, integer
Resources: Accentuate the Negative Investigations 1 and 2, Pizzazz worksheets

Common learning experiences:

Clicker practices
Classifying integers and rational numbers practice
Ordering rational numbers practice with flashcards
Flashcard fluency practice with rational numbers
Whiteboard practice- drawing positive and negative signs
Problems of the week (pre-algebra only)

Common assessments including the end of unit summative assessment:

Mathematical Reflections 2 from Accentuate the Negative after significant task 2.
Operations on the number line – after significant task 2
Common skills assessment at the end of significant task 2

Teacher notes:

- Process standards to highlight through instruction: reason abstractly and quantitatively, use appropriate tools strategically, attend to precision, look for and make use of structure
- Integrate evaluating expressions, order of operations, "Is it a solution?" type questions, and equivalent expressions/equality for example: "does 3 + (-5) = 6 + (-7)? " or "4 + ____ = 3 + (-9)", 1-step equations.
- When students move away from the concrete models, they often confuse when to use addition or subtraction to find their answer. Teachers should remind students that they can still imagine the model.
- Remember to show number line models with 1 and 2 arrow scenarios.

- During significant task 2, addition of rational numbers should be reviewed, and intertwined with subtraction once students are proficient with each operational in isolation.
- During both significant tasks students should move beyond working with integers to include all rational numbers. However, in terms of differentiation, students must first be proficient with their work with integers. Fractions can be used to motivate the development of algorithms beyond the models.

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 7

Purpose of the Course (from CCSS): In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

Name of the Unit: Unit 2 Multiplying and Dividing Rational Numbers (Integrated – with extensions)	Length of the unit: 5 weeks
Purpose of the Unit: This unit builds on students' work in 6th grade of multiplying and dividing rational numbers and extends this understanding to include integers. Students will work with manipulatives, pictures, and number lines to model problems in context and develop their own algorithms for the multiplication and division of signed numbers. In the extension, students will develop the 8th grade knowledge and skills related to real numbers.	
Common Core State Standards Addressed in the unit: **7.NS.2: Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.** **a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.** **b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If *p* and *q* are integers, then –(*p*/*q*) = (–*p*)/*q* = *p*/(–*q*). Interpret quotients of rational numbers by describing real-world contexts.** **c. Apply properties of operations as strategies to multiply and divide rational numbers.** **d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.** **7.NS.3: Solve real-world and mathematical problems involving the four operations with rational numbers. (NOTE: Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)** 7.EE.1: Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. 7.EE.2: Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."*	

7.EE.3: Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*

Pre-algebra extension standards:

8.NS.1: Understand informally that every number has a decimal expansion; the rational numbers are those with decimal expansions that terminate in 0s or eventually repeat. Know that other numbers are called irrational.

8.EE.3: Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3 × 108 and the population of the world as 7 × 109, and determine that the world population is more than 20 times larger.*

8.EE.4: Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.

8.NS.2: Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π2). *For example, by truncating the decimal expansion of , show that is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*

8.EE.1: Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example, 32 × 3–5 = 3–3 = 1/33 = 1/27.*

8.EE.2: Use square root and cube root symbols to represent solutions to equations of the form $x2 = p$ and $x3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that is irrational.

Big Ideas:	Essential Questions:
1. Multiplication and division are inverse operations. 2. Patterns can be used to develop an algorithm. 3. Exponents are used to represent repeated multiplication.	1. When is the product or quotient of two numbers positive or negative or zero? 2. How can patterns be generalized? 3. (Extension) How are the area of a square and square roots related? 4. (Extension) What are the benefits of representing a number in any given way?
Students will know: 1. an even number of negative signs produces a positive product or quotient. 2. an odd number of negative signs produces	Students will be able to: 1. use the distributive property to expand expressions 2. multiply rational numbers

a negative product or quotient 3. division by zero is not defined 4. the algorithms for multiplying and dividing rational numbers 5. (extension) exponents model repeated multiplication 6. (extension) properties of exponents 7. (extension) properties of scientific notation	3. divide rational numbers 4. write and solve numeric equations to model a real-world problem 5. describe a situation that could be modeled by an equation involving rational numbers 6. (extension) use exponent rules to evaluate an expression 7. (extension) find the square or cube root of a number 8. (extension) estimate a square root to the nearest tenth 9. (extension) convert between standard numeral and scientific notation 10. (extension) apply operations on numbers expressed in scientific notion to solve problems

Significant task 1: Multiplying Rational Numbers

Significant task 1 is grounded in investigations 3 and 4 of the Accentuate the Negative book. Students will extend multiplication rules to include fractions and negative numbers by looking at patterns and repeated addition. Students will also look at long strings of factors to discover how the number of negative signs impacts the final product. Students will justify why this happens in both small group and whole class discussions. In the second half of the investigation, students will discuss how the commutative property allows the strategic multiplication of numbers, allowing them to handle sets of multiple factors more easily, by cancelling before multiplying. This task will be guided by the teacher with pair-share and small group work used intermittently. Students will review the skills learned in 6th grade for multiplying fractions and build on them, learning how to factor/simplify the fractions prior to multiplying. Finally, students will build on the ideas of repeated addition and their understanding of area models to re-write expressions using the distributive property.

This task directly addresses the following standards: 7.NS.2, 7. NS.3, 7.EE.1, 7.EE.2, 7.EE.3

Timeline: 10 days
Key vocabulary: product, factor, distributive property, commutative property, simplify, equivalent expressions, rational, integer
Resources: Accentuate the Negative Investigation 3 (multiplication), Investigation 4 (distributive property with area models), Passport Section 3.5 (multiplication)

Extension Task: Pre-algebra only

This extension task is grounded in applications of multiplication of rational numbers. Students will work in small groups, using their understanding of multiplication to evaluate positive exponents, including rational number bases. Students will examine patterns of exponents to extend this definition to negative exponents. Students will be presented with real-world problems involving very large and very small numbers. Students will apply their knowledge of exponents to scientific notation and be able to convert between scientific notation and standard numerals. Students will continue their work with exponents and discover the exponent rules for multiplication and division by expanding each expression and

noticing patterns. Whole class discussion will focus on sense making around why the rules work and why positive exponents represent larger numbers.

Students will make connections between the areas and volumes of squares and cubes and use these to develop their understanding of square roots and cube roots. Students will compare rational and irrational numbers through their investigations of square roots and approximating square roots.

This task directly addresses the following standards: 8. NS. 1, 8. NS. 2, 8. EE. 1 – 8.EE. 4
Timeline: 7 days
Key vocabulary: squared, square root, cubed, cube root, terminate, repeat, rational, irrational, base, exponent, power, scientific notation, decimal expansion, standard numeral, radical
Resources: Rational vs. irrational Passport book section 6.6, Real Number system and square roots Passport book section 9.2, Scientific Notation Passport book section 6.8

Significant task 2: Dividing Rational Numbers

Significant task 2 is investigation 3 of the Accentuate the Negative book. Students will collaboratively develop division rules, including those about division with zero, by looking at patterns and making connections between multiplication and division. This task will extend students' work in 6th grade with division of rational numbers to include negative dividends and divisors. Students will use division to represent situations that involve repeated subtraction. Students will use division to change fractions to decimals and decide if the resulting decimal is terminating or repeating. Whole class discussion will focus on connections between the division and multiplication of rational numbers.

This task directly addresses the following standards: 7.NS.2, 7. NS.3, 7.EE.3
Timeline: 5 days
Key vocabulary: quotient, terminate, repeat, reciprocal, dividend, divisor
Resources: Investigation 3 in Accentuate the Negative, Passport book section 3.6 p. #134

Common learning experiences:

Modeling with positive and negative signs
Clicker tasks
Rotating stations
Brainy/Zany problems to compare distributive property solutions

Common assessments including the end of unit summative assessment:

Area and perimeter problem involving square roots (pre-algebra only)
Number Trick Task (distributive property – pre-algebra only)
Common skills assessment at the end of significant task 2

Teacher notes:

- Process standards to highlight through instruction: students will reason abstractly and quantitatively, attend to precision, look for and express regularity in repeated reasoning.
- Use these skills in the context of evaluating expressions, order of operations, solving equations,

exponents.

- Ask students to write and compare expressions for the perimeter of a rectangle.
- Teach students to simplify fractions before they multiply.
- Show distributive property in multiple ways, including as a model for the combination of areas of a rectangle, as repeated addition, and using arrows to indicate the distribution of the coefficient to each term.
- During significant task 2, multiplication of rational numbers should be reviewed, and intertwined with all operations once students are proficient with each operational in isolation.
- During both significant tasks students should move beyond working with integers to include all rational numbers. However, in terms of differentiation, students must first be proficient with their work with integers. Fractions can be used to motivate the development of algorithms beyond the models.

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 7

Purpose of the Course (from CCSS): In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

Name of the Unit: Unit 3 Applications of Proportions (Integrated)	Length of the unit: 7 weeks
Purpose of the Unit: Students will expand on their work from 6th grade on ratios and rates and unit rates. Students will further their understanding of equivalent ratios to write and use proportions in real-world applications, including percent. Students will then apply their understanding of scale-factors (used to reason about and solve proportions) to create and interpret scale drawings. This unit lays the foundation for the upcoming unit on connecting between multiple representations, where students will be asked to identify unit rates and proportional relationships in table, graph, and equation form.	
Common Core State Standards Addressed in the unit: **7.RP.3. Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.)*** **7.G.1. Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.** 7.RP.1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks ½ mile in each ¼ hour, compute the unit rate as the complex fraction ½ to ¼ miles per hour, equivalently 2 miles per hour.* 7.EE.2: Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."*	
Big Ideas: 1. Proportions maintain their relationships despite being scaled. 2. Proportions show equivalent forms of the same ratio. 3. Percent is a standard part-whole ratio where the whole is 100.	Essential Questions: 1. How do multiplicative relationships find an unknown quantity? 2. How can representing a relationship in an equivalent form help to make decisions?
Students will know: 1. a percent is a comparison out of 100. 2. all parts of a situation should combine to make 100%. 3. ratios must change by the same scale	Students will be able to: 1. compute unit rates 2. decide which unit rate is most appropriate for a situation 3. interchange between equivalent forms of

factor (multiplicative relationship) in order to be equivalent 4. a unit rate is a part to whole rate where the whole is 1 5. two unit rates are possible for each situation 6. multiple strategies to compute with percents, including: - Proportions - Benchmarks - Multiplying decimals	a fraction, decimal, or percent 4. decide if a relationship is proportional 5. write and solve a proportion to find a missing value 6. solve problems involving percent 7. compute actual lengths/areas from scale drawings 8. reproduce a scale drawing at a different scale

Significant task 1: Unit Rates

Significant task 1 is grounded in the concept of unit rate and comparison. In the full class, students will review their work on ratios and rate from 6th grade to establish common vocabulary for part-to-part and part-to-whole ratios. In small groups, students will compute and compare unit rates of items from a grocery store to determine which is a better deal. They will have to decide which unit rate is the most useful in the context. Full class discussion will focus on the need for a comparable unit rate.

In this task students will:

- compute the two forms of a unit rate and explain what each means
- compare unit rates to determine which situation is faster, a better deal, etc.

This task directly targets the following standards: 7.RP.1.

Timeline: 4 days
Key vocabulary: rate, ratio, part-to-whole, part-to-part, unit rate, scale factor, multiplicative
Resources: TBD Unit Rate review, Best Buy, Walk-a-thon, Transition Kit

Significant task 2: Modeling proportional relationships

Significant task 2 extends students' work from significant task 1, pushing them to create equal ratios beyond the unit rate. In small groups, students will write proportions to model real-world situations. Students will then use a variety of strategies to solve proportions, including multiplying by a scale factor, simplifying one fraction and then scaling, and cross-multiplying. Students will work with graphic organizers and pictorial models such as ratio tables and thinking blocks to solve multi-step ratio problems that cannot be solved using a single proportion. For example, students will explore the dimensions of a rectangle of given area when the dimensions are in a fixed proportion. Full class discussion will focus on comparing and contrasting the different methods and their validity.

In this task students will:

- recognize when relationships are proportional
- write and solve proportions using scale factors and cross-multiplication strategies
- model and solve multi-step ratio/proportion problems using thinking blocks and/or ratio tables

This task directly targets the following standards: 7.RP.3

Timeline: 8 days
Key vocabulary: proportion, cross-multiplication, scale factor
Resources: Strip diagram paper from Megan Staples, Ratio table papers, Proportion papers

Significant task 3: Percent

Significant task 3 requires students to apply their knowledge of proportions and equivalent forms of fractions and decimals to solve multi-step percent problems. Students will investigate the uses of percent through several real-world contexts in small groups. Students will create an "order" from a restaurant menu and calculate tax, tip and discount. Full class discussion will focus on the comparison of different methods of calculating percents, and the reasoning behind each method.

During this task, students should be able to graduate to a higher level of complexity with percent work. Small group instruction will be used as students are ready to move on to progressively more challenging percent problems. Through this differentiation model all students should reach proficiency with calculating percents and working with percent of change. Some students will reach proficiency with mark-ups and discounts (calculating a final cost given a percent change). A possible extension could be to analyze different scenarios involving percentages to arrive at a "best deal".

In this task students will:

- solve percent equations (What percent of 60 is 12?) using proportions
- use 1%, 5%, and 10% to make other percentages
- multiply by the decimal form of a percent
- calculate percent of change
- estimate percent
- understand equivalent forms and non-equivalent forms (Ex: 1 - 10% and 50% does not always equal 60% Ex: 2 - 0.05p + p = 1.05p)

This task directly targets the following standards: 7.RP.3 and 7.EE.2
Timeline: 20 days
Key vocabulary: gratuity, interest, commission, percent, part, whole, benchmark
Resources: TBD Percent materials

Significant Task 4: Scale Drawings

Significant task 4 calls for students to apply their knowledge of proportions to create and interpret scale drawings. In small groups, students will look at a maps of New England to determine distances that they will have to travel on the Cape Cod trip. Student work will be collected and used in the performance assessment for unit 4b. They will then investigate the impact of a scale factor on the area and perimeter of a new shape. Full class discussion will focus on attending to precision in scale diagrams.

In this task students will:

- reproduce a drawing at a different scale (larger or smaller)
- find the scale when given two different-sized drawings
- find the actual measurement when given a scale reproduction
- calculate the area of the actual shape when given a scale reproduction

This task directly targets the following standards: 7.G.1
Timeline: 3 days
Key vocabulary: scale factor, perimeter, area, length, width, blueprint, enlarge, reduce

Resources: Scaling task, scale resources

Common learning experiences:

Station work for different ways to solve proportions
Restaurant menu task
Looking at coupons and discounts

Common assessments including the end of unit summative assessment:

Performance Assessment: Raking Leaves. In this end-of-unit assessment, students will work in small groups to find how much three people should be paid for raking leaves. Students will imagine that their grandmother has asked them to split $70 fairly among three people, each of whom arrived to rake the leaves at a different time. Students will determine the proportion of leaves that each person raked, and split the $70 proportionally to each leaf-raker. Teachers will be available to answer questions and to guide the student work. Students will write a letter to their grandmother detailing how much each person should be paid and why. The final product will be assessed using the department rubric for performance based assessments with the audience being defined as their grandmother.

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and preserve in solving them, model with mathematics, use appropriate tools strategically,
- Some students may have the misconception that proportions can have an additive relationship instead of a multiplicative relationship. Teachers should show multiplying by a scale factor and emphasize that additive relationships do not create equivalent fractions.

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 7 – Honors

Purpose of the Course (from CCSS): In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

Name of the Unit: Unit 4 Linear Relationships and Equations (Honors)	Length of the unit: 10 weeks
Purpose of the Unit: Students will expand on their work from the grade 6 Variables and Patterns unit which studies the relationship between dependent and independent variables to explore linear relationships that model real-world problems. They will further their understanding of the connection between tables and graphs to include linear equations. Using tables, graphs, and equations, students will see the connection between various representations of proportional relationships. Students will expand on the idea of equality from 1-step and 2-step variable equations and inequalities in grade 6 to multi-step variable equations and inequalities including those that have variables on both sides and require the use of the distributive property. All equations are limited to one variable in grade 7. This unit covers the 7th grade concepts and skills from the math 7 units 4A (Connecting Tables Equations and Graphs) and 4B (Expressions and Equations) as well as some of the concepts from the 8th grade unit 4 (Linear Relationships) and 5 (introduction to systems).	
Common Core State Standards Addressed in the unit: **7.EE.4: Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.** **a. Solve word problems leading to equations of the form *px* + *q* = *r* and *p*(*x* + *q*) = *r*, where *p*, *q*, and *r* are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?*** **b. Solve word problems leading to inequalities of the form *px* + *q* > *r* or *px* + *q* < *r*, where *p*, *q*, and *r* are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*** **8.EE.5. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.** *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.* **8.EE.7. Solve linear equations in one variable.** **a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given**	

equation into simpler forms, until an equivalent equation of the form *x* = *a*, *a* = *a*, or *a* = *b* results (where *a* and *b* are different numbers).

b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

8.F.2. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.*

8.F.4. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (*x*, *y*) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.

7.RP.2: Recognize and represent proportional relationships between quantities.
a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
c. Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn*.
d. Explain what a point *(x, y)* on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, *r)* where *r* is the unit rate.

Big Ideas:	Essential Questions:
1. Relationships can be represented as tables, graphs, and equations. 2. Properties of equality and inverse operations are used to solve equations. 3. Relationships with a constant rate of change can be modeled with a linear function.	1. How do the table, graph and equation tell the same story? 2. What's happening in the equation and how do you "undo" that? 3. How can you represent a relationship in an algebraic rule?
Students will know: 1. a proportional relationship in a graph starts at the origin and is a straight line 2. a proportional relationship in a table has equal ratios between data pairs 3. a proportional relationship in an equation is in the form y = mx where m is the unit rate or constant of proportionality 4. how to find unit rate in a table, situation, graph, and equation 5. Y-intercept is the "start point"	Students will be able to: 1. identify a rate of change in a table, equation or graph 2. identify the y-intercept in a table, equation or graph 3. translate information about linear relationships given in a table, a graph, or an equation, to one of the other forms 4. write equations for linear relationships and describe what information the variables and numbers represent 5. use the properties of equality to solve

6. relationships with a constant rate of change can be represented in the form y = *mx* + *b* 7. the properties of equality to solve equations and inequalities 8. when solving equations you can have one solution, multiple solutions, no solutions or infinite solutions	multi-step, one-variable equations and inequalities, including combining like terms, distributive property and variables on both sides

Significant task 1: Rate of Change

Significant task 1 is grounded in the idea of rate of change from investigation 1 of Moving Straight Ahead. In small groups, students will start by calculating a unit rate from student generated walking rates. They will then represent the data in table form, graph form, and equation form. Groups will then look at the tables, graphs and equations for sample students and situations, and relate this information to the three forms. Groups will compare proportional and non-proportional relations in the three forms. Further in the investigation, the situation will change to include a different y-intercept, allowing students to see how a change in y-intercept changes the tables, graphs and equations. Full class discussion will focus on reasoning behind the group's conclusions.

In this task, students will:

- explore the concept of patterns of change between the independent and dependent variables for linear relationships
- construct tables, graphs and equations to represent linear patterns of change and to model problem situations
- translate information about linear relationships given in a table, a graph or an equation to one of the other forms
- identify if a given representation is proportional
- interpret information given in a table, graph, or equation and explain its meaning in context informally explore the meaning of y-intercepts and slope in a real-world situations

This task directly targets the following standards: 7.RP.2, 7.EE.4, 8.EE.5, 8.F.2, 8.F.4

Timeline: 8-9 days

Key vocabulary: proportional relationships, graph, table, equation, (constant) rate of change, unit rate

Resources: Moving Straight Ahead – Investigation 1.1-1.3, ACE problems p. #3, 4, 7, 8, Algebra: Puzzles and Problems p. 96 – 103, 7th grade On Core mathematics page 39-46, 8th grade On Core Mathematics pages 36-40, 7th grade Common Core Transition Kit page 1-10,
Passport 13.2, 13.3, 13.4, 13.5, 13.6

Significant task 2: Interpreting parts of a linear relationship

Significant task 2 allows students to examine real-world problems that model linear relationships. This case looks at students walking in a walk-a-thon to raise money. In the context of this scenario, students will work in small groups to determine rate of change (slope) and starting points (y-intercepts) of each participant. They will then have to identify these rates and numbers in the tables, equations and graphs

for each participant and interpret their meanings. Students will come back together as a large group to share their findings focusing on the reasoning behind their solution method (why did they choose the strategy? Why does it work?). See specific note in Teacher note section for this task.

In this task, students will:

- translate information about linear relationships given in a table, a graph or an equation to one of the other forms
- find solutions to problems using a graph or a table
- explore the connections between linear equations and patterns in the tables and graphs to those relationships including rate of change and the y-intercept
- make connections in graphs and tables to parts of equations (slope and y-intercept)
- write equations for linear relationships and describe what information the variables and numbers represent

This task directly targets the following standards: 8.F.4

Timeline: 9 days
Key vocabulary: y-intercept, coefficient, rate of change, starting point
Resources: Moving Straight Ahead – Investigation 2, Passport 13.5, 13.6

Significant task 3: Solving Equations

Significant task 3 is grounded in investigation three, from Moving Straight Ahead, with a focus on using properties of equality to solve algebraic equations. Students will use visual representations (pouches and coins) to first combine like terms; then they will take the pouches and coins visual further by solving complex multi-step equations. Next, they will apply what they learned from the visual representations to solve these equations algebraically using properties of equality. Once students solve these equations algebraically, they will work together in small groups to determine if equations have one solution, no solution, or infinitely many solutions. To end the investigation, students will apply their knowledge of solving equations with variables on both sides to solve a system of equations problem algebraically.

In this task, students will:

- understand the use of equality in solving one-step and two-step equations
- write equations from visual models (pouches and coins)
- move from visual models to algebraic representations to combine like terms
- use properties of equality to solve multi-step equations (including combining like terms, using distributive property, and variables on both sides)
- check solutions to equations
- determine when equations have one solution, no solution, or infinitely many solutions

This task directly targets the following standards: 7.EE.1, 7.EE.4, 8.EE.7

Timeline: 6-8 days
Key vocabulary: properties of equality, distributive property, like terms, solution, systems of equations
Resources: Moving Straight Ahead – Investigation 3, Say it With Symbols – Investigation 1.1, 1.2, & 1.4, supplementary materials for identifying number of solutions to an equation (Passport textbook), 8th grade Coach lesson 37, 38, 40, 8th grade On Core Mathematics pages 69-72

Significant task 4: Inequalities

Significant Task 4 is grounded in the writing, solving, and graphing of solutions to inequalities. First, students will reactivate their prior knowledge (from 6th grade) of one-step inequalities and how to graph their solutions. Next, students will write two-step inequalities to model real world situations that involve a constraint rather than an equality. For instance, students will work in small groups to solve a problem where a person has a finite amount of money to spend on a product and wants to know how much she could buy. Finally, students will solve and graph the solutions for two-step inequalities and interpret the solution in the context of the problem. Small group discussion will focus on whether a solution set makes sense. Whole class discussion will focus on the mathematical conventions behind graphing an inequality in one variable.

In this task, students will:

- write inequalities to model real-world problems
- solve one-step and two-step inequalities
- graph the solution set of the inequality
- check one point in the solution set to be sure the graph/solution makes sense
- interpret solution sets in the context of a real-world problem

This task directly targets the following standards: 7.EE.4 (b)

Timeline: 6 days
Key vocabulary: inequality, solution
Resources: The Shapes of Algebra – Investigation 2.2 & 2.3, Passport textbook 9.5-9.7, pizzazz worksheets (Kangaroo/Electrician)

Common learning experiences:

DJ company comparison activity – p. 36 #9 in Moving Straight Ahead ACE problems
Pizzazz worksheets
Use of balance scales
Virtual manipulatives application, this has a virtual manipulative for the balance skill:
http://nlvm.usu.edu/
Patterns packet
Hexagon task

Before students work on significant task three, they should practice solving one- and two-step equations and inequalities using properties of equality. (This is prior knowledge).

Common assessments including the end of unit summative assessment:
Summative assessment

Performance Assessment: Cape Cod: How far can we go? In this end-of-unit assessment, students will work one full day collaboratively to determine what kind of day trip they can afford during the cape cod trip. After this day, students will be allowed individual time outside of class to complete the assessment. Students will use information about how much money they have to spend on the whole trip to build a

budget. Students will use their knowledge of expressions to model how the money is spent (e.g. they have to pay a flat fee plus a fee per student for the cabins), and determine how much money is left for one day trip. Students will use their knowledge of solving two-step equations to determine the distance they can travel if the bus charges a flat fee plus a fee per mile. Teachers will be available to guide students and to answer questions about constraints (such as the number of students on the trip) The final product will be a proposal (to be given to the faculty planning the trip) for day trip to be taken while on the Cape Cod trip. This proposal will be supported by a budget showing that there will be enough money to fund this trip. The final product will be assessed using the department rubric for performance based assessments.

Teacher notes:

- Process standards to highlight through instruction: look for and express regularity in repeated reasoning, model with mathematics, and look for and make use of structure.
- When modeling real world problems students have difficulty interpreting the meaning of the rate of change and the y- intercept.
- When graphing real world problems students often forget to label the axis and title the graph.
- Students forget when to change the inequality symbol when working with negative numbers.
- When using the distributive property, students forget to distribute the second term (strongly suggest they use arrows).
- Students struggle to use the distributive property when integers are involved (strongly suggest that students re-write subtraction as “add the opposite.”
- Problem 2.3 may take as long as 2-3 days because it is important for students to be given time to construct a table as they see fit. The context of this problem is selling t-shirts as part of the fundraiser and they need to explore cost and profit. Some students may choose to go up by increments of 1 t-shirt at a time, while other students may choose to go up by 5, 10, etc. t-shirts. It is important that students are given enough time to explore this investigation in small groups and share out different strategies.
- New and unfamiliar vocabulary words (y-intercept and coefficient) are introduced in this unit. Teachers may want to consider use of a word wall to help students become familiar and comfortable with this vocabulary.

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 7

Purpose of the Course (from CCSS): In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

Name of the Unit: Unit 4a Connecting Tables, Graphs and Equations - Linear and Proportional Relationships (Math 7 only)	Length of the unit: 6 weeks
Purpose of the Unit: Students will expand on their work from the grade 6 Variables and Patterns unit which studies the relationship between dependent and independent variables to explore linear relationships that model real-world problems. They will further their understanding of the connection between tables and graphs to include linear equations. Using tables, graphs, and equations, students will see the connection between various representations of proportional relationships.	
Common Core State Standards Addressed in the unit: **7.RP.2: Recognize and represent proportional relationships between quantities.** **a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.** **b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.** **c. Represent proportional relationships by equations.** ***For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn*****.** **d. Explain what a point *(x, y)* on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, *r)* where *r* is the unit rate.** **7.EE.4: Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.**	
Big Ideas: 1. Relationships can be represented as tables, graphs, and equations. 2. Relationships with a constant rate of change can be modeled with a linear function.	Essential Questions: 1. How do the table, graph and equation tell the same story? 2. How can you represent a relationship in an algebraic rule?
Students will know: 1. proportional relationships in a graph start at the origin and are straight lines	Students will be able to: 1. understand rates of change and how they are represented in tables, equations and

2. proportional relationships in a table have equal ratios between data pairs 3. proportional relationships in equations are of the form y = mx where m is the unit rate or constant of proportionality 4. how to find unit rate in a table, situation, graph, and equation	graphs. 2. translate information about linear relationships given in a table, a graph, or an equation, to one of the other forms 3. write equations for linear relationships and describe what information the variables and numbers represent in context

Significant task 1: Rate of Change

Significant task 1 is grounded in the idea of rate of change from investigation 1 of Moving Straight Ahead. In small groups, students will start by calculating a unit rate from student generated walking rates. They will then represent the data in table form, graph form, and equation form. Groups will then look at the tables, graphs and equations for sample students and situations, and relate this information to the three forms.

In this task, students will:

- explore the concept of patterns of change between the independent and dependent variables for linear relationships
- construct tables, graphs and equations to represent linear patterns of change and to model problem situations
- translate information about linear relationships given in a table, a graph or an equation to one of the other forms
- identify if a given representation is proportional
- interpret information given in a table, graph, or equation and explain its meaning in context

This task directly targets the following standards: 7.RP.2, 7.EE.4

Timeline: 6 days

Key vocabulary: proportional relationships, graph, table, equation, (constant) rate of change, unit rate

Resources: Moving Straight Ahead – Investigation 1.1-1.2, ACE problems p. #3, 4, 7, 8, Algebra: Puzzles and Problems p. 96 – 103, On Core mathematics page 39-46, Common Core Transition Kit page 1-10

Significant task 2: Representing Proportional relationships

Significant task two focuses on the difference between proportional and non-proportional relationships. Students will work collaboratively to build on the representations that the developed in significant task 1 to compare proportional and non-proportional relations in the three forms. Non-examples will include situations with a non-zero y-intercept, allowing students to see how a change in y-intercept changes the tables, graphs and equations. The vocabulary term “y-intercept” will not be introduced, using instead the term “start point”. Full class discussion will focus on reasoning behind the group’s conclusions.

This task directly targets the following standards: 7.RP.2, 7.EE.4

Timeline: 4 days

Key vocabulary: proportional relationships, graph, table, equation, (constant) rate of change, unit rate

Resources: Moving Straight Ahead – Investigation 1.3, ACE problems p. #3, 4, 7, 8, Algebra: Puzzles and Problems p. 96 – 103, On Core mathematics page 39-46, Common Core Transition Kit page 1-10

Common learning experiences:

- Moving straight ahead, investigation 1
- Matching graphs, stories and equations packet
- Notes on proportionality
- Identifying proportional relationship worksheets

Common assessments including the end of unit summative assessment:

Unit summative assessment assessing skills developed in the unit.

A performance task assessing the big ideas of this unit as well as the big ideas in the next unit, equations, will be done at the conclusion of the equations unit.

Teacher notes:

- Process standards to highlight through instruction: model with mathematics, look for and make use of structure, look for and express regularity in repeated reasoning
- When modeling real world problems students often forget to title and label their graph.
- Students need to get used to seeing proportions written in a table – vertically versus horizontally.
- Students struggle with create and using scale on graphs.

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 7

Purpose of the Course (from CCSS): In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

Name of the Unit: Unit 4b Expressions and Equations (Math 7 only)	Length of the unit: 6 weeks
Purpose of the Unit: Students will be able to recognize or write equivalent forms of expressions. Students will extend their knowledge of solving 1-step equations (from 6th grade) to include 2-step variable equations, and finally to multi-step variable equations. These equations will include those that require combining like-terms or the use of the distributive property. Students will develop the idea of inequality to solve and graph 1-step and 2-step inequalities.	
Common Core State Standards Addressed in the unit: **7.EE.4: Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.** **a. Solve word problems leading to equations of the form *px* + *q* = *r* and *p*(*x* + *q*) = *r*, where *p*, *q*, and *r* are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?*** **b. Solve word problems leading to inequalities of the form *px* + *q* > *r* or *px* + *q* < *r*, where *p*, *q*, and *r* are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*** 7.EE.1: Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. 7.EE.2: Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."*	
Big Ideas: 1. Properties of equality and inverse operations are used to solve equations. 2. Expressions can be written in different	Essential Questions: 1. What's happening in the equation and how do you "undo" that? 2. How can you represent a relationship in an

looking but equivalent forms.	algebraic rule?
Students will know: 1. the properties of equality to solve equations 2. that a solution could be the answer to a problem or the value that makes an equation true	Students will be able to: 1. write expressions, equations, and inequalities to model problems 2. use the properties of equality to solve equations, by combining like terms or using the distributive property 3. evaluate the reasonableness of their answer, and then check the solution to an equation 4. use the properties of inequality to solve inequalities 5. graph the solution set of an inequality 6. check a single solution to an inequality 7. interpret solutions in the context of a real-world problem

Significant task 1: Writing expressions and equations

Significant task 1 is grounded in the idea that expressions and equations can be used to model real-world situations. Students will work in small groups on open-ended tasks to write expressions to model a real-world problem. One such task will be "The Border Problem" where students are asked to write equations to model the border of a square. Students will compare their expressions and discuss how the expressions may look different but are equivalent. They will also write equations from data in table and make comparisons to where the changes in the data are occurring in the visual example. Full class discussion would focus on how forms can be different but the expressions are still equivalent, highlighting the reasoning.

In this task students will:

- write expressions and equations to model real-world situations
- recognize and write expressions in equivalent forms

This task directly targets the following standards: 7.EE.1, 7.EE.2

Timeline: 7 days
Key vocabulary: expressions, equations, variable, coefficients, constants, terms
Resources: Border task, Hexagon task, patterns packet, Fishy task

Significant task 2: Solving equations

Significant task 2 is grounded in using properties of equality to solve algebraic equations. Students will build on their knowledge of expressions and equations from 6^{th} grade to solve one- and two-step equations. Much of this task will be discussed in whole class, with some questions discussed in small groups. During this task, the students use visual manipulatives such as balance pans or algebra tiles to model algebraic expressions. Students will move between the visual and algebraic representations to show how to combine like terms and to solve one- and two-step equations. Students will show their understanding of equality and inverse operations by carrying out procedures which preserve equality on

both sides of the equation. At the end of the task, students will combine all of their knowledge to solve multi-step equations, which may include combining like terms, and using the distributive property.

Throughout the unit, students will model real-world problems, (such as salary problems with a commission) and solve these problems using the algebraic model. Students will also check their solutions in the original equation. The focus of this task is the development of procedural fluency with solving equations. Much of the task will be spent in guided individual practice. Teachers can use this class time to pull small groups based on formative assessment to give targeted instruction.

In this task, students will:

- understand the use of equality in solving one-step and two-step equations
- write equations from real-world and visual models
- move from visual models to algebraic representations to combine like terms
- use properties of equality to solve multi-step equations (including combining like terms, using distributive property)
- check solutions to equations

This task directly targets the following standards: 7.EE.1, 7.EE.4,

Timeline: 10 days

Key vocabulary: properties of equality, distributive property, like terms, solution, inverse operation

Resources: Say It With Symbols – Investigation 1.1, 1.2 & 1.4, and TBD

Significant task 3: Solving inequalities

Significant Task 3 is grounded in students writing, solving, and graphing solutions to inequalities. First, in whole class discussion, students will re-activate their prior knowledge of one-step equations (learned in 6^{th} grade) and how to graph their solutions. Next, students will be presented with word problems requiring two-step inequalities. Students will work on these word problems collaboratively in small groups. Students will write two-step inequalities to model these word problems. Finally, students will solve and graph the solutions for two-step inequalities and interpret the solution in the context of the problem. As with significant task 2, students will check a point in the solution set to ensure that the graph and the solution make sense. As with significant task 2, the focus of this task is the development of procedural fluency with solving equations. To that end, much of the task will be spent in guided individual practice. Teachers can use this class time to pull small groups based on formative assessment to give targeted instruction.

In this task, students will:

- write inequalities to model real-world problems
- solve one-step and two-step inequalities
- graph the solution set of the inequality
- check one point in the solution set to be sure the graph/solution makes sense
- interpret solution sets in the context of a real-world problem

This task directly targets the following standards: 7.EE.4 (b)

Timeline: 10 days

Key vocabulary: inequality, solution, greater than or less than, greater than or equal to, less than or equal to

Resources: The Shapes of Algebra – Investigation 2.2 & 2.3, Passport textbook 9.5-9.7, pizzazz worksheets (Kangaroo/Electrician)

Common learning experiences:

Balance pans, Algebra tiles, NCTM illuminations (nlvm.usu.edu)

Transition kit materials on writing percent equations in different forms

Common assessments including the end of unit summative assessment:

Performance Assessment: Cape Cod: How far can we go? In this end-of-unit assessment, students will work one full day collaboratively to determine what kind of day trip they can afford during the Cape Cod trip. After this day, students will be allowed individual time outside of class to complete the assessment. Students will use information about how much money they have to spend on the whole trip to build a budget. Students will use their knowledge of expressions to model how the money is spent (e.g. they have to pay a flat fee plus a fee per student for the cabins), and determine how much money is left for one day trip. Students will use their knowledge of solving two-step equations to determine the distance they can travel if the bus charges a flat fee plus a fee per mile. Teachers will be available to guide students and to answer questions about constraints (such as the number of students on the trip) The final product will be a proposal (to be given to the faculty planning the trip) for day trip to be taken while on the Cape Cod trip. This proposal will be supported by a budget showing that there will be enough money to fund this trip. The final product will be assessed using the department rubric for performance based assessments.

Teacher notes:

- Process standards to highlight through instruction: make sense of problems and persevere in solving them, reason abstractly and quantitatively, model with mathematics, attend to precision
- Students need to be reminded to use the inverse operation on both sides of the equal sign.
- Students “go through the motions” of the check step and do not always think through what they are doing or what the equality tells them.
- Students struggle to solve equations that involve rational numbers. Teachers should use warm-ups to practice. Teachers should also formatively assess each of the pitfalls and then work with small groups based on the results during significant tasks 2 and 3.
- Students are used to arithmetic solutions such as $4 + 5 = x$ and need practice seeing algebraic solutions such as $4 + 5 = x + 2$. Stress that a solution is any value that makes the equation true.
- Students forget when to change the inequality symbol when working with negative numbers. Sometimes when students see $-7x=5$, they subtract add 7 to both sides. Teachers should emphasize the use of inverse operations.

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 7

Purpose of the Course (from CCSS): In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

Name of the Unit: Unit 5 2D and 3D Geometry and Measurement (Integrated – with extensions)	Length of the unit: 4 weeks (Math 7)/5 weeks (Honors)
Purpose of the Unit: In this integrated 7th grade unit on two and three-dimensional geometry, students will explore rectangles, circles, and triangles and their relationships to the three-dimensional shapes that can be created with them. Additionally, students will write and solve equations to determine unknown angle measures building on the last unit on equations. There will be an 8th grade extension for pre-algebra students focusing on volume of cylinders, cones and spheres.	
Common Core State Standards Addressed in the unit: **7.G.4: Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.** **7.G.6: Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.** 7.G.2: Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle. 7.G.3: Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids. 7.G.5: Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure. Pre-Algebra Only **8.G.9: Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.** 8.G.5: Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so*.	

Big Ideas:	Essential Questions:
1. Angles within triangles or angles created by intersecting, parallel, or perpendicular lines have special relationships 2. Volume is the amount of space inside a three-dimensional object measured in unit cubes. 3. All formulas for volume are built upon the idea that the area of the base is multiplied by the number of layers in the object (the height). 4. The constant pi is defined as the ratio of the diameter of a circle to its circumference.	1. Will any three sides form a triangle? 2. How does knowing the measure of one angle help determine the measure of another angle? 3. What does volume measure? 4. Is the ratio of the diameter to the circumference the same for all circles?
Students will know: 1. formulas for area and circumference of a circle 2. the definition of angle sums and exterior angles of triangles 3. properties of vertical, complementary, supplementary, and adjacent angles 4. formulas for volume and surface area of rectangular and triangular prisms 5. (extension) know the formulas for the volume of cones, cylinders and spheres	Students will be able to: 1. use the formulas for area and circumference to solve problems 2. write and solve equations to find unknown angle measures 3. use a protractor to draw triangles 4. use the formulas for volume and surface area to solve problems involving rectangular and triangular prisms 5. determine which 3D shape a plane section comes from 6. predict what a cross-section of a 3D shape would look like 7. (extension) find the volume of cones, cylinders and spheres, as they arise in problems

Significant task 1: Circles

Significant task 1 is grounded in properties of circles and the relationships between pi, circumference, and area. Students will begin as a whole class by learning the vocabulary terms for the parts of a circle. Then students will investigate the relationships between diameter and the perimeter of the circle to discover pi and the circumference formula using an online applet in pairs or individually. Students will then work in groups to informally derive the formula for the area of a circle by cutting it into pieces and re-forming it in the approximate shape of a rectangle. Students will end the unit by using these formulas to solve real-world problems.

In this task, students will:

- learn vocabulary for the parts of a circle
- investigate the relationship between diameter and circumference (pi)
- make connections between perimeter and circumference
- informally derive the formula for the area of a circle
- use these formulas to calculate area and circumference to solve real-world problems

This task directly targets the following standards: 7.G.4

Timeline: 5 days

Key vocabulary: radius, diameter, center, circumference, area, pi

Resources: ACE problems from Inv. 5 Covering and Surrounding, Passport section 12.1 - p. 568 #1-4 identify parts, #6-9 find area and circumference, #10-13 find radius and diameter working backwards, #14-17 problem solving with area of shaded regions., 8 circles task, computer lab (circles applet), see common learning box for online links.

Significant task 2: Polygons

Significant task 2 focuses on geometric conditions and constructions of 2D shapes. Students will work in small groups to explore when a unique shape, no shape, or many shapes can be created given certain conditions. Students will individually measure and construct shapes and generalize their findings to rules for all triangles and angles. Students will then build on this work and their work from the expressions and equations unit to write and solve simple equations to find unknown angle measures.

In this task, students will:

- draw 2D geometric shapes freehand, with a protractor, with an angle ruler, or with technology given conditions
- use triangle properties, such as angle sum relationships and the triangle inequality, to determine if a triangle can be drawn given certain conditions
- decide when conditions give you a unique triangle, more than one triangle, or no triangle
- write and solve simple equations to find the measures of supplementary, complementary, vertical, and adjacent angles

Pre-algebra extension: definitions and example problems will include the angle sum and exterior angle of triangles and the angles created when parallel lines cut a transversal.

This task directly targets the following standards: 7.G.2, 7.G.5, (Pre-algebra only) 8.G.5

Timeline: 5 days

Key vocabulary: complementary, supplementary, adjacent, vertical, angle sum, exterior angle, parallel, perpendicular, transversal, right angle, acute angle, obtuse angle, isosceles, scalene, right triangle,

Resources: Transition kit activities

Significant task 3: Rectangular and triangular prisms – surface area and volume

Significant task 3 involves students applying their understanding of area of 2-dimensional shapes and linking this idea to the concept of volume. Students have developed the concept of volume and surface area of rectangular prisms in grade 6 and are now expanding to triangular prisms. All students will calculate the volume and surface area of triangular prisms and use these calculations to solve real-world problems. Pre-algebra students will also explore the volume of other right prisms. All students will investigate cross-sections of 3D solids by looking at clear models filled with water. Students will explore the concepts in small groups with full class discussion focused on constructing a viable argument based on quantitative reasoning for each problem.

In this task, students will:

- calculate the surface area of prisms
- calculate the volume of prisms
- solve real-world problems
- anticipate which 3D shape a cross-section was taken from
- draw a cross-section of a 3D shape

Pre-algebra only: students will:

- Calculate the volume of cones, spheres, and cylinders

This task directly targets the following standards: 7.G.3, 7.G.6, (pre-algebra only) 8.G.9

Timeline: 2 weeks

Key vocabulary: plane sections/cross-sections, two-dimensional, three-dimensional, area, volume, surface area, base (as used to find the 2D area), base (as used to calculate the volume), prisms, cubic units

Resources: Planes sections – 7th grade transition kit, clear plastic models filled with water, (pre-algebra only) filling and wrapping investigations 3, 4.

Common learning experiences:

Links:
Finding that pi is constant – similar to scaling task:
http://illuminations.nctm.org/LessonDetail.aspx?id=L697
Investigation of the relationship between radius, diameter, circumference and area:
http://illuminations.nctm.org/ActivityDetail.aspx?ID=116
Jeopardy game for circles:
http://exchange.smarttech.com/details.html?id=3e3db3e6-5e53-44bf-94a9-0e04b890a259
A Smart Board lesson showing the approximation of pi:
http://exchange.smarttech.com/details.html?id=2b739b92-4d4a-46f1-9bf7-03dd7aebb28b
Smartboard lessons on polygons:
http://exchange.smarttech.com/details.html?id=05b19b5e-bf7c-4d34-bdc8-9cc7f7d5f330
An introductory lesson about circle vocabulary, with formulas and videos.
http://exchange.smarttech.com/details.html?id=ed452828-38f2-4ba4-b698-261f1cf0abe0

Literature Connection: Cindy Neuschwander's "Sir Cumference and the Dragon of Pi"

Common assessments including the end of unit summative assessment:

Common summative unit assessment

Teacher notes:

- Process standards to highlight through instruction: reason abstractly and quantitatively, use

appropriate tools strategically, attend to precision

- Students will confuse the multiple meanings of the word base. For example, base is used to calculate the area of a 2D triangle (base x height). It is also used to describe the base of a 3D shape when calculating volume (also area of base x height).
- There is a lot of very specific vocabulary in this unit. Teachers need to attend to ways in which they will help students use the vocabulary fluently such as a word wall, vocab sheet etc…

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 7

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Name of the Unit: Unit 6 Probability (Integrated Unit)	Length of the unit: 3 weeks

Purpose of the Unit: This unit develops students understanding of foundational probability. They will create models and play probability games to make comparisons between theoretical and experimental probability. They will use the probabilities they have found to make decisions about fairness and future outcomes. This unit builds on previous units with rational numbers, proportions, and percent, however this is the first exposure to the concept of probability.

Common Core State Standards Addressed in the unit:

7.SP.5: Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

7.SP.7: Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.
a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.*
b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. *For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?*

7.SP.8: Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.
a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.
c. Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*

7.SP.6: Approximate the probability of a chance event by collecting data on the chance process that

produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. *For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.*

Big Ideas:	Essential Questions:
1. A situation (game) is fair if all players have an equally likely chance of winning 2. As you perform more trials, the experimental probability of a situation will converge with the theoretical probability. 3. Probabilities can be used to make predictions.	1. What makes a situation fair or unfair? 2. When will the theoretical and experimental probabilities be the same? 3. How can you represent a situation to find all possible outcomes? 4. Does the probability of one event affect the probability of another? How?
Students will know: 1. probability is a number between 0 and 1 and can be represented as a fraction, decimal, or percent 2. the probability of an event describes how likely it is to occur 3. that fairness implies equally likely outcomes 4. all possible outcomes of an event should add to 1 5. that the probability of a compound event is the product of the simple events that compose it 6. as you perform more trials the experimental probability will converge with the theoretical probability	Students will be able to: 1. find probabilities based on frequencies found in an experiment 2. find probabilities based on a theoretical model 3. compare experimental and theoretical probabilities and explain possible sources of discrepancies between them 4. make predictions based on probabilities 5. represent sample space of simple and compound events using tree diagrams, organized lists, and area models

Significant task 1: Is it fair?

This task is grounded in Investigations 1 of "What Do You Expect?" By playing probability games students will explore the differences between experimental and theoretical probability and to simulate events. Students will develop the strategies of using an organized list, building tables and making tree diagrams to answer questions. They will use these models to determine theoretical probabilities and to make predictions about future events. The focus of this investigation is exploring the concept of "fairness" and the law of large numbers. Students should be working in small groups or pairs while playing and analyzing the games. Full class discussion should focus on the various strategies used by the groups or pairs.

In this task, students will:

- Describe the likelihood of an event using a fraction, decimal, or percent
- Find experimental probability based on frequencies from an experiment
- Find theoretical probabilities from an organized list, or tree diagram
- Brainstorm reasons for any differences between experimental and theoretical probability
- Use a simulation to find probabilities

- Make predictions about future events

This task directly targets the following Common Core Standards: 7.SP.5 – 7.SP.7

Timeline: 6 days
Key vocabulary: sample space, equally likely, frequency, outcomes, favorable outcomes, experimental probability, theoretical probability, simulation
Resources: Investigations 1 WDYE, How Likely Is It?

Significant task 2: Using Area Models to Model Compound Events

This task is grounded in Investigations 2 of "What Do You Expect?" By playing probability games students will continue to explore the differences between experimental and theoretical probability and to simulate events. Students will develop the area model to represent compound events. This is similar to the model used to develop multiplication in grade 3. Students will use these models to determine theoretical probabilities and to make predictions about future compound events. Students should continue working in small groups or pairs while playing and analyzing the games. Full class discussion should focus on the various strategies used by the groups or pairs.

In this task, students will:
- Describe the likelihood of a compound event using a fraction, decimal, or percent
- Find experimental probability based on frequencies from an experiment
- Find theoretical probabilities from an organized list, tree diagram, or area model
- Brainstorm reasons for any differences between experimental and theoretical probability
- Use a simulation to find compound probabilities
- Make predictions about future compound events

This task directly targets the following Common Core Standards: 7.SP.5 – 7.SP.8

Timeline: 6 days
Key vocabulary: sample space, equally likely, frequency, outcomes, favorable outcomes, experimental probability, theoretical probability, simulation
Resources: Investigations 2 WDYE

Common learning experiences:

Bill Nye the Science Guy (Probability) VHS tape
Pizzazz worksheets E49, E50
Mimio file on probability – developed from page 11 in WDYE

Common assessments including the end of unit summative assessment:

Unit Summative assessment: focus on representations of the various models.

Teacher notes:
- Process standards to highlight through instruction: make sense of problems and preserve in solving them, model with mathematics, students will make use of structure.
- Students have trouble determining the total number of outcomes from a tree-diagram. They

confuse the individual “branches” with the final outcomes.

- Students need not develop computational algorithms for compound events at this grade level. Focus should be on the visual representation to model the compound event.

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 7 Honors (Combination of two Grade 8 Units)

Purpose of the Course (from CCSS): In Grade 8, instructional time should focus on three critical areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) **analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem**.

Name of the Unit: Unit 7 Congruence, Similarity & Pythagorean Theorem (Honors)	Length of the unit: 5 weeks

Purpose of the Unit: In this accelerated Geometry unit, Pre-Algebra 7th grade students will develop the knowledge and skills related to most geometry standards for grade 8 in order for them to advance to Algebra 1 in grade 8. All other grade 8 knowledge and skills have been added as extensions within integrated Math 7/Pre-Algebra units or in the Linear Relationships Pre-Algebra unit. In this unit, students will explore mathematical functions that move objects in specified ways in the coordinate plane. Students will explore similarity and congruence by determining whether or not two shapes are similar or congruent. This is the first exposure students will have to transformations and similarity which will be extended when they take geometry in the high school. Students will also develop and formulate a proof of the Pythagorean Theorem, an informal proof of the converse of the Pythagorean Theorem, and apply the Pythagorean Theorem to solve problems.

Common Core State Standards Addressed in the unit:

8.G.2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.

8.G.4. Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.

8.G.6. Explain a proof of the Pythagorean Theorem and its converse.

8.G.7. Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.

8.G.8. Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

8.G.1. Verify experimentally the properties of rotations, reflections, and translations:
a. Lines are taken to lines, and line segments to line segments of the same length.
b. Angles are taken to angles of the same measure.
c. Parallel lines are taken to parallel lines.

8.G.3. Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures

using coordinates.

8.EE.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational.

8.NS.2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., √2). *For example, by truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*

Big Ideas:	Essential Questions:
1. Transformations produce similar figures, congruent figures, and in application produce symmetry in design. 2. Formulas and theorems in mathematics are proven.	1. How are geometric transformations related to congruence, similarity, and symmetry? 2. How do you know if shapes are similar or congruent? 3. How do you know that a formula or theorem is valid?
Students will know: 1. the effects of transformations on congruent and similar figures 2. that a rotation is a turn 3. that a reflection is a flip 4. that a translation is a slide 5. that a dilation is zooming in and out of an object, or a stretch/shrink 6. Pythagorean Theorem 7. approximations of irrational numbers as rational numbers	Students will be able to: 1. perform rotations, reflections, translations, and dilations on and off the coordinate plane. 2. describe the effects of a transformation on a figure. 3. describe reflectional, and translational symmetry 4. describe reflections and translations with algebraic rules 5. use the Pythagorean Theorem to solve a variety of problems 6. prove the Pythagorean Theorem and informally prove the converse

Significant task 1: Transformational Symmetry

Significant task 1 is grounded in Investigations 1 and 2 of Kaleidoscopes, Hubcaps, and Mirrors. The students will examine three pictures and then describe what might earn the pictures a symmetry label. They will also examine a pinwheel, and discuss another type of symmetry, rotation symmetry. Working collaboratively, the students will explore and understand the important properties of symmetry and will recognize and describe reflections, rotation, and translation symmetry. It's important in this task to highlight the mathematical process standard of constructing viable arguments. By having students work in smaller collaborative groups, they can develop arguments to support their strategy. Then as a whole class they can discuss the pros and cons of the various strategies.

In this task, students will:

Recognize and describe rotation symmetry, include the center of rotation and the angle of rotation

- find and describe reflection, rotation and translation symmetries in kaleidoscope designs
- design shapes that have specified symmetries
- identify a basic design element that can be used to replicate a design

Reflections:

- use the properties of reflections to perform line reflections
- find a line of reflection given a figure and its image
- find the reflection image of a figure given a line of reflection
- give precise mathematical directions for performing reflections in terms of the effect of the transformation on points of the original figure

Rotations:

- use the properties of rotations to find the rotation image of a figure
- find the center and angle of rotation given a figure and its rotation image
- find the rotation image of a figure given the center and angle of rotation
- examine and describe the symmetries of a design made from a figure and its rotation image
- give precise mathematical directions for performing rotations in terms of the effect of the transformation on points of the original figure
- draw conclusions about a figure, such as measures of sides and angles, based on what symmetry or symmetries the figure has

Translations:

- use properties of translations to examine whether a given figure has translation symmetry
- find the magnitude and direction of a translation given a figure and its translation image
- find a translation image given the magnitude or direction of a vector specifying the translation
- examine and describe the translation symmetries of a design
- give precise mathematical directions for the performing translations in terms of the effect of the transformation on points of the original figure

This task directly targets the following standards: 8.G.2, 8.G.4, 8.G.3

Timeline: 10 days
Key vocabulary: symmetry, reflection symmetry, line of symmetry, rotation symmetry, basic design element, translations, translation symmetry, line of reflection, rotation
Resources: Kaleidoscopes, Hubcaps, and Mirrors Investigations 1 & 2, CMP Transition Kit Investigation 3: Transformations, On Core mathematics page 93-104, unit test and test prep pages 109-110, Transformation, Coach book pages 175-182, Passport page 474-476, passport sections 10.4(symmetry), 11.3(reflections), 11.4(rotations), 11.5(translations)

Significant task 2: Congruence and Similarity on the Coordinate Plane

Significant task 2 is grounded in Investigations 5 of Kaleidoscopes, Hubcaps, and Mirrors. The drawing window in many computer geometry programs is a coordinate grid. In this investigation, students take a design in a computer window and transform the coordinates of its points according to specific rules. Collaboratively, students will explore the transformations of the design in coordinate grids and write algebraic rules for transforming a point (x, y) from the design to its image under translations, rotations, and reflections. The students will also explore the results of combining transformations on the design. In whole class discussion, groups can share the various strategies they developed while discussing the various portions of the task.

In this task, students will:

- use algebraic rules to produce similar figures on a coordinate grid
- focus student attention on both lengths and angles as criteria for similarity
- contrast similar figures with non-similar figures
- understand the role multiplication plays in similarity relationships
- understand the effect on the image if a number is added to the *x*- and *y*-coordinates

This task directly targets the following standards: 8.G.4, 8.G. 5

Timeline: 5 days
Key vocabulary:
Resources: Stretching and Shrinking Investigations 2.1 and 2.2, KHM Investigations 5.1 and 5.2, Coach book lesson 26 Reflections, Rotations, and Translations, Common Core Transition Kit page 13 Investigation 3: Transformation, Coach pages 163-168, Passport section 8.2, pages 368-375, page 381 (#5-8,17-19), Common Core Coach page 120-123(dilations)

Significant task 3: Exploring the Pythagorean Theorem

Significant task 3 is grounded in Investigation 3 in Looking for Pythagoras. Students will investigate the relationship of the areas of squares on the sides of right triangles that they drew on grid paper. This will lead students to make a conjecture that the sum of the areas of the two smaller squares equal the area of the larger square. They will also prove the Pythagorean Theorem using a visual puzzle. The students will develop the converse of the Pythagorean Theorem through exploration and will use this converse to determine if 3 side measures form a right triangle.

In this task, students will:

- deduce the Pythagorean Theorem through exploration and prove using a visual puzzle
- use Pythagorean Theorem to find unknown side lengths of right triangles
- gain historical appreciation of Pythagoras and his society
- use the Pythagorean Theorem to find the distance between two points
- relate areas of squares to the lengths of the sides
- deduce the converse of the Pythagorean Theorem through exploration

This task directly targets the following Common Core Standards: 8.G. 6 and 8.G.8

Timeline: 5 days
Key vocabulary: hypotenuse, legs, conjecture, theorem
Resources: Looking for Pythagoras Investigations 3.1, 3.3, 3.4, History Packet, A Pythagorean Puzzle

Common learning experiences:

- Brain Pop – Transformation (Significant Task 1)
- KHM Problem 3.1 (p. 49) - Identify corresponding sides & angles and notation (during Significant Task 1)
- Brain Pop – Similar Figures (Significant Task 3 – question #5!)

Common assessments including the end of unit summative assessment:

- KHM Mathematical Reflection 1, question 1
- KHM Unit Assessment (assessing knowledge, skill and application required for significant task 2 & 3 only)
- **Performance Task: Your Front Walkway** Students will need to determine whether a quote for a front walkway installation is reasonable. They will calculate the area and the total cost based on square footage, apply Connecticut state sales tax, and decide if the quote is something they would recommend. Their recommendations have to be justified with mathematics from the problem. Finding the area of this irregular shaped front walkway requires use of Pythagorean Theorem. Students will work in small groups for one period and then complete an individual recommendation on their own within one week. The final product will be a letter to the homeowner who should be a person of interest to the student. The performance task will be graded using the middle school performance task rubric.

Teacher notes:

- Process standards to highlight through instruction: use appropriate tools strategically, reason abstractly and quantitatively, attend to precision.
- Teachers need to reinforce proper vocabulary to assist with student development
- Teachers need to instruct students in the proper use of protractors.

Windsor Public Schools
Curriculum Map for the Secondary Level
Grade 7 (on level), Grade 6 (honors)

Purpose of the Course (from CCSS): In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

Name of the Unit: Unit 7 Samples and Populations (Integrated 6 Honors/Math 7)	Length of the unit: 4 weeks
Purpose of the Unit: This unit takes data representation skills developed in grade 6 and expands on the rigor, complexity and analysis in which the students solve problems comparing multiple distributions of data. Students also develop sampling techniques in order to generate samples of data that would be representative of a population and thus be able to generalize findings that describe that population and make predictions. This is the summative unit in grades 7 and in honors 6th grade. Honors 7th grade students (pre-algebra) have thus already completed this unit, and instead have an accelerated 8th grade unit focused on geometry (congruency, similarity and Pythagorean theorem).	
Common Core State Standards Addressed in the unit: **The unit also instructs the grade 6 standards for data analysis (CC.6.SP.1-5)** **CC.7.SP.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.** **CC.7.SP.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.** **CC.7.SP.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.** CC.7.SP.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.	

Big Ideas:	Essential Questions:
1. There are strengths and weaknesses to different data representations and summary statistics. 2. In order to compare two sets of data you must have representations that are developed with the same parameters. 3. In order to generalize your findings to a population from a sample there must be random sampling to generate a representative sample minimizing any bias in the collection process.	1. What does the distribution tell me? 2. How do I compare two sets of data? 3. What are the strengths and weaknesses of sampling techniques?
Students will know: 1. measures of center and spread: mean, median (quartile 2), mode, range, quartile 1, quartile 3, minimum, maximum, percentile and inter-quartile range 2. attributes and effects of outliers on measures of center and spread 3. attributes of representations of data: box plots, histograms, dot plots, bar graphs 4. types of sampling and their pros and cons: random, systematic, convenience and voluntary response 5. types of bias present in sampling: voluntary response, leading questions, and convenience 6. simple Probability and simulations 7. proportions and percent	Students will be able to: 1. describe a distribution in terms of shape, center and spread 2. create histograms and boxplots with and without technology 3. compare distributions of data using visual representations and summary statistics 4. analyze and describe the effect of an outlier on summary statistics and visual representations 5. evaluate sampling techniques for bias 6. conduct simulations to gather data to solve problems 7. conduct a study in which a hypothesis is developed, data is gathered, and then representations and analysis are used to form a conclusion

Significant task 1: Which Peanut Butter is Better?

This significant task is grounded in investigation 1 of the Samples and Population book. Students are introduced to a large data set from Consumer Reports on the attributes of 37 varieties of peanut butter. The students are presented with the task of identifying those attributes which would lead to the selection of the best peanut butter as measured by the consumer's overall quality ratings. Over the course of the week students will be working in collaborative groups to create various visual representations including box plots and histograms both by hand and in with the graphing calculator. The focus is on taking the graphing skills developed in grade 6 and expanding students' capacity to compare distributions and explore the effects of outliers within the context of the peanut butter's attributes (regular/natural, creamy/chunky, salted/unsalted, name brand/store brand). By the end of the week, each group would have developed the necessary visual representations and summary descriptions of all of the attributes to create an argument to present to the class for the best type of peanut butter to choose. During the investigation students will also develop additional skills to create side by side comparison graphs, use the graphing calculator to construct box plots and histograms, and

the correct number of categories to use when creating a histogram.

CCSS targeted in this task: CC.7.SP.1, CC.7.SP.4

Timeline: 6 days
Key vocabulary: box plot, histogram, outlier, mean, median (quartile 2), mode, range, quartile 1, quartile, minimum, maximum, percentile and inter-quartile range
Resources: CMP2 Samples and Populations Investigation 1

Significant task 2: What Sample is Best?

This significant task is grounded in investigation 2 & 3 of the Samples and Population book. This investigation has portions that would most likely be introduced as a whole class with then either turn and talk moments or small group collaboration. Throughout the first half of the investigation the context is various surveys (honesty, hours of sleep, movie watching etc.) while developing an understanding of different types of sampling and bias. Students are also applying their percent, proportion and graphing skills developed earlier in the year. In the second half of the investigation, students will be in collaborative groups conducting two simulations which will demonstrate that without some type of randomization in your survey/sampling design you will tend to over represent a particular group. This will lead them to the final problem in the investigation where they will collaboratively develop a randomized simulation design to determine the number of chocolate chips needed for a recipe in order for a bakery to confidently market "five giant chocolate chips in every cookie!"

CCSS targeted in this task: CC.7.SP.1, CC.7.SP.2, & CC.7.SP.4

Timeline: 6 days
Key vocabulary: random, systematic, convenience and voluntary response samples, sample, population, simulation
Resources: CMP2 Samples and Populations Investigation 2.1, 2.2, 2.3, & 3.2

Common learning experiences:

Extra practice for both tasks can be found in the CMP Common Core Transition Kit – Investigation 5

Common assessments including the end of unit summative assessment:

Mathematical Reflections for Investigation 2 & 3 after Significant task 2 (Pg. 46 & 61).

Performance Assessment: Research 101 In this end of year assessment students will be working collaborative to research and defend a question or issue of interest to them. Given a wide latitude of choice in topic, students will need to generate a question or series of questions that can be answered with data analysis of one variable (two variable study begin in grade 8), formulate a hypothesis, generate a sampling design that is sound, conduct analysis of the data including a visual representation and come to some conclusion to their question with reflection of their hypothesis. Teachers will serve as a general expert available to consult with student groups. Student will generate a final defense and presentation of their issue/questions and will have choice in presentation options (video, poster, report etc). The final product will be assessed using the department rubric for performance based assessments

with the audience being defined as the students on their interdisciplinary team. (Cross curriculum possibility here)

Teacher notes:

- Process standards to highlight through instruction: reason abstractly and quantitatively, construct viable arguments and critique the reasoning of others, and use appropriate tools strategically.
- When constructing and analyzing box plots students get confused about the length of the quartiles. Students think that if a quartile is longer it contains more data points instead of connecting that the length is a measure of the spread of the same number of data points in each quartile.
- For this unit, do not post the big ideas unless you post after the big idea is developed. Otherwise you will let the cat out of the bag so to speak.

Windsor Public Schools
Curriculum Map for the Elementary Level
Kindergarten

Purpose of the Course (from CCSS): In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

Name of the Unit: Unit 1 Counting and Matching Numerals 0-5 with Comparing	Length of the unit: 4 weeks
Purpose of the Unit: This first unit of the course is also the first unit in a series designed to reinforce pre-school skills of counting and matching numbers 0-20, and comparing numbers 0-10. This unit is based on the numbers 0-5 while serving as a foundation for the next unit, which focuses on 6-11. While the standards listed may include numbers beyond five, this unit is designed to address the standards in context of the numbers 0-5. The priority standards below (those shown in bold font) will be completed by the end of the third unit and reinforced throughout the year. The supporting standards (shown in italics) are addressed in this unit, to the extent that the curriculum describes. For example, in this unit, K.CC.1 (count to 100 by ones and tens) the numbers 0-20 are highlighted.	
Common Core State Standards Addressed in the unit: **K.CC.3: Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).** **K.CC.4: Understand the relationship between numbers and quantities; connect counting to cardinality.** **K.CC.4a: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.** **K.CC.4b: Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.** **K.CC.4c: Understand that each successive number name refers to a quantity that is one larger.** **K.CC.6: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. (Include groups with up to ten objects.)** K.CC.1: Count to 100 by ones and by tens. K.CC.5: Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. K.CC.7: Compare two numbers between 1 and 10 presented as written numerals. K.MD.3: Classify objects into given categories; count the numbers of objects in each category and sort	

the categories by count. (Limit category counts to be less than or equal to 10.)	
Big Ideas: 1. 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. 2. Numerals are the symbols we read and write to communicate quantities (numbers). 3. One quantity is either greater than, less than or equal to the other.	Essential Questions: 1. Why do we count? 2. How are numerals used? 3. How can you tell if there are more or less of something?
Students will know: For the numerals 0-5: 1. last number name tells objects counted 2. number of objects is the same regardless of arrangement 3. number of objects is the same regardless of order 4. each successive number refers to a quantity that is one larger	Students will be able to: For the numerals 0-5: 1. count objects 2. say numbers in order 3. pair each object with one number 4. compare (greater than, less than, equal to) groups of objects 5. write numbers and represent number of objects with written numeral

Significant task 1: Math Meeting/Circle Time: *Number Rhymes and Games (numbers 0-5 and counting to 100)*

Children engage in counting, saying numbers in order, one-to-one correspondence, comparing numbers, writing numerals, and representing numbers of objects with written numerals through activities using rhymes or games as a springboard. As activities are introduced, students explore number concepts collaboratively, through stories or games, or by using manipulatives and/or visuals. During this time, student-to-student discourse should be promoted by such methods as acknowledging student contributions and asking other students to respond to the student's statement or by having students work in pairs and explain their reasoning to each other. Each activity below should be done at least once and may be adjusted and repeated based on student needs and interest. Additional Activities are listed in the *Common Learning Experiences* section.

Read Alouds/Literature Connections: During Math Meeting/ Circle Time, picture books focused on the numbers 0-10 will occasionally be read and discussed. These books may be read as a whole group and used as a springboard for lessons. (See Common Learning Experiences section for a list of suggested read-alouds.)

Oral Counting-BUZZ! Children play a circle game to allow children to focus on counting sequences of numbers. Players 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 says Buzz! (or claps) and sits down. The game continues in this way until there is one person standing. During this unit, the numbers 0-20 are highlighted.

Benny's Pennies: Children create a play from the Story *Bennies Pennies* to make the action in the story more real. Real objects or pictures are available as props and children are organized in pairs. As the teacher reads the story for the second time, he or she stops at several points to have the student act it out, such as on page 1 to show, "*How many pennies does Benny have?"* and on page 9 to show, *"How many pennies and how many things does Benny have now?"* As described above, the introduction of this story during Math Meeting/Circle Time flows into the Direct Instruction portion of the math period.

Number Race 1: This game provides practice in writing the numbers from one to six. During the Math Meeting/Circle Time, students make predictions about which number they think will win the game and explain why. After playing once, students are asked if the same number will win every time, how can they find out, and to explain how they predicted which number will win. During small or whole group instruction to follow, students roll one number cube, count the dots on the top of the cube, and record the number on a game sheet. Students continue in this fashion until one row of the game sheet is completely filled with numbers. That number wins the race.

Looking at the Number Five: Students learn a finger play about five bees. In the direct instruction to follow, students are given ten pennies (representing rings) and a handprint workmat. Children estimate whether each number shown is more or less than five, then collect that number of pennies and place one on each finger of the workmat. Children compare the number of "rings" to the number of fingers on the workmat.

Five Little Monkeys: The book *Five Little Monkeys*, by Eileen Christelow is the springboard for learning a finger play to actively involve the children in this counting story. In the direct instruction to follow, a picture of the bed in the story is then used with unifix cubes to represent the action of the monkeys. Discussion throughout the lesson focuses on the number of monkeys on the bed, on the floor, and in the room.

This task directly targets the following Common Core Standards: K.CC.1, K.CC.3, K.CC.4, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.6, K.CC.7

Timeline: Daily, throughout the duration of the unit for about ten minutes each day.

Key vocabulary: zero, one, two, three, four, five, greater, more, less, same, equal, larger, smaller
Resources:

Math Trailblazers: Oral Counting –BUZZ! (M2L2), Benny's Pennies (M3L3), Number Race 1 (M3L3), Five is a Handy Number (M4 L1), Rings on my Fingers (M4 L1), Five Little Monkeys (M4 L1), Five on the Mat (M4 L1)

Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities*

Selected Read-Alouds, found in the Common Learning Experiences section

Significant task 2: Direct Instruction

Significant Task 2 is grounded in a series of five Lessons from the National Council of Teachers of Mathematics (NCTM Illuminations), *Let's Count to 5*. Focused on the numbers 0-5, these lessons are designed to teach students to identify and write the numerals, to represent numbers of objects with written numerals, and to compare numbers within that range. Lessons may be conducted whole-group, or in differentiated small groups. For example, some students need only work on each lesson for one or two days, while others will require more time and practice over a period of several days for each lesson. Students with similar needs should be grouped together to help ensure those needs are met.

A strong emphasis is placed on language in this task. A section called "Questions for Students" helps keep the focus on higher order thinking skills as students work. Students must explain their reasoning and use words to describe the numbers as well as their thinking about the numbers. For example, "Show me a set of 3 and a set of 4. Which group has more? How can you tell?"

A Summary of each lesson follows:

Focus on Two: Students construct groups of two objects, identify and write the numeral 2, and record a group of two on a personal recording chart. A nursery rhyme provides a context for using the number 2.

Three in a Set: Students construct groups of 3 objects, compare them with sets of two, write the numeral 3, and show a set of three on their recording chart.

One, Two, Three—Go: After reviewing the numbers 2 and 3, students construct and identify sets of one. They compare sets of one, two, and three objects and record a set of three in chart form.

Finding Four: Students explore the numeral 4, and compare sets of four to sets of one, two, and three.

Here's a Handful: Students construct sets of up to five items, write the numeral 5, identify sets of five, and record "5" on a chart. They also play a game that requires recognizing the numerals to 5.

Zero Our Hero: Students explore sets of zero items and practice writing the numerals 0 through 5. Students count back from five, construct and identify sets of up to five items, and record "0" on a chart.

Additionally, In the lessons, *Kindergarten Sorting Activity and Sorting Attribute Blocks,* students learn to classify objects into given categories, count the number of objects in each category, and sort the categories by count (Limit category count to be less than or equal to 10). (These lessons are to be repeated several times over the course of the year, using a variety of materials to sort).

This task directly targets the following Common Core Standards: K.CC.1, K.CC.3, K.CC.4, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.6

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: zero, one, two, three, four, five, greater, more, less, same, equal, larger, smaller
Resources:
Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities*
NCTM Illuminations: Let's Count to 5

Significant task 3: Workstations: *Counting Connections (0-5):*

Significant Task 3 involves daily experiences with reading and writing numerals, counting, representing numbers of objects with written numerals, and comparing numbers, using the numbers 0-5. Multiple experiences help students make connections between ways of representing numbers. The representations include visual (ten frames and dot patterns) and symbolic (numerals), as well as concrete representations of numbers as sets of objects. These ongoing activities are to be used on a continuing basis, with modifications to whether the activities are focused on the concrete, the visual, or

the abstract as students' skills progress and they are ready for new challenges.

Through independent workstations, called *Counting Bags*, students are provided with differentiated opportunities to link numerals (abstract symbols) to sets of objects. A child can make four sets of the same size, four different size sets, or any combination in between, depending on the digit cards included in the workstation. The digit cards vary as teachers choose numbers that the students are just beginning to work with, or are having difficulty with. Some children will be ready to engage in problem solving as they work with different-sized sets. For example, students may be shown a picture of a group of students and asked to find the number of pencils needed for the group, or to find a set of objects that has more (or less) than the number the other students are working with.

Additional independent workstations, *Counting Boxes*, require students to count and record the number of objects in a collection. The number of objects varies from 4 to 30 so each child can work at his or her own a skill level to develop broader conceptual understanding of number. The particular numbers each student works with are selected by the teacher, based on the students' readiness. For example, if a child has been introduced to the numbers 0 through 5, but continues to have difficulty with 3 and 4, then the focus will be on the number 3 before moving on to 4 or 5. On the other hand, if a student has already gained a strong grasp of the numbers 0-5, larger numbers should become the focus. These workstations provide an opportunity for children to develop the concept of one-to-one correspondence and cardinality.

During this time, the students create pages for the numbers 0-5 of *Number Books* during small group instruction led by the teacher or paraprofessional. Each page focuses on one number, including a written numeral, a visual organizer (number dot patterns or ten frames) and a drawing. Children make connections between the different representations as they discuss the ten frame or dot pattern, practice writing each number, and draw a corresponding number of objects. During this unit, the only pages to be completed are those for the numbers 0-5. Each student will complete these pages for their number books. These books will be saved and expanded upon in the next unit, when pages for the numbers 6-10 are completed.

This task directly targets the following Common Core Standards: K.CC.1, K.CC.3, K.CC.4, K.CC.4a, K.CC.4b, K.CC.4c

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: zero, one, two, three, four, five, more, less, same
Resources:
Math Trailblazers Grade K Teacher Resource Book, pp.71-107
Selected Lessons from *On Core Mathematics, Houghton Mifflin Harcourt, 2012*, listed in the *Common Learning Experiences* section.

Common learning experiences:

- Read Alouds/Literature Connections:
  Crews, Donald, *Ten Black Dots*
  Carle, Eric, *The Very Hungry Caterpillar*

Walsh, Ellen Stoll, *Mouse Count*
Wood, Audrey, *Ten Little Fish,*
Fleming, Denise, *Count!*
Baker Keith, *Quack and Count*
Dee, Ruby, *Two Ways to Count to Ten: A Liberian Folktale*
Kubler, Annie, *Ten Little Monkeys: Jumping on the Bed*
Bang, Molly, *Ten, Nine, Eight*
Marzollo, Jean, *I Spy Little Numbers*
Raffi, Five Little *Ducks (Songs to Read)*
Murphy, Stuart J., *More or Less*
Falwell, Cathryn, *A Feast for Ten*

- Additional Materials for Math Meeting/Circle Time, Direct Instruction, Workstations and Small Groups are described in the Windsor Binders (1) *Kindergarten Math* and (2) *Workstations and Small Group Activities* and to be used on an as-needed basis.

- Re-Teaching and Enrichment: An additional 4-5 days is devoted to re-teaching and enrichment. Enrichment may include application of skills in problem solving, and extension of the numbers to those found in the next unit. Several Lessons that may be used for this purpose are described in the Windsor Binders (1) Kindergarten Math and (2) Workstations and Small Group Activities and to be used on an as-needed basis.

- *Math Links: Counting to 5 (Optional):*
  http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Pre-K_-_Kindergarten/Mathematics/Math_Links/Kindergarten/1__Counting_to_5
  1. Caterpillar Ordering: Choose *Order* and *1 to 5*.
  2. Count and Order : Match numbers and pictures
  3. Counting Arrays : Use an array like a five-frame and print out reports of success.
  4. Counting Objects to Graph: Color one square of the graph for each animal.
  5. Five-Frame Games: Use five-frames to think of numbers in relation to five. Choose *Game 1: How Many* or *Game 2: Build*.
  6. HM Counters: Move and count the counters one-by-one, on a two-number mat. Click the calculator to see the matching numeral.
  7. Numbers 0 - 5 : Can you count the bears in the forest?
  8. Numeral Formation Rhymes: Here are the rhymes we say to help us form numerals.

- Homework Calendars: Students complete 8 or more of the suggested activities at home per month. L:\Kindergarten\NEW! CCSS Homework Calendars

- On Core Mathematics Lessons and/or practice are optional, to be used as needed, for independent practice and/or small group instruction where appropriate: Lessons 7, 8, 9, 10, 22

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

L:\Kindergarten\Assessments\Unit 1 Assessment Counting and Matching Numerals 0-5 with Comparing.doc
L:\Kindergarten\Assessment Results for Parents\Kindergarten Unit 1.doc
Unit Assessment Results for Parents:
L:\Kindergarten\Unit Assessments\Assessment Results for Parents\Kindergarten Unit 1.doc

Teacher notes:

- Process standards to highlight through instruction: reason abstractly and quantitatively, attend to precision, and look for and make use of structure.
- 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 calendar counting, counting to 100 days, ten-frame counting, review/practice of skills, and an introduction to the lesson of the day. When done well, the transition between the Morning Meeting/ Circle Time and Direct Instruction is seamless.

  Direct Instruction (about 15 minutes) is conducted in small groups and/or whole group, depending on each activity's format and the students' needs. In each unit, an additional 4-5 days is devoted to re-teaching and enrichment. Enrichment may include application of skills in problem solving and extension of the numbers involved to those found in the next unit.

  Workstations (math center activities) and Small Group Activities (about 30 minutes): Students practice skills independently or in partnerships at workstations while the teacher and paraprofessional work with small groups to differentiate instruction. Workstations may also include computer-based activities.

  Lesson Wrap-Up at the end of the period (about 5 minutes) to discuss essential questions, lesson objectives, and student reflections.

- "Calendar counting" is limited to activities that involve counting up to 100. It is does not include topics from other content areas, such as the days of the week or months of the year.

- A counting caterpillar is an optional method of counting the number of schools days by ones and tens. Each day, a numbered segment of the caterpillar's body is added until it reaches 100 segments. If it is used, it must be done consistently (every day) within the classroom, to ensure that students receive the full benefit of the activity.

- During this unit students are also learning the routines involved, such as how to work in small groups, partnerships, and independently at workstations. Thus, more time is devoted to working with the numbers 0-5 than would otherwise be spent.

- Predictable misconception/trouble spot: Zero is introduced after other numbers so that students can compare those numbers to a group of zero items. By introducing it later, students are able to better comprehend the concept of zero.

- Targeted Instruction: For students who are having difficulty, targeted instruction time can be focused on re-teaching the numbers and skills that have already been introduced. For those needing a challenge, the time can be used to extend the skills of this unit. For example, students may engage in problem solving by further applying their number skills to real life situations, such as drawing and writing the number of children at their table or by distributing a number of dominoes to each partner in preparation for playing a more than/less than game. Additionally, those students may be ready to work with larger numbers, using the same, but adapted activities as their classmates.

Windsor Public Schools
Curriculum Map for the Elementary Level
Kindergarten

Purpose of the Course (from CCSS): In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

Name of the Unit: Unit 2 Counting and Matching Numerals 6-10 with Comparing	Length of the unit: 3 weeks
Purpose of the Unit: This second unit in a series three, is designed to reinforce pre-school skills of counting and matching numbers 0-20, and comparing numbers 0-10. This unit is based on the numbers 6-10 and serves as a foundation for the next unit, which focuses on 11-20. The priority standards below (those shown in bold font) will be completed by the end of the third unit and reinforced throughout the year. The supporting standards (shown in italics) are addressed in this unit, to the extent that the curriculum describes. For example, in this unit, K.CC.1 (count to 100 by ones and tens) the numbers 0-50 are highlighted.	
Common Core State Standards Addressed in the unit: **K.CC.3: Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).** **K.CC.4: Understand the relationship between numbers and quantities; connect counting to cardinality.** **K.CC.4a: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.** **K.CC.4b: Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.** **K.CC.4c: Understand that each successive number name refers to a quantity that is one larger.** **K.CC.6: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. (Include groups with up to ten objects.)** K.CC.1: Count to 100 by ones and by tens. K.CC.5: Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. K.CC.7: Compare two numbers between 1 and 10 presented as written numerals. K.MD.3: Classify objects into given categories; count the numbers of objects in each category and sort	

the categories by count. (Limit category counts to be less than or equal to 10.)	
Big Ideas: 1. 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. 2. Numerals are the symbols we read and write to communicate quantities (numbers). 3. One quantity is either greater than, less than or equal to the other.	Essential Questions: 1. Why do we count? 2. How are numerals used? 3. How can you tell if there are more or less of something?
Students will know: For the numerals 6-10: 1. last number name tells objects counted 2. number of objects is the same regardless of arrangement 3. number of objects is the same regardless of order 4. each successive number refers to a quantity that is one larger	Students will be able to: For the numerals 6-10: 1. count objects 2. say numbers in order 3. pair each object with one number 4. compare (greater than, less than, equal to) groups of objects 5. write numbers and represent number of objects with written numeral

Significant task 1: Math Meeting/Circle Time: *Number Rhymes and Games (numbers 6-10 and counting to 100)*

Children continue to engage in counting, saying numbers in order, one-to-one correspondence, comparing numbers, writing numerals, and representing numbers of objects with written numerals through activities using rhymes or games as a springboard. As in the previous unit, students explore number concepts collaboratively through stories and/or games, and by using concrete or visual materials. During this time, student-to-student discourse should continue to be promoted by such methods as acknowledging student contributions and asking other students to respond to the student's statement or by having students work in partnerships and explain their reasoning to each other. Each Math Meeting/Circle Time activity may be adjusted and repeated based on student needs and interest. Examples of these activities follow. (Additional activities are listed in the Common Learning Experiences Section).

Read Alouds/Literature Connections: Teachers continue to occasionally read and discuss picture books focused on the numbers 0-10. These books may be read as a whole group and used as a springboard for lessons. (See Common Learning Experiences section for a list of suggested read-alouds.)

Count Around the Circle: Children play a circle game to allow children to focus on counting sequences of 8 to 10 numbers within 100. (During this unit, the numbers 0-50 are highlighted). Players 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.

Count, Like Duck, Duck Goose without the Chase: A student walks around a circle of seated students, counting within a given sequence, until told to stop. (In this unit, sequences may involve any numbers from 0-50, or further). The student sitting in that place at the circle then takes over from where the previous student left off.

Squeeze Game: Students take turns guessing a number (0-10) from clues, by interpreting such terms as bigger, smaller, more than, greater than etc.

Ten Frame Flash: Students identify how many dots they see when a ten frame card is flashed. To challenge, students are asked to identify one more or one less than the amount of dots.

This task directly targets the following Common Core Standards: K.CC.1, K.CC.3, K.CC.4, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.6, K.CC.7

Timeline: Daily, throughout the duration of the unit for about ten minutes each day.
Key vocabulary: zero, one, two, three, four, five, greater, more, less, same, equal, larger, smaller
Resources:
Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities*
Selected Read-Alouds, found in the Common Learning Experiences section.

Significant task 2: Direct Instruction

Significant Task 2 is designed to teach students to identify and write the numerals 6-10, to represent numbers of objects with written numerals, and to compare numbers within that range. It is grounded in 4 series of lessons from Math Trailblazers and two sets of lessons from NCTM Illuminations.

A Summary of each set of lessons follows:

Math Trailblazers: Numbers Around Us

Children listen to the counting book, *A Feast for Ten*, by Cathryn Falwell, suggest objects in the room to count, and connect counting to the written symbol for the numerals 6-10.

Math Trailblazers: *We All Count*
Children observe how the author, Donald Crews, uses sets of 1 to 10 objects in the book, Ten Black Dots. Each child then creates a page for a class book by drawing a picture using some number of dots. Discussion is focused on the number of dots used for each picture.

Math Trailblazers: Number Dot Patterns
Children learn to recognize numbers displayed as dot patterns, such as those found on a pair of dice, and in ten frames and connect the dot arrangements to the written numeral.

Math Trailblazers: Number Comparisons
This is a collection of eight activities and games that provide opportunities for children to sort, compare and order quantities, using a variety of contexts and materials.

NCTM Illuminations: How Many Letters are in your Name?
Students count the number of letters in their names and their classmates' names, then write and order

the numbers. The students compile a class book of their work. Here, class discussion is focused on the comparison of numbers of letters in each name.

NCTM Illuminations: Building Numbers Up to Ten
Students construct sets of numbers up to 10, write the numerals 0- 10, and count up to 10 using ten frames.

The above tasks are differentiated according to the students' prior and present knowledge of number and number concepts. Those students needing more time with smaller numbers are provided with additional experiences using more concrete materials (manipulatives) through small group lessons and/or workstations. Challenges for those who are ready are also provided in small groups (or partnerships), through problem solving and by using larger numbers as appropriate. Several options for additional differentiated lessons are provided in the Windsor Binders: (1) *Kindergarten Math* and (2*) Kindergarten Workstations and Small Group Activities.* These are listed in the Common Experiences section.

This task directly targets the following Common Core Standards: K.CC.1, K.CC.3, K.CC.4, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.5, K.MD.3

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: six, seven, eight, nine, ten, more, less, same
Resources: NCTM Illuminations: *Let's Count to 10*
Windsor Binders: (1) Kindergarten Math and (2) Kindergarten Workstations and Small Group Activities

Significant task 3: Workstations:: *Counting Connections, Count and Compare (6-10):*

Significant Task 3 continues daily experiences with reading and writing numerals, counting, representing numbers of objects with written numerals, and comparing numbers, using the numbers 6-10. Multiple experiences help students make connections between ways of representing numbers. The representations include visual (ten frames and dot patterns) and symbolic (numerals), as well as concrete representations of numbers as sets of objects. These ongoing activities are to be used on a continuing basis, with modifications to whether the activities are presented concretely, visually, and/or abstractly as students' skills progress and they are ready for new challenges.

Through the *Counting Bags workstations,* students continue to be provided with differentiated opportunities to link numerals (abstract symbols) to sets of objects. A child can make four sets of the same size, four different size sets, or any combination in between, depending on the digit cards included in the workstation. As in the previous unit, the digit cards vary as teachers choose numbers that the students are just beginning to work with, or are having difficulty with. Some children will be ready to engage in problem solving as they work with different-sized sets. For example, students may be shown a picture of a group of students and asked to find the number of pencils needed for the group, or to find a set of objects that has more (or less) than the number the other students are working with. These workstations are designed to be completed independently.

Students continue to work independently on *Counting Box* workstations. As in the previous unit, these workstations provide an opportunity for children to develop the concept of one-to-one correspondence and cardinality as students count and record the number of objects in a collection. Again, the particular

numbers each student works with are selected by the teacher, based on the students' readiness. For example, although a child may have been introduced to the numbers 6-10 during direct instruction, he or she may still be having difficulty with the number 5 when working independently. In this case, the teacher selects the number 5 as the focus of the number box before a counting box of 6 is presented. On the other hand, if a student has already gained a strong grasp of the numbers 6-10, larger numbers should become the focus. Counting boxes are appropriate for any number from 4 to 30.

The students continue to create pages (for the numbers 6-10) of *Number Books* during small group instruction led by the teacher or paraprofessional. Each page focuses on one number, including a written numeral, a visual organizer (number dot patterns or ten frames) and a drawing. Children make connections between the different representations as they discuss the ten frame or dot pattern, practice writing each number, and draw a corresponding number of objects. During this unit, the only pages to be completed are those for the numbers 6-10. Each student will complete these pages, and add them to their number books from the previous unit. In the next unit, the number books will be completed with pages for the numbers 11-19.

In addition, children engage in counting, saying numbers in order, one-to-one correspondence, comparing numbers, writing numerals, and representing numbers of objects with written numerals through the series of small group activities and workstations listed below. As activities are introduced, the concepts are differentiated according to whether the students need concrete and/or visual cues, as well as by the numbers the students are learning. Each of these workstations or activities should be done at least once and may be repeated/ adjusted based on student need and interest.

Dots- Fingers Games: In this set of activities, students match cards with written numerals to cards with number dot patterns and finger counting cards.

Starting with Ten Frames: This set focuses on building numbers to ten. First, students use counters on ten frame mats (concrete materials). Then students use ten frame cards (visual materials) to identify, sequence, and compare numbers.

Count to Tell the Number of Objects: Students put number cards in order, recognize when numbers are out of order, and use a number line to help them identify a number according to clues such as bigger, smaller, more than, and greater than.

This task directly targets the following Common Core Standards: K.CC.1, K.CC.3, K.CC.4, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.6, K.CC.7

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: six, seven, eight, nine, ten, greater, more, less, same, equal, larger, smaller
Resources:
Math Trailblazers: Grade K Teacher Resource Book, pp.71-107
Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities*
Selected Read-Alouds, found in the Common Learning Experiences section
Selected Lessons from *On Core Mathematics, Houghton Mifflin Harcourt, 2012,* listed in the *Common Learning Experiences* section
Selected Websites found in Common Learning Experiences section

Common learning experiences:

- Read Alouds/Literature Connections:
  Crews, Donald, *Ten Black Dots*
  Carle, Eric, *The Very Hungry Caterpillar*
  Walsh, Ellen Stoll, *Mouse Count*
  Wood, Audrey, *Ten Little Fish,*
  Fleming, Denise, *Count!*
  Baker Keith, *Quack and Count*
  Dee, Ruby, *Two Ways to Count to Ten: A Liberian Folktale*
  Kubler, Annie, *Ten Little Monkeys: Jumping on the Bed*
  Bang, Molly, *Ten, Nine, Eight*
  Marzollo, Jean, *I Spy Little Numbers*
  Raffi, Five Little *Ducks (Songs to Read)*
  Murphy, Stuart J., *More or Less*
  Falwell, Cathryn, *A Feast for Ten*
- Additional Materials for Math Meeting/Circle Time, Direct Instruction, Workstations and Small Groups are described in the Windsor Binders (1) Kindergarten Math and (2) Workstations and Small Group Activities and to be used on an as-needed basis.

- Re-Teaching and Enrichment: An additional 4-5 days is devoted to re-teaching and enrichment. Enrichment may include application of skills in problem solving, and extension of the numbers to those found in the next unit. Several lessons that may be used for this purpose are described in the Windsor Binders (1) *Kindergarten Math* and (2) *Workstations and Small Group Activities* and to be used on an as-needed basis:

- *Math Links: Counting to 10 (Optional):*
  http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Pre-K_-_Kindergarten/Mathematics/Math_Links/Kindergarten/2__Counting_to_10
  1. Caterpillar Ordering: Choose *Sequences* and *counting in ones*, or choose *Order* and *1 to 10*.
  2. Concentration : Play a card-matching game with different representations of the same number.
  3. Count to 10 : Match numerals with groups of objects.
  4. Find the Missing Number : Find the missing numeral in a sequence.
  5. Fishy Count :Choose the correct numeral for the number of fish.
  6. HM Counters : Move and count the counters one-by-one; Click the calculator to see the matching numeral.
  7. Numeral Formation Rhymes: Here are the rhymes we say to help us form numerals.
  8. Number Train : Make a train of ten boxcars.
  9. Spin A Number : Spin and count to win the game.
  10. Ten Frame Games : Use ten frames to think of numbers in relation to ten.
  11. What Number Is Next?: Numbers 1-10

- Homework Calendars: Students complete 8 or more of the suggested activities at home per

month. L:\Kindergarten\NEW! CCSS Homework Calendars

- The following materials are optional, to be used as needed: *On Core Mathematics, Houghton Mifflin Harcourt, 2012, Lessons 11-15, 27-31, 40, 42*

Common assessments including the end of unit summative assessment:
(Provide link to assessments and rubrics.)
Unit Assessment:
L:\Kindergarten\Unit Assessments\Unit 2 Counting and Matching Numerals 6-10 with Comparing.doc

Unit Assessment Results for Parents:
L:\Kindergarten\Unit Assessments\Assessment Results for Parents\Kindergarten Unit 2.doc

Teacher notes:

- Process standards to highlight through instruction: reason abstractly and quantitatively, attend to precision, and look for and make use of structure.

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

- Predictable misconceptions: It is common for students to have difficulty with the terms, more, less, greater than, and less than. It is helpful to use the terms interchangeably with familiar words, such as bigger and smaller as they learn the meanings of the terms.

- Targeted Instruction: During this unit Targeted Instruction time can be focused on re-teaching skills for the numbers 0-5. The *Windsor Math Protocols Binder* outlines several suggestions for students having difficulty with early number skills. For example, one suggested lesson uses a show of fingers to represent numbers. Another has students arrange cards from 1 to 3 in increasing order from left to right. For students needing a challenge, the time can be used to extend skills for the numbers 6-10 or beyond. For example, students may engage in problem solving by further applying their number skills to real life situations, such as drawing and writing the number of children who are wearing sandals or by distributing a number of unifix cubes to each partner in preparation for playing a counting game. Additionally, those students may be ready to work with larger numbers, using the same, but adapted activities as their classmates.

Windsor Public Schools
Curriculum Map for the Elementary Level
Kindergarten

Purpose of the Course (from CCSS): In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

Name of the Unit: Unit 3 Counting and Matching Numerals 11-20	Length of the unit: 4 weeks
Purpose of the Unit: This unit, focused on the numbers 11-20, is the third in a series designed to extend pre-school skills of counting, and matching. This unit serves as a foundation for the learning beginning place value concepts sixth unit, *Teen Numbers and Counting to 100*. The priority standards below, (those shown in bold font) will be completed by the end of this unit. The supporting standards (shown in italics) are addressed in this unit, to the extent that the curriculum describes. For example, in this unit, K.CC.1 (count to 100 by ones and tens) the numbers 0-75 are highlighted.	
Common Core State Standards Addressed in the unit: **K.CC.3: Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).** **K.CC.4: Understand the relationship between numbers and quantities; connect counting to cardinality.** **K.CC.4a: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.** **K.CC.4b: Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.** **K.CC.4c: Understand that each successive number name refers to a quantity that is one larger.** *K.CC.1: Count to 100 by ones and by tens.* *K.CC.2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).* *K.CC.5: Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.*	
Big Ideas: 1. Counting tells how many there are in a group regardless of their arrangement. The last number said when counting tells	Essential Questions: 1. Why do we count? 2. How are numerals used? 3. How can you tell if there are more or less

the total number of objects counted. 2. Numerals are the symbols we read and write to communicate quantities (numbers). 3. One quantity is either greater than, less than or equal to the other.	of something?
Students will know: For the numerals 11-20: 1. last number name tells objects counted 2. number of objects is the same regardless of arrangement 3. number of objects is the same regardless of order 4. each successive number refers to a quantity that is one larger	Students will be able to: For the numerals 11-20: 1. count objects 2. say numbers in order 3. pair each object with one number 4. compare (greater than, less than, equal to) groups of objects for 0-10 5. write numbers and represent number of objects with written numeral

Significant task 1: Math Meeting/Circle Time

In addition to the daily counting, children may continue to engage in some of the activities described in the first two units, now focused on the numbers 11-20, as follows: "*BUZZ!* " (see Unit 1), "*Count Around the Circle" (see Unit 2),* and "*Count Like Duck, Duck, Goose…"*(see Unit 2). These activities are adjusted and repeated according to student needs and interest, to include the numbers 0-75 or higher.

Read Alouds/Literature Connections: Teachers continue to occasionally read and discuss picture books focused on counting and number sense. These books may be read as a whole group and used as a springboard for lessons. (See Common Learning Experiences section for a list of suggested read-alouds.)

In addition to daily counting activities and review of skills, students are introduced to new routines and activities focused on connecting counting and writing numerals to the students' everyday lives. The following activities are to be included in the Math Meeting/Circle Time during this unit:

Daily Routines: Encourage students to count to 100 through daily routines, (e.g., "Let's see if 100 steps will take us all the way to the cafeteria" or by taking attendance on ten frames). *As* students arrive at school, they may drag a ten frame dot (or their name or picture) to a ten frame on the SMARTBoard for recording attendance. At Math Meeting/Circle Time, the attendance for the day may be counted together, by ones.)

Purposeful Number Writing: Children write numbers for a purpose. For example, they might record the number of counters they will need to collect for a game, or the number of students who are ordering a hot lunch. This recording can be done in a variety of ways, such as on small white boards, the SMARTBoard, on a clear plastic sleeve with a dry-erase marker, or on paper with a colored marker or crayon. By using the context of the children's lives and/or school day, the purpose of writing numbers becomes clearer for students.

Finish the Sequence: Students finish a sequence starting with a random number (within 100), such as 5. The children stop counting when the sign is held up (or a signal is made) and count on when the sign is put down.

Real Life Counting: Similar to *Purposeful Number Writing*, the teacher creates meaningful situations where children are asked to assign a number to each item in a group of items and provide the total amount. For example, students might determine how many pages are in a class book, or count how many spaces it takes to move across a game board from start to finish.

This task directly targets the following Common Core Standards: K.CC.1, K.CC.3, K.CC.4, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.6, K.CC.7

Timeline: Daily, throughout the duration of the unit for about ten minutes each day.
Key vocabulary: eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty
Resources:
Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities*
Selected Read-Alouds, found in the Common Learning Experiences section

Significant task 2: Direct Instruction: Let's Count to Twenty

Significant Task 2 is designed to teach students to identify and write the numerals 11-20, and to represent numbers of objects with written numerals within that range. A series of lessons from NCTM Illuminations set the groundwork for this unit, while Math Trailblazers provides further lessons. These lessons are described below:

NCTM Illuminations: *Let's Count to Twenty*
Students read numeral cards and construct groups of 11-20 objects using connecting cubes and ten frames . Children also decompose sets of given numbers in several ways and write the numerals 11-20.

Math Trailblazers: *Modeling Numbers 11-19 and Counting to 20*
Students translate between dot patterns, ten frames, and numerals for the numbers 11-20. Children also practice counting on from a number other than one. For example, given the number 5 to start, they will count on, "6, 7, 8…"

Math Trailblazers: *Numbers Around Us*
The counting book, *A Feast for Ten,* by Cathryn Falwell serves as the foundation of this lesson. During a second reading of the book, children are asked to connect the number of items on each page to a set of (0-20) number cards. Then, focusing on each page and the corresponding number card, the students are invited to find that same number of things in the room. For example, they might suggest 5 crayons, 5 chairs around a table, or 5 students. This lesson may be extended over several days as other counting books are read.

As in the previous unit, a strong emphasis is placed on language in these lessons. A section called "Questions for Students" helps keep the focus on higher order thinking skills as students work. Students must explain their reasoning and use words to describe the numbers as well as their thinking about the numbers. For example, the teacher might ask, "How can you change a group of thirteen to a group of fourteen?" or "How can you change a group of 10 to a group of 13?"

During this unit, additional lessons may be conducted for differentiated instruction according to the students' present knowledge of number and number concepts. Those students needing more time with

smaller numbers are provided with additional experiences using more concrete materials (manipulatives) through small group lessons and/or workstations. Challenges for those who are ready are also provided in small groups (or partnerships), through problem solving and by using larger numbers as appropriate. Several options for additional differentiated lessons are provided in the Windsor Binders: (1) *Kindergarten Math* and (2*) Kindergarten Workstations and Small Group Activities.* These are listed in the Common Experiences section.

This task directly targets the following Common Core Standards: K.CC.1, K.CC.3, K.CC.4, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.6, K.CC.7

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty
Resources:
Math Trailblazers: Modeling Numbers 11-19 and Counting to 20; Numbers Around Us (Month 1 Lesson 2)
NCTM Illuminations: Let's Count to Twenty
Selected lessons from On Core Mathematics, Houghton Mifflin Harcourt, 2012, listed in Common Learning Experiences section

Significant task 3: Workstations and Small Group Activities: Counting and *Working with Numbers 11-20*

Significant Task 3 continues daily experiences with reading and writing numerals 11-20, counting, representing numbers of objects with written numerals, and comparing numbers through workstations and small group activities. As in the previous units, multiple experiences help students make connections between ways of representing numbers, including concrete, visual (ten frames and dot patterns), and symbolic (numeric) representations of numbers as sets of objects. During this time, concepts are differentiated according to these representations, as well as by the numbers the students are learning. Additional previously used activities may be adjusted and repeated according to student needs and interest. In addition, they are introduced to the new workstations and small group activities described below:

Counting Bags: In this unit, students continue the series of independent *Counting Bag* workstations for the numbers 11-20. Again, they are provided with differentiated opportunities to link numerals (abstract symbols) to sets of objects, by making four sets of the same size, four different size sets, or any combination in between, depending on the numeral cards the teacher chooses to include in a workstation. As in the previous unit, teachers choose numbers that the students are just beginning to work with, or may be having difficulty with.

Counting Boxes: Students continue to work independently on *Counting Box* workstations. As in the previous unit, these workstations provide an opportunity for children to develop the concept of one-to-one correspondence and cardinality as students count and record the number of objects in a collection. Again, the particular numbers each student works with are selected by the teacher, based on the students' readiness. For example, although a child may have been introduced to the numbers 11-20 during direct instruction, he or she may still be having difficulty with the number 9 or 13 when working independently. On the other hand, if a student has already gained a strong grasp of the

numbers 11-20, larger numbers should become the focus. Counting boxes are appropriate for any number from 4 to 30.

Number Books: Students continue to create pages (for the numbers 11-20) of *Number Books* during small group instruction led by the teacher or paraprofessional. Each page focuses on one number, including a written numeral, a visual organizer (number dot patterns or ten frames) and a drawing. Children make connections between the different representations as they discuss the ten frame or dot pattern, practice writing each number, and draw a corresponding number of objects. During this unit, the only pages to be completed are those for 11-20. As each student completes these pages, they are added to their *previous pages* to create updated *Number Books*.

Race to Trace: Numeral writing practice using a game format. Students roll two dice and record the number of dots shown.

Fill the Frames: Children fill two ten frames with counters according to the roll of a die.

Number After BINGO: Students learn what "number after" means using a number line, then engage in a BINGO game that provides practices with locating each number that comes after 11-15 (or another given set of numbers as determined by the teacher).

Missing Number Game: Students learn to sequence numerals, recognize when a numeral is missing, and identify the missing numeral. Students use language to explain their reasoning, for instance, " I think ___ is missing because…"

This task directly targets the following Common Core Standards: K.CC.1, K.CC.3, K.CC.4, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.6, K.CC.7

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty
Resources:
Math Trailblazers *Grade K Teacher Resource Book*, pp.71-107
Selected Websites found in Common Learning Experiences section
Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities*
Selected lessons from On Core Mathematics, Houghton Mifflin Harcourt, 2012, listed in Common Learning Experiences section

Common Learning Experiences

- Additional Materials for Math Meeting/Circle Time, Direct Instruction, Workstations and Small Groups are described in the Windsor Binders (1) Kindergarten Math and (2) Workstations and Small Group Activities and to be used on an as-needed basis.

- Re-Teaching and Enrichment: An additional 4-5 days is devoted to re-teaching and enrichment. Enrichment may include application of skills in problem solving, and extension of the numbers to those found in the next unit. Several Lessons that may be used for this purpose are described in the Windsor Binders (1) Kindergarten Math and (2) Workstations and Small Group Activities and

to be used on an as-needed basis:

- *Math Links: Counting to 20 (Optional):* http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Pre-K_-_Kindergarten/Mathematics/Math_Links/Kindergarten/3__Counting_to_20
  1. HM Connecting Cubes or Counters :Use the Connecting Cubes or Counters for one-to-one correspondence and counting to twenty.
  2. Interactive Hundred Chart: Can you tell which numbers are covered?

- Read Alouds/Literature Connections:
  Crews, Donald, *Ten Black Dots*
  Carle, Eric, *The Very Hungry Caterpillar*
  Walsh, Ellen Stoll, *Mouse Count*
  Wood, Audrey, *Ten Little Fish,*
  Dee, Ruby, *Two Ways to Count to Ten: A Liberian Folktale*
  Kubler, Annie, *Ten Little Monkeys: Jumping on the Bed*
  Bang, Molly, *Ten, Nine, Eight*
  Murphy, Stuart J., *More or Less*
  Falwell, Cathryn, *A Feast for Ten*

- Homework Calendars: Students complete 8 or more of the suggested activities at home per month. L:\Kindergarten\NEW! CCSS Homework Calendars

- *On Core Mathematics, Houghton Mifflin Harcourt, 2012, lessons 16-21, 32, 41*

Common assessments including the end of unit summative assessment:

Unit 3 Assessment
L:\Kindergarten\Unit Assessments\Unit 3 Counting and Matching Numerals 11-20.doc

Assessment Results for Parents:
L:\Kindergarten\Unit Assessments\Assessment Results for Parents\Kindergarten Unit 3.doc

Teacher notes:

- Process standards to highlight through instruction: reason abstractly and quantitatively, attend to precision, and look for and make use of structure.

- Refer to unit 1 for the structure of the kindergarten math period.

- Predictable misconceptions/trouble spots: Children often have difficulty distinguishing between 13 and 30, and 15 and 50.

- Targeted Instruction: During this unit Targeted Instruction time can be focused on re-teaching skills for the numbers 0-10. The *Windsor Math Protocols Binder* outlines several suggestions for students having difficulty with early number skills. For example, one suggested lesson uses a

show of fingers to represent numbers. Another has students arrange cards from 7 to 10 in increasing order from left to right. For students needing a challenge, the time can be used to extend skills for the numbers 11-20 or beyond. For example, students may engage in problem solving by further applying their number skills to real life situations, such as drawing and writing the number of children who need one more crayon than they already have. Additionally, those students may be ready to work with larger numbers, using the same, but adapted activities as their classmates.

Windsor Public Schools
Curriculum Map for the Elementary Level
Kindergarten

Purpose of the Course (from CCSS): In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

Name of the Unit: Unit 4 Fluency with Addition and Subtraction within 0-5	Length of the unit: 4 weeks

Purpose of the Unit: This unit is the first of two units to introduce addition and subtraction. The focus of this unit is fluency with addition and subtraction through 5. In this unit, students will be involved in problem-solving on a daily basis, as part of the Math Meeting/Circle Time, Direct Instruction, and/or Workstations and Small Group Activities. In this way, they will gain a deep understanding of addition and subtraction concepts.

Common Core State Standards Addressed in the unit:

K.CC.3: Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).

K.OA.1: Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. (Drawings need not show details, but should show the mathematics in the problem. This applies wherever drawings are mentioned in the Standards.)

K.OA.3: Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).

K.OA.5: Fluently add and subtract within 5.

K.CC.1: Count to 100 by ones and by tens.

K.CC.2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).

K.CC.4: Understand the relationship between numbers and quantities; connect counting to cardinality.

K.CC.4a: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.

K.CC.4b: Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.

K.CC.4c: Understand that each successive number name refers to a quantity that is one larger.

K.CC.5: Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.

K.OA.2: Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

Big Ideas:	Essential Questions:
1. Numerals and operation symbol can be used to model problems. 2. Addition is putting together or adding to and subtraction is taking apart or taking from. 3. Addition and subtraction are inverse operations; that is they undo each other.	1. How are numerals and symbols used? 2. What types of questions do adding and subtracting answer? 3. How are addition and subtraction the same or different?
Students will know: 1. last number name tells objects counted 2. number of objects is the same regardless of arrangement 3. number of objects is the same regardless of order 4. each successive number refers to a quantity that is one larger 5. addition as putting together and adding to, and subtraction as taking apart and taking from	Students will be able to: 1. count objects 2. say numbers in order 3. pair each object with one number 4. compare (greater than, less than, equal to) groups of objects for 0-10 5. write numbers and represent number of objects with written numeral (0-20) 6. represent addition and subtraction (0-5) through drawings/pictures and/or informal expressions/equations with fluency 7. communicate the operations of addition and subtraction (0-5) through acting out problems and/or oral explanation with fluency 8. decompose and compose numbers through drawings and explanations (for example 5 is the same as 2 + 3)

Significant task 1: Math Meeting/Circle Time:

Children continue to engage in the types of Math Meeting/Circle Time activities outlined in previous units, with appropriate levels of skill based on student needs as they pertain to the curriculum. For example, in this unit, counting to 100 activities may encompass all of the numbers from 0 to 100 while a purposeful number writing activity should continue to involve the numbers 0-20. The particular activities selected for the Math Meeting/Circle Time should vary from day to day, except where there

are meaningful routines that actively involve the students.

Students are also introduced to new activities relating to addition and subtraction concepts (0-5). To help bring meaning to the operations, story characters or objects from read-alouds may provide the subject matter of story problems. During Math Meeting/Circle Time, a favorite book may serve as a springboard for the day's direct instruction. For example, in the story, *Freight Trains*, by Donald Cruz, trains are spread across two pages. On the second reading, teachers may ask students to figure out the total number of cars shown. For subtraction, a teacher may cover one of the pages, tell the students the total number of cars, then ask how many cars are on the covered page. On another page all of the wheels on just one side of the train are clearly shown. The teacher may ask, "How many wheels are on that train?" In this case, the story is read during the Math Meeting/Circle Time, which leads into the direct instruction involving the inherent addition/subtraction concepts.

In addition to using literature as a basis for problem solving, story problem content may be focused on situations that occur during the kindergarten day. For example, situations involving the sharing of manipulatives or snacks are common and lend themselves to addition and subtraction problems. Here, a teacher may ask one student from a partnership to gather up the counters the two players will need for a game. If a child will need one counter and her partner will also need one counter, how many counters should she get? It is challenging to take advantage of these opportunities for real-life problem solving. However, as students learn about addition and subtraction in this manner, they learn to view math as dynamic, and relevant to their lives. Activities such as the above may be used during Math Meeting/Circle Time to lead into the direct instruction of addition and subtraction concepts.

Timeline: Daily, throughout the duration of the unit for about ten minutes each day.
Key vocabulary: eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty
Resources:
Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities*
Math Trailblazers Grade K Teacher Resource Book, pp. 33-38

Significant Task 2: Direct Instruction

Direct instruction of addition and subtraction concepts should occur within contexts, such as thematic units, everyday classroom experiences, and planning for school events. In planning, it is important to consider different kinds of problems and to provide a range. The Math Trailblazers program classifies the various situations involving addition and subtraction as *join, separate*, *part-part-whole* and *compare.* Within these classifications, there eleven types of problems, depending on the unknown component. (Sample problems illustrating each of these situations are included in the Math Trailblazers resources, listed below.) By the end of the next unit (*Exploring Addition and Subtraction within 10*), students should be exposed to problems from each of these categories.

According to the Math Trailblazers program, certain types of problems can be more difficult to solve than others. In the United States, the two easiest types (result unknown for addition and take away/ result unknown for subtraction) have traditionally dominated elementary mathematics textbooks.

The suggested order of introduction follows:

1. Join- Result Unknown
2. Separate- Result Unknown
3. Part/Part/Whole- Whole Unknown
4. Join- Change Unknown
5. Compare- Difference Unknown

6. Compare- Compare Quantity Unknown
7. Compare- Referent Unknown
8. Part/Part/Whole- Part Unknown
9. Join- Start Unknown
10. Separate- Start Unknown
11. Separate- Change Unknown

Mastery of one problem type is not required to work on another type, but attention should be paid to the order in which problem types are introduced. At the same time, if a situation arises for which it is natural to use one of the later types, the teacher may do so, recognizing that students may be more challenged by these problems.

When solving story problems, students should have the opportunity to use and share their problem-solving strategies, with time built in for exploring multiple approaches. These may include using counting strategies, direct modeling with concrete objects, and working from facts they know (reasoning from known facts). To aid in problem-solving, manipulatives should be available in the classroom at all times, including counters, number lines and/or charts, and other concrete materials. It is expected that children will use different strategies, depending on their levels of conceptual development.

In addition to the lessons described in the previous section, the lessons listed below are found in the Windsor Binder *Kindergarten Math*. Each lesson may be adapted and repeated according to student needs and interests. Some may later be used as workstation activities.

Cards and Kids: Students learn about and model number sentences by acting them out. This activity should be extended to act out story problems that have the students as characters.

Addition/ Subtraction Pictures: A simple outdoor scene with a large tree and a pond is displayed on a chart, poster or SMARTBoard. The children draw the scene on construction paper while five counters are distributed to each student. Students then use the counters to model a story on the picture as the teacher tells it. Questioning includes such questions as, "How can you show how many ducks there are in all?" To vary the lesson, the counters may be used to show subtraction or how addition and subtraction are related. Different scenes may be used for additional lessons. (For more picture/scenario ideas, go to Glencoe Story Boards link, listed in the common Experiences section).

Bobbie Bear: Students decompose numbers less than or equal to 5 by using red and blue buttons, drawing pictures, and writing the number for each color of button once a number is decomposed.

Christina's Candies: Similar to Bobbie Bear, this lesson uses "lemon and chocolate candies" instead of "buttons".

One More, One Less and CCSS Activity 10: Addition and subtraction sentences are written to describe the number dot arrangements on dominoes. Students can also draw a picture and create a story about their number sentence.

CCSS Activity 3 : Children use 5 unifix cubes to model addition and subtraction story problems.

Shake Five and Spill: Students shake 5 two-color counters out of a cup and record how many of each

color they have.

Part-Whole Mats: Part-Whole mats are used by the students to show the decomposition of numbers 0-5.

Dot Card Addition: Students find pairs of numbers that equal a number (0-5) and record their work with a picture and/or number sentence.

This task directly targets the following Common Core Standards: K.OA.1; K.OA.3; K.OA.5

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: add, plus, altogether, join, equals, whole, part, minus, subtract, take away, more, fewer
Resources: Math Trailblazers Grade K Teacher Resource Book, pp. 33-38
Windsor Binders: (1) Kindergarten Math and (2) Kindergarten Workstations and Small Group Activities

Significant task 3: Significant task 3: Workstations and Small Group Activities

As described in the previous units, students may continue to engage in some of the familiar workstations that are adjusted and repeated according to student needs and interest. In addition, they are introduced to new workstations and small group activities, such as:

Make Five: Students use counters and number sentences to decompose the numbers 0-5

All Solutions: Given a list of three numbers, students choose two from each list that add to make 4 and write a corresponding number sentence.

Facts of Five: Children find and record sets of two cards that have a sum of (a given number, 0-5)

Five Squares: Students use square-inch tiles to practice and reinforce decomposing the numbers 0-5.

Sums of Five: Students match numeral or dot cards to counters on five frames, then state how many more they need to get to five.

Counting On Cup: Students use counters and a cup to create an addition sentence and record the results in a chart.

Make Five on the Five Frame: Students place two colors of counters on a five frame, finding as many solutions as possible. For example, 1 yellow counter and 4 red counters make 5 counters altogether.

This task directly targets the following Common Core Standards: K.CC.3; K.OA.1; K.OA.3; K.OA.5

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: add, plus, altogether, equals, whole, part, minus, subtract, take away
Resources: Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities*
Math Trailblazers *Grade K Teacher Resource Book*, pp. 33-38

Read-Alouds/Literature Connections:
Walsh, Ellen Stoll, Mouse Count
Cruz, Donald, *Freight Trains*

Common learning experiences:

- Additional Materials for Math Meeting/Circle Time, Direct Instruction, Workstations and Small Groups are described in the Windsor Binders (1) *Kindergarten Math* and (2) *Workstations and Small Group* Activities and to be used on an as-needed basis.

- Re-Teaching and Enrichment: An additional 4-5 days is devoted to re-teaching and enrichment. Enrichment may include application of skills in problem solving, and extension of the numbers to those found in the next unit. Several Lessons that may be used for this purpose are described in the Windsor Binders (1) Kindergarten Math and (2) Workstations and Small Group Activities and to be used on an as-needed basis:

- Predictable misconceptions: It is common for students to confuse the (-) symbol and (+) symbol in equations and is not expected that students be able to master reading and writing equations in kindergarten. Rather, equations should be modeled and students should have opportunities to work toward reading and writing equations throughout the year. Additionally, students may come to think of the (=) symbol as meaning "the answer is…" rather than "the same as". It is important to communicate that the equals sign means "the same as" and to use it in a variety of situations. For example, (4 = 3 + 1), (2 + 2 = 3 + 1), (3 + 1 = 4).

- *Math Links: Addition and Subtraction within 5 (Optional):*
  http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Pre-K_-_Kindergarten/Mathematics/Math_Links/Kindergarten/5__Addition_and_Subtaction_wit
  1. Build A Train: Add or subtract cars to build your train.
  2. Five-Frame Addition: Choose Game 4: "Add" to work with addition facts within a five-frame.
  3. HM Counters : Use a two-number or part-part-whole mat to partition up to 5 counters. Choose the calculator if you want to show the totals for each part.
  4. Glencoe Story Boards: Select from a wide variety of game boards, story boards, workmats, and manipulatives .

- Homework Calendars: Students complete 8 or more of the suggested activities at home per month. L:\Kindergarten\NEW! CCSS Homework Calendars

Common assessments including the end of unit summative assessment:

Unit Assessment: L:\Kindergarten\Unit Assessments\Unit 4 Assessment Addition & Subtraction within 5.doc

Assessment Results for Parents:
L:\Kindergarten\Unit Assessments\Assessment Results for Parents\Kindergarten Unit 4.doc

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.

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

- Targeted Instruction: During this unit Targeted Instruction time can be focused on re-teaching concepts for the numbers 0-20. The *Windsor Math Protocols Binder* outlines several suggestions for students having difficulty with early number skills. For example, one suggested lesson uses a show of fingers to represent numbers. Another has students arrange cards from 11-20 in increasing order from left to right. For students needing a challenge, the time can be used to lay the foundation for place value concepts for the numbers 11-20.

Windsor Public Schools
Curriculum Map for the Elementary Level
Kindergarten

Purpose of the Course (from CCSS): In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

Name of the Unit: Unit 5 Exploring Addition and Subtraction within 10	Length of the unit: 4 weeks
Purpose of the Unit: This unit is the second of two units to introduce addition and subtraction. The focus of this unit is exploring addition and subtraction within 10, building upon the skills learned in the previous unit, *Fluency with Addition and Subtraction within 0-5*.	
Common Core State Standards Addressed in the unit: **K.CC.3: Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).** **K.OA.1: Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. (Drawings need not show details, but should show the mathematics in the problem. This applies wherever drawings are mentioned in the Standards.)** **K.OA.3: Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).** **K.OA.5: Fluently add and subtract within 5.** *K.CC.1: Count to 100 by ones and by tens.* *K.CC.2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).* *K.CC.4: Understand the relationship between numbers and quantities; connect counting to cardinality.* *K.CC.4a: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.* *K.CC.4b: Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.* *K.CC.4c: Understand that each successive number name refers to a quantity that is one larger.* *K.CC.5: Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.* *K.OA.2: Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or*	

drawings to represent the problem.

K.OA.4: For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

Big Ideas:	Essential Questions:
1. Numerals and operation symbol can be used to model problems. 2. Addition is putting together or adding to and subtraction is taking apart or taking from. 3. Addition and subtraction are inverse operations; that is they undo each other.	1. How are numerals and symbols used? 2. What type of questions does adding and subtracting answer? 3. How are addition and subtraction the same or different?
Students will know: 1. last number name tells objects counted 2. number of objects is the same regardless of arrangement 3. number of objects is the same regardless of order 4. each successive number refers to a quantity that is one larger 5. addition as putting together and adding to, and subtraction as taking apart and taking from	Students will be able to: 1. count objects 2. say numbers in order 3. pair each object with one number 4. compare (greater than, less than, equal to) groups of objects for 0-10 5. write numbers and represent number of objects with written numeral (0-20) 6. represent addition and subtraction (0-10) through drawings/pictures and/or informal expressions/equations with fluency for 0-5 only 7. communicate the operations of addition and subtraction (0-10) through acting out problems and/or oral explanation, with fluency for 0-5 only 8. decompose and compose numbers through drawings and explanations (for example 5 is the same as 2 + 3)

Significant task 1: Math Meeting/ Circle Time

Children continue to engage in the types of Math Meeting/Circle Time activities outlined in previous units, with appropriate levels of skill based on student needs as they pertain to the curriculum. As in the previous unit, students are also introduced to new activities relating to addition and subtraction concepts, now for the facts of 0-10. Again, story characters or objects from read-alouds, topics pertaining to the kindergarten day, and special events may provide the subject matter for learning addition and subtraction concepts. As always, the particular activities selected for the Math Meeting/Circle Time should vary from day to day, except where there are meaningful routines that actively involve the students.

There are several books that may be highlighted in this unit, including *There were Ten in the Bed,* by Annie Kubler. This story and lesson follows the format of Five Little Monkeys, described in the previous unit. Additional books for learning about addition and subtraction concepts are *Mouse Count, by* Ellen Stoll Walsh, and *Two Ways to Count to Ten: A Liberian Folktale, by* Ruby Dee.

Timeline: Daily, throughout the duration of the unit for about ten minutes each day.
Key vocabulary: add, plus, altogether, join, equals, whole, part, minus, subtract, take away, more, fewer
Resources: Math Trailblazers Grade K Teacher Resource Book, pp. 33-38
Windsor Binders: (1) Kindergarten Math and (2) Kindergarten Workstations and Small Group Activities
Selected Read-Alouds, listed in the Common Learning Experiences section

Significant task 2: Direct Instruction

Students continue to benefit from solving story problems as they explore addition and subtraction within 10. It is important to remember that when solving story problems, students should have the opportunity to use and share their problem-solving strategies, with time built in for exploring multiple approaches, as described in Unit 4. The first lessons lessons listed below are from Math Trailblazers. The final two lessons may be found in the Windsor Binder, *Kindergarten Math*. Each lesson may be adapted and repeated according to student needs and interests. For example, in the activity spider legs, a variety of additional partitions may be made. A student may work with partitioning 6 legs of an ant (instead of 8 legs of a spider) and listing the combinations. Once the skills of a lesson are taught, some of the following activities may also be used as workstations for students who would benefit from additional practice, or in small group lessons for students requiring support.

Dominoes and Number Cards: Students explore domino number dot patterns and use the part-part-whole relationship to count and place dominoes on a number line. The game, *Domino Path*, may then be taught and repeated as needed for additional practice of matching the total number of dots on a domino to that number on the path.

Looking at the Number Ten: Children use manipulatives to explore the part-part-whole relationships of the number 10. Students use a data table to record the action in the story, *There Were Ten in the Bed,* and look for patterns in data.

Spider Legs: Children use manipulatives to find two-part partitions of the number eight. The class then generates a list of the various partitions found.

Hungry Bugs CCSS Activity 16: Children pretend to be hungry bugs, sharing ten cubes (“pieces of food”) in partnerships. They record their number sentences in a data table.

Partitioning Seven, Eight, and Nine: Students explore the different ways they can place sets of 7 to 9 beans into three wagons. Students share their ideas and then record the combinations on the circus train data sheet. This activity may be modified as needed, to place the beans into two wagons instead of three.

Balloon Stories: Students use manipulatives to demonstrate the action and solve story problems about a balloon seller. The sample stories should be presented in small groups and modified as needed, depending on the students’ abilities. For example, smaller numbers may be used, or students may be asked to start with a clear story mat for each problem.

Balancing Numbers: A balance is used to model a variety of problem-solving situations involving addition and subtraction.

Class Apartment Building: Students use self-adhesive notes to represent themselves in an apartment building. They create and solve addition and subtraction problems about classmates moving in and out of this imaginary apartment house.

Ant Number Stories: Children tell number stories and use thumbprint ants to illustrate their number stories.

Ladybug Doubles: Children make ladybugs that have the same number of on each side of their outer shells, thereby exploring the doubling of numbers 1 through 7.

Cards and Kids: Students learn about and model number sentences by acting them out. This activity should be extended to act out story problems that have the students as characters.

Addition/ Subtraction Pictures: A simple outdoor scene with a large tree and a pond is displayed on a chart, poster or SMARTBoard. The children draw the scene on construction paper while five counters are distributed to each student. Students then use the counters to model a story on the picture as the teacher tells it. Questioning includes such questions as, "How can you show how many ducks there are in all?" To vary the lesson, the counters may be used to show subtraction or how addition and subtraction are related. Different scenes may be used for additional lessons. (For more picture/scenario ideas, go to Glencoe Story Boards link, listed in the common Experiences section).

This task directly targets the following Common Core Standards: K.OA.1; K.OA.3; K.OA.5

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: add, plus, altogether, join, equals, whole, part, minus, subtract, take away, more, fewer
Resources: Math Trailblazers Grade K Teacher Resource Book, pp. 33-38
Resources: Math Trailblazers Grade K Teacher Resource Book, pp. 33-38
Windsor Binders: (1) Kindergarten Math and (2) Kindergarten Workstations and Small Group Activities

Significant task 3: Workstations and Small Group Activities

As described in the previous units, students may continue to engage in some of the familiar workstations and small group activities that are adjusted and repeated according to student needs and interest. In addition, they are introduced to new workstations and small group activities, such as:

Facts of Ten/Make 10: Students choose sets of two ten frame cards or two dot cards with a sum of ten.

Making Apple Ten Packs: Students find many ways to make a ten pack using red and yellow counters ("apples").

Bug Race Game: Children work in pairs to move "bugs" along a race course, based on the roll of one or two number cubes.

Domino Addition: Individually, or in partnerships, children look for dominoes with a sum of 0-10.

Unifix Towers: Students roll two dice and make a unifix cube tower to match the total, then draw a picture and/or write about their towers.

One More on the Ten Frame: Children place counters on a ten frame to show one more than the number card they drew from a stack of number cards.

Ten Frame Game of Fish: Students play a game of "Fish" where the object is to ask the other student(s) for a card that will add to his or hers to make a pair with a sum of ten.

Ten Frame Difference Challenge: Each student turns over a ten frame card and takes that many unifix cubes. The difference between the two numbers goes to the player with the largest number.

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: add, plus, altogether, join, equals, whole, part, minus, subtract, take away, more,
Resources:
Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities*
Math Trailblazers *Grade K Teacher Resource Book*, pp. 33-38

Read-Alouds/Literature Connections:
Walsh, Ellen Stoll, *Mouse Count*
Dee, Ruby, *Two Ways to Count to Ten: A Liberian Folktale*
Kubler, Annie *There Were Ten in the Bed*

Common learning experiences:

- Additional Materials for Math Meeting/Circle Time, Direct Instruction, Workstations and Small Groups are described in the Windsor Binders (1) *Kindergarten Math* and (2) *Workstations and Small Group Activities* and to be used on an as-needed basis.

- Re-Teaching and Enrichment: An additional 4-5 days is devoted to re-teaching and enrichment. Enrichment may include application of skills in problem solving, and extension of the numbers to those found in the next unit. Several Lessons that may be used for this purpose are described in the Windsor Binders (1) *Kindergarten Math* and (2) *Workstations and Small Group Activities* and to be used on an as-needed basis:

- Homework Calendars: Students complete 8 or more of the suggested activities at home per month. L:\Kindergarten\NEW! CCSS Homework Calendars

- *Math Links: Addition and Subtraction within 10 (Optional):*
  http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Pre-K_-_Kindergarten/Mathematics/Math_Links/Kindergarten/6__Addition_and_Subtraction_wi
  1. Build A Train: Add or subtract cars to build your train. Add or subtract cars to build your train. Choose the calculator if you want to show the totals for each part.
  2. HM Counters : Use a two-number or part-part-whole mat to partition up to 10 counters.

Choose the calculator if you want to show the totals for each part.
3. Ten Frame Game. Use ten frames to help you count and add.
4. Glencoe Story Boards: Select from a wide variety of game boards, story boards, workmats, and manipulatives

Common assessments including the end of unit summative assessment:
Unit 5 Assessment:
L:\Kindergarten\Unit Assessments\Unit 5.doc
Assessment Results for Parents:
L:\Kindergarten\Unit Assessments\Assessment Results for Parents\Kindergarten Unit 5.doc

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.

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

- Predictable misconceptions: It is common for students to confuse the (-) symbol and (+) symbol in equations and is not expected that students be able to master reading and writing equations in kindergarten. Rather, equations should be modeled and students should have opportunities to work toward reading and writing equations throughout the year. Additionally, students may come to think of the (=) symbol as meaning "the answer is…" rather than "the same as". It is important to communicate that the equals sign means "the same as" and to use it in a variety of situations. For example, (4 = 3 + 1), (2 + 2 = 3 + 1), (3 + 1 = 4).

- Targeted Instruction: During this unit Targeted Instruction time can be focused on re-teaching concepts for the numbers 0-20 and addition and subtraction of the numbers 0-5. The *Windsor Math Protocols Binder* outlines several suggestions for students having difficulty with early number skills. For example, one suggested lesson uses a show of fingers to represent numbers. Another has students arrange cards from 11-20 in increasing order from left to right. For students needing a challenge, the time can be used to lay the foundation for place value concepts for the numbers 11-20.

Windsor Public Schools
Curriculum Map for the Elementary Level
Kindergarten

Purpose of the Course (from CCSS): In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

Name of the Unit: Unit 6 Teen Numbers (11-19) and Counting to 100	Length of the unit: 4 weeks
Purpose of the Unit: This unit is designed to provide opportunities for students to further develop skills from the previous units, while gaining foundations for place value by extending their work with the numbers 11-19 and counting to 100. In this unit, counting to 100 activities include counting forward beginning from any given number within the 0-100 sequence (instead of having to begin at 1).	
Common Core State Standards Addressed in the unit: **K.CC.4: Understand the relationship between numbers and quantities; connect counting to cardinality.** **K.CC.4a: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.** **K.CC.4b: Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.** **K.CC.4c: Understand that each successive number name refers to a quantity that is one larger.** **K.OA.1: Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. (Drawings need not show details, but should show the mathematics in the problem. This applies wherever drawings are mentioned in the Standards.)** *K.CC.1: Count to 100 by ones and by tens.* *K.CC.2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).* *K.CC.5: Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.* *K.NBT.1: Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.*	
Big Ideas:	Essential Questions:

1. 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. 2. Numerals and operation symbols can be used to model problems. 3. Place value is based on groups of ten.	1. Why do we count? 2. How are numerals and symbols used? 3. What type of questions does adding and subtracting answer? 4. What are different ways to count?
Students will know: 1. last number name tells objects counted 2. number of objects is the same regardless of arrangement 3. number of objects is the same regardless of order 4. each successive number refers to a quantity that is one larger 5. addition as putting together and adding to, and subtraction as taking apart and taking from 6. numbers can be decomposed to represent place value	Students will be able to: 1. count objects 2. say numbers in order 3. pair each object with one number 4. compare (greater than, less than, equal to) groups of objects for 0-10 5. write numbers and represent number of objects with written numeral (0-20) 6. represent addition and subtraction (0-5) through drawings/pictures and/or informal expressions/equations 7. communicate the operations of addition and subtraction (0-5) through acting out problems and/or oral explanation 8. decompose and compose numbers through drawings and explanations (for example 15 is the same as 10+5)

Significant task 1: Math Meeting/ Circle Time

In this unit, students continue to engage in some of the activities used during Math Meeting/ Circle Time in previous units, with the purpose being to further develop addition, subtraction, and counting skills. The particular activities are chosen by the teacher from among the activities described in previous units. New activities, such as *Finish the Sequence,* (described in the common Learning Experiences section) may also be chosen to practice these skills.

Additionally, the Standard K.NBT.1 (*Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation [e.g., 18 = 10 +]; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.)* provides a new focus for this unit.

Daily routines, such as counting the number of students ordering a hot lunch, often lend themselves to counting teen numbers as described in the lessons from the *Direct Instruction section*. An attendance taking routine using ten frames on a SMARTBoard is another option. Prior to the Math Meeting/ Circle Time each day, perhaps as the students arrive at school, each child may drag a ten frame dot (or their name or picture) to a ten frame for recording attendance on the SMARTBoard. At Math Meeting/Circle Time, the attendance for the day is then counted together, paying special attention to whether there are ten ones and some further ones in the number of students who are present, and/or by using the

counting on method described in the *Direct Instruction* section.

Timeline: Daily, throughout the duration of the unit for about ten minutes each day.

Key vocabulary: ten, one/ones, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen

Resources:
Windsor Binders: (1) Kindergarten Math and (2) Kindergarten Workstations and Small Group Activities
Selected Read-Alouds, listed in the Common Learning Experiences section

Significant task 2: Direct Instruction

Adaptable Activities: As with the teaching of addition and subtraction concepts, direct instruction to develop a foundation for place value should occur within contexts, such as thematic units, everyday classroom experiences, and planning for school events. The adaptable activities listed below are based on this premise, and should be used over the course of this unit as the context for teaching, re-teaching, and reinforcing the concept of composing and decomposing teen numbers into ten ones and some further ones. Additional lessons are also included to extend the students' work with the numbers 11-19.

Purposeful Number Writing: Students are provided with opportunities to write numbers for a purpose. For example, they might have a question on a clipboard, and record the number of "yes" or "no" responses from their classmates. This activity may include two sets of ten frames for recording the responses. Discussion then focuses on the composition of the number of "yes" or "no" responses into a ten and some further ones, or using a counting on method for determining the numbers. Another lesson may focus on a different survey question having two possible responses.

Real Life Counting: The teacher creates situations where children are asked to count the number of items in a group of 11-19 things. Students then group those items into a set of ten and some further ones. For example, students might count how many snacks are needed for the class. Ten snacks might fit on a plate, with the further ones set aside on a napkin. Another situation might be to have students count how many counters are on a game board when a game is finished, then move the counters to a a set of ten frames. Inventories of 11-19 class supplies, such as pencils or envelopes, may also be taken, with each group of ten bundled or clipped together and the further ones left loose.

Determining Quantities: Children are provided with opportunities to look at a group of items to determine the quantity (e.g., children determine how many stories they see posted on their bulletin board; children are encouraged to look ahead in a game to determine how many spots they need to move to win.)

Teens on the Ten Frame: Each student is given number cards (11-19), a blank ten frame work mat, and counters. Working with a partner, students are asked to place the set of number cards in order from 11-19. The students then use their counters to represent each number on the ten frames, record their work in a *Teens on the Ten Frame* book, and discuss their work. During this time the teacher guides discussion according to the students' needs and based upon this unit's Essential Questions. The *Teens on the Ten Frames* book has a page for each number, two blank ten frames, and the statement, "(11, 12, 13, 14, 15, 16, 17, 18, or 19) is one group of ten and ___ more." This lesson and book may be completed

over a period of several days. Groups may be differentiated according to their pace and the numbers they are working on.

Tens and Ones with Unifix Cubes: Students are given unifix cubes and number cards. In partnerships, students take turns picking a number card and showing the number using trains of 10 and single unifix cubes. They are prompted to use a math talk sentence (My number is. 10 + ___ = ___) to describe their number to their partners. Students then record their work with a picture and number sentence and repeat with other number cards.

CCSS Activity 2 (How Many Dots): Children translate between dot patterns, ten frames, and numbers for the numbers 11-19. Using ten frame flash cards, students are first shown ten dots and asked to write down the number (10). Students are then shown the same card together with the card showing one dot. Children are told this number is the same as 10 + 1 and that they can count up to find 10 + 1. The teacher models counting up from 10 to 11, pointing at the dot as he or she counts. A few more pairs of cards are shown (10 card plus 2, 3, 4, 5, 6, 7, 8, 9). Students count up and write each number shown. As each number is discussed, the teacher writes an equation (10 + 2, for example) on the board. For more practice, students complete a page in which they count the number of dots in ten frames and write each number.

CCSS Activity 4 *(Show Numbers 11-19)*: In this lesson, students estimate the number of beans (or other items) in a jar using ten as a referent, then use the items to review the idea that the numbers 11 to 19 are 10 ones plus 1, 2, 3, 4, 5, 6, 7, 8, or 9 ones. A jar of 10 items, and 7 loose items are shown. Students are asked how many items there are and encouraged to count on from 10 instead of 1 (11, 12, 13, 14, 15, 16, 17). This is repeated with a few other numbers, while for each example, the teacher writes 10 + the number on the board. Students are then asked how they might show a number, such as 14. (Jar of 10 items plus 4 loose items). This is repeated with other numbers of items. Then, for more practice using the concepts, children complete a page where they see jars of 10 beans and some loose beans along with number sentences to complete.

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: ten, one/ones, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen
Resources:
Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities* (3) *Math Protocols*
Selected Read-Alouds, listed in the Common Learning Experiences section

Significant task 3: Workstations and Small Group Activities

In this unit, students continue to work with workstations and small group activities to further develop addition, subtraction, and counting skills. These activities are now adjusted to include the concepts of this unit. The particular activities are chosen by the teacher from among the workstations and small group activities described in previous units. New activities, such as *Missing Number Game,* (described in the common Learning Experiences section) may also be chosen to practice these skills.

In addition, the activities below are designed to reinforce the new concepts of this unit, to help students gain a foundation for place value concepts.

Tens and ones with Unifix Cubes (See *Direct Instruction* section for procedure) *:* This activity may be used in differentiated workstations for extra practice once the skills are introduced. Students may focus on a small set of numbers, composed of the numbers they need to work with. For example, one group of students may work on the lower teen numbers (11-14) while another group uses cards for the numbers 15-19. For additional reinforcement where needed, students may build each number with counters on a ten frame workmat.

Fill the Frames: Students work with a partner and take turns to roll a die and count out a matching number of counters. Using a double ten frame workmat, the students place one counter in each space on the top frame of his or her workmat and state the number of counters on the workmat. The students continue to take turns rolling the die and placing counters on their ten frames until they both have filled all twenty spaces. Players then remove their counters and play again.

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: ten, one/ones, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen
Resources: Resources:
Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities*

Common learning experiences:

- *Finish the Sequence:* Students finish a sequence starting with a random number (within 100), such as 5. The children stop counting when the sign is held up (or a signal is made) and count on when the sign is put down. This activity may be used for any sequence within 100.

- *Missing Number Game:* Students are given a set of number cards (0-20) and work with a partner to arrange the set of cards in order. Students then take turns to close their eyes while the partner removes one card and guesses the missing number. The students are prompted to use the math talk sentence, "I think ___ is missing because…"

- Additional Materials for Math Meeting/Circle Time, Direct Instruction, Workstations and Small Groups are described in the Windsor Binders (1) *Kindergarten Math* and (2) *Workstations and Small Group Activities* and to be used on an as-needed basis.

- Homework Calendars: Students complete 8 or more of the suggested activities at home per month. L:\Kindergarten\NEW! CCSS Homework Calendars

- *Math Links (Teen Numbers and Counting to 100):* http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Pre-K_-_Kindergarten/Mathematics/Math_Links/Kindergarten/7a__Teen_Numbers__11-19_

1. HM Connecting Cubes or Counters :Use the Connecting Cubes or counters and a ten-frame mat to show teen numbers as ten ones and 1, 2, 3, 4, 5, 6, 7, 8, or 9 ones.
2. Interactive Hundred Chart: Can you tell which numbers are covered?
3. Splat Square 100 Chart: Interactive 100 chart splats paintballs with optional sound effects

- Read Alouds/Literature Connections:
  Braybrooks, Ann, *One Hundred and One Dalmations*
  Murphy, Stuart, *100 Days of Cool*
  Pinczes, Elinor, One Hundred Hungry Ants
  Slate, Joseph, *Miss Bindergarten Celebrates the 100th Day of Kindergarten*
  Walsh, Ellen Stoll, *Mouse Count*
  Dee, Ruby, *Two Ways to Count to Ten: A Liberian Folktale*
  Kubler, Annie, *Ten Little Monkeys: Jumping on the Bed*
  Bang, Molly, *Ten, Nine, Eight*
  Murphy, Stuart J., *More or Less*
  Falwell, Cathryn, *A Feast for Ten*

Common assessments including the end of unit summative assessment:

Unit 6 Assessment:
L:\Kindergarten\Unit Assessments\Unit 6 Teen Numbers (11-19) and Counting to 100.doc

Teacher notes:

- Process standards to highlight through instruction: model with mathematics, use appropriate tools strategically, look for and make use of structure, look for and express regularity in repeated reasoning.

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

- Differentiation: As students develop their skills in mathematics, they progress from having a concrete understanding of the concepts (where they depend upon manipulatives, such as counters or other items), to having an understanding of the visual representations (e.g., ten frame cards), to finally having a full grasp of abstract representations (e.g., equations). To differentiate instruction, it is important to keep this continuum in mind, and to provide opportunities that are at the students' level of development. For example, if a lesson uses ten frame cards in general, some students will need to be provided with ten frame mats and counters so that they can actually build the number shown on a ten frame card. On the other hand, some students will be able to use ten frame cards with ease, and even generate and interpret number sentences on their own, such as 10 + 4 = 14.

- Predictable misconceptions: When referring to a group of ten ones, it is expected that kindergarten students often need to physically count each object in the group to determine that there are ten, even if the objects are organized into a ten frame (e.g. dots) or a ten train of

connecting cubes. As students learn to instantly recognize that there are ten objects (e.g., dots in a ten frame), they are learning that there are “ten dots” or “ten ones,” rather than “one ten”.

- Targeted Instruction: During this unit Targeted Instruction time can be focused on re-teaching early number skills for 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. For students ready for a challenge, the time can be used for grouping by tens and counting larger quantities within 100. If fluency of facts with 0-5 is mastered, then students should work toward the first grade skill of fluency within 0-10.

Windsor Public Schools
Curriculum Map for the Elementary Level
Kindergarten

Purpose of the Course (from CCSS): In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

Name of the Unit: Unit 7 Identify and Describe 2-D and 3-D Shapes	Length of the unit: 2 weeks
Purpose of the Unit: This unit is the first of two units on 2-D and 3-D shapes. In this first unit students will identify and describe shapes. In the next unit, students will also compare, analyze and compose shapes.	
Common Core State Standards Addressed in the unit: **Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).** **K.G.1: Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above, below, beside, in front of, behind,* and *next to*.** **K.G.4: Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).** **K.G.5: Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.** *K.MD.3: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (Limit category counts to be less than or equal to 10.)* *K.G.2: Correctly name shapes regardless of their orientations or overall size.* *K.G.3: Identify shapes as two-dimensional (lying in a plane, "flat") or three dimensional ("solid").*	
Big Ideas: 1. Attributes allow us to name and categorize shapes. 2. Two-dimensional shapes are flat – they have no height and cannot be filled/ have no volume. 3. Three-dimensional shapes have a height and therefore volume – they can be filled.	Essential Questions: 1. How are shapes the same and how are shapes different? 2. What makes a shape two-dimensional? 3. What makes a shape three-dimensional?
Students will know:	Students will be able to:

1. names for shapes: squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres 2. terms/positions for shapes*: vertices or "corners", above, below, beside, in front of, behind,* and *next to*	1. say the names for shapes and describe relative positions 2. analyze/describe shapes by naming attributes of the shapes (ex: side lengths of the same size)

Significant task 1: Math Meeting/ Circle Time

Math Meeting / Circle Time continues to include routines for counting (such as attendance and/or lunch count on ten frames), activities to practice counting sequences within 100, problem solving, and occasional read-alouds pertaining to shapes. Calendar counting may include such activities as students using the calendar to determine how many days until (or since) a special event and explaining their strategies. Another option may be to have students record their responses to a survey question with two possible answers on a two-column table, with class discussion focusing on describing and interpreting the data.

Differentiation may occur at this time, through the tasks that particular students are assigned. For example, the whole group may be split into two smaller groups, each participating in a game of "BUZZ!" for counting sequences. One group may be working with sequences within 0-50 while another works within 50-100, depending on the students' needs. Thoughtful questioning may also be used to accommodate individual needs during Math Meeting/Circle Time.

Additionally, opportunities are to be provided for students to apply new vocabulary about shapes and their place in space during the Math Meeting/ Circle Time of this unit. This may occur through discussion of read-alouds (See Common Learning Experiences section for a list of suggested read-alouds.), or review of the previous day's lesson. For example, after a lesson to teach the names of squares and/or rectangles, the teacher may ask students to think of a shape that has 4 corners, then turn and talk with a partner about examples of objects that have that shape. These examples may be found on the page of a picture book, in a collection of pattern blocks, pictures collected by students, photos taken on a shapes walk, or otherwise visible within the classroom.

Timeline: Daily, throughout the duration of the unit for about ten minutes each day.
Key vocabulary: *above, below, beside, in front of, behind, next to, under, on, between, left, right,* squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres, sides, corners, round
Resources: Selected read-alouds (See Common Experiences section)

Significant task 2: Direct Instruction

The foundation of Significant Task 2 is a set of lessons from the Math Trailblazers Program focused on two-dimensional and three-dimensional shapes. In general, the lessons are conducted whole-group, with students working in partnerships and/or flexible small groups to apply and practice the skills of each lesson.

The set begins with *Location, Location, Location,* which focuses on using terms such as *above, below, beside, in front of, behind,* and *next to*, to describe the locations of students relative to themselves and

to other objects. In one activity, students play a version of *Simon Says*, using key vocabulary words in context. In another, students form a line and are asked questions about the relationship between objects in the room. For example, students might be asked, "Who is standing *next to* the door?"

The next lesson, *Three-Dimensional Shapes*, has students identify and classify three-dimensional shapes, (focusing on cubes, cones, cylinders, and spheres) after exploring them in a variety of ways and sorting them according to their attributes. Before the activity, a collection of boxes and containers are collected from students. Students offer suggestions as to ways to sort the objects, such as by shape, size, contents, or the ability to be closed. These suggestions are written on cards so that children can physically separate the objects, grouping them around the titles. During a second activity, the teacher sorts the items by shape and introduces a set of geometric solids into the mix by asking, "Where should we put this?" and "Why?" for each shape. Here, it is important for children to focus on the properties of the shapes as they decide ways to sort them. (At this time, children may use informal names of the shapes, such as box or ball. A mathematical name is introduced only after the children show an understanding of the shape's properties). Flat sides, corners, and round sides are some of the properties children might mention.

Before the lesson, Exploring Two-Dimensional Shapes, a book about two-dimensional shapes, such as *Alphabet City*, by Stephen Johnson is read to the students, to introduce the idea that shapes are found in everyday surroundings. Students then look around the classroom for their own examples. As with the previous lesson, the teacher has the children focus on the properties or characteristics of the shapes. For example, the teacher may ask students to compare the shape of a window and a book, or the classroom door and a tabletop. As an option, the class may make their own shapes book by photographing shapes found in the classroom or outside.

The *Shapes on the Geoboard* lesson allows children to further identify and describe two-dimensional shapes and discuss their properties. In this lesson, students work in partnerships to make shapes on geoboards with rubber bands ("geobands") As the lesson begins, the teacher constructs a triangle on a geoboard (see Common Learning Experiences section) and asks, "Why is this a triangle?" Students are then challenged to make triangles on their geoboards. Once the students are finished, students are asked to show their triangles to the class, and discuss their properties. Questions such as, "Are they both triangles?" about two triangles that do not look alike provide opportunities for students to carefully consider each shape's properties. This process is repeated with squares and rectangles.

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: *above, below, beside, in front of, behind, next to, under, on, between, left, right,* squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres, sides, corners, round
Resources: Math Trailblazers pp. 159-165, 195-196, 354-356, 416-417
Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities* (3) *Math Protocols*

Significant task 3: Workstations and Small Group Activities

As described in the previous units, students may continue to engage in some of the familiar workstations and small group activities that are adjusted and repeated according to student needs and interest. In addition, they are introduced to new workstations and small group activities, such as:

Shape Collage: Children cut geometric shapes out of construction paper and glue them onto a paper plate to make a picture or collage. Depending on individual abilities, differentiation may include using pre-cut shapes, cutting out shapes that have been drawn for the students, or using patterns for tracing prior to cutting.

Shape Spy Glass: Students make spy glasses for "spying" shapes by wrapping construction paper around paper towel tubes. Students may then use the spyglasses to find objects in the classroom that are squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, or spheres.

Build Sasha's House: In this game, students draw shapes that are house parts (according to the roll of a die and a number/shape chart) to create a drawing of Sasha's house The book, *The Maid and the Mouse and the Odd-shaped House,* by Paul O. Zelinsky may be read during Math Meeting/Circle Time prior to this activity.

Pattern Block Pictures: Students use pattern blocks to create pictures and designs and describe the relative positions of the pattern blocks using terms such as *above, below, beside, in front of, behind,* and *next to*.

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: *above, below, beside, in front of, behind, next to, under, on, between, left, right,* squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres, sides, corners, round
Resources: Windsor Binder: *Kindergarten Workstations and Small Group Activities*

Common learning experiences:

Math Links: Shapes:

http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Pre-K_-_Kindergarten/Mathematics/Math_Links/Kindergarten/4__Shapes
1. Glencoe Virtual Manipulatives: Choose: *Manipulatives: Attribute Blocks*, *Attribute Buttons*, *Geoboard/Bands* , or *Pattern Blocks*
2.NLVM Geoboard: Use virtual manipulatives to form shapes of various sizes and orientations
3. NLVM Pattern Blocks Use six common shapes for making designs and problem solving.
4. Shapes Puzzle :Arrange the shapes to form a mystery picture.

- Literature Connections:
  Dodds, Dayle Ann, *The Shape of Things*
  Elhert, Lois, *Color Zoo*
  Falwell, Cathryn, *Shape Space*
  Murphy, Stuart J., *Circus Shapes*
  Pluckrose, Henry, *Shape*
  Hoban, Tana, *Shapes, Shapes, Shapes*

Rogers, Paul, *The Shapes Game*
Thong, Roseanne, *Round is a Mooncake*
Johnson, Stephen, *Alphabet City*
Zelinsky, Paul O., *The Maid and the Mouse and the Odd-shaped House*
Hoberman, Mary Ann*, A House is a House for Me*
Seltzer, Isadore, *The House I live In*

Common assessments including the end of unit summative assessment:

Unit 7 Assessment:
TBD

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 kindergarten math period.

- Differentiation: As students develop their familiarity with shapes, they move from requiring direct experience with a concrete object having a particular shape, to being able to recognize visual representations, such as pictures of objects that have those shapes, and drawings of the shapes. For a child with beginning skills and vocabulary, it is important to continue to provide opportunities to interact with concrete materials, even as other students move toward working more directly with visual representations. Additionally, instruction may involve fewer shapes for students needing support, and additional shapes, such as the rhombus and trapezoid for students who are ready for a challenge. These principles may be applied to any of the significant tasks in this unit.

- Predictable misconceptions: Triangles and squares are often shown to students primarily resting on the base. As a result, students may not recognize them as the same shape when they are turned to rest on a corner. The geoboard and other handheld models provide good opportunities for exploring the idea that a triangle is a triangle no matter what its orientation. For example, the teacher may construct a triangle with a horizontal base, then, after turning the geoboard one-quarter turn, ask, “Is it still a triangle?” Why?”

- Targeted Instruction: During this unit Targeted Instruction time can be focused on re-teaching early number skills for 0-20, fluency of addition and subtraction facts within 0-5, and exploration of addition and subtraction within 10. The *Windsor Math Protocols Binder* outlines several suggestions for students having difficulty with early number skills. For students ready for a challenge, the time can be used to teach additional shapes and their properties.

Windsor Public Schools
Curriculum Map for the Elementary Level
Kindergarten

Purpose of the Course (from CCSS): In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

Name of the Unit: Unit 8 Compare, Analyze, and Compose 2-D and 3-D Shapes	Length of the unit: 2 weeks
Purpose of the Unit: This unit is the second of two units on 2-D and 3-D shapes. In the first unit students identified and described shapes. In this unit, students will also compare, analyze and compose shapes.	
Common Core State Standards Addressed in the unit: **K.MD.2: Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.** **Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).** **K.G.1: Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above, below, beside, in front of, behind,* and *next to*.** **K.G.4: Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).** **K.G.5: Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.** *K.G.2: Correctly name shapes regardless of their orientations or overall size.* *K.G.3: Identify shapes as two-dimensional (lying in a plane, "flat") or three dimensional ("solid").* *K.G.6: Compose simple shapes to form larger shapes. For example, "Can you join these two triangles with full sides touching to make a rectangle?"*	
Big Ideas: 1. Attributes allow us to name and categorize shapes. 2. Two-dimensional shapes are flat – they have no height and cannot be filled/ have no volume. 3. Three-dimensional shapes have a height and therefore volume – they can be filled.	Essential Questions: 1. How are shapes the same and how are shapes different? 2. What makes a shape two-dimensional? 3. What makes a shape three-dimensional?

Students will know: 1. names for shapes: squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres 2. terms/positions for shapes*: vertices or "corners", above, below, beside, in front of, behind,* and *next to*	Students will be able to: 1. say the names for shapes and describe relative positions 2. analyze/describe shapes by naming attributes of the shapes (ex: side lengths of the same size) 3. compare/describe different shapes using attributes of the given shapes 4. build and draw a given shape with given attributes

Significant task 1: Math Meeting/ Circle Time

Math Meeting / Circle Time continues to include routines for counting (such as attendance and/or lunch count on ten frames), activities to practice counting sequences within 100, problem solving, and occasional read-alouds pertaining to shapes. Calendar counting may include such activities as students using the calendar to determine how many days until (or since) a special event and explaining their strategies. Another option may be to have students record their responses to a survey question with two possible answers on a two-column table, with class discussion focusing on describing and interpreting the data.

Additionally, opportunities are to be provided for students to apply new vocabulary about shapes and their place in space during the Math Meeting/ Circle Time of this unit. This may occur through discussion of read-alouds (See Common Learning Experiences section for a list of suggested read-alouds.), or review of the previous day's lesson. For example, after a lesson to teach students to compose shapes out of clay, students may be asked to sort their shapes according to their attributes.

Timeline: Daily, throughout the duration of the unit for about ten minutes each day.

Key vocabulary: *above, below, beside, in front of, behind, next to, under, on, between, left, right,* squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres, sides, corners, round

Resources: Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities*

Significant task 2: Direct Instruction

The following lessons provide many opportunities for students to compare, analyze, and compose 2-D and 3-D shapes:

Same or Different: Students are asked to find another solid they think is the same shape as (or a different shape than) a solid held up by the teacher. In a subsequent activity, one child is asked to feel a shape that is hidden in a paper bag, and describe it to the other students, without looking at it. The class

is then asked to decide if they can find a similar shape among the ones remaining. This activity may be repeated as needed during the unit, until students are able to compare and analyze 3-D shapes.

Composing Cracker Shapes: Students compose two-dimensional shapes by "eating" crackers into various shapes. For example, beginning with a square cracker, the students are asked, "What makes it a square?" Then the students are challenged to eat the square crackers into triangles or circles.

Shapes on the Geoboard: The teacher makes a square on one geoboard and a non-square rectangle on another. Students are then asked to compare the two shapes, looking for similarities and differences. It is acknowledged that a square is a special kind of rectangle. Students are then asked to make triangles, squares, and rectangles on a geoboard and to record their shapes on paper. (Although most young children will not be able to draw an accurate representation, many can capture some of the important features of the shape.) Students are also asked, "Can you make a circle on the geoboard?" and then, "Why not?" "What other shape(s) cannot be made?"

Connecting Three-Dimensional and Two-Dimensional Shapes: In this activity, children are provided with opportunities to see the relationship between three-dimensional and two-dimensional shapes by focusing on the construction of three-dimensional shapes. A document camera or overhead projector is used to create images of the faces of a cone, a cylinder, and a sphere. Each time, the students are asked which shape would cast a shadow like the one on the screen, and to explain their reasoning.

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: *above, below, beside, in front of, behind, next to, under, on, between, left, right,* squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres, sides, corners, round squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres
Resources:
Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities* (3) *Math Protocols*

Significant task 3: Workstations and Small Group Activities

As described in the previous units, students may continue to engage in some of the familiar workstations and small group activities that are adjusted and repeated according to student needs and interest. In addition, they are introduced to new workstations and small group activities, such as:

Pattern Block Barrier Game: Working in partnerships, students sit side by side with a divider standing between them. One player places one pattern block in each space of a 3 X 1 grid without letting the partner see his or her work, then tells the partner how to place pattern blocks to match the grid. The divider is then removed to see how closely the two grids match. To differentiate, players may be given only a few shapes of pattern blocks to use, or students may be challenged by including the rhombus and the trapezoid.

Pattern Block Pictures: Students use pattern blocks to create pictures and designs and describe them using positional language and the names of the shapes.

Position Words Game: The students are provided with a 3 x 3 grid in which to record their responses to

directions given by the teacher. Each direction includes the name of a shape, as well as a positional word. This activity is flexible, so that different directions may be given to each small group, based on the vocabulary that the group is learning and/or practicing.

Shapes on the Geoboard: Students use rubber bands to make different shapes on their geoboards, then choose one of those shapes to record on dot paper and to write about.

Exploring Clay: After seeing how to roll a ball of clay out into a long rope, students are asked how they could use the ropes to make a shape that has three sides. Children then use the clay to make different shapes and designs out of shapes. If a student has difficulty starting with a triangle, the teacher may have the student start with a circle, a shape that may be more familiar and uses just one clay rope.

Shape Sort: Students work in partnerships to sort shape cards into the following groups: squares, triangles, hexagons, and rectangles. Students then draw a picture to show how they sorted the shape cards.

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: *above, below, beside, in front of, behind, next to, under, on, between, left, right,* squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres, sides, corners, round
Resources: Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities*

Common learning experiences:

Math Links (Working with Shapes):

- http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/Pre-K_-_Kindergarten/Mathematics/Math_Links/Kindergarten/8__Working_with_Shapes
  1. Glencoe Virtual Manipulatives : Choose: Manipulatives: Geoboard/Bands or Pattern Blocks; Form larger shapes from simple shapes. For example, join two triangles to make a rectangle or square. Compare the heights of two rectangles and describe one rectangle as taller/shorter.
  2. NLVM Geoboard: Another Geoboard option. See above for suggestions.
  3. Longer/Shorter : Compare lengths of shapes.
  4. Shapes Puzzle : Arrange the shapes to form a mystery picture.

- Literature Connections:
  Dodds, Dayle Ann, *The Shape of Things*
  Elhert, Lois, *Color Zoo*
  Falwell, Cathryn, *Shape Space*
  Murphy, Stuart J., *Circus Shapes*
  Pluckrose, Henry, *Shape*
  Hoban, Tana, *Shapes, Shapes, Shapes*
  Rogers, Paul, *The Shapes Game*

Thong, Roseanne, *Round is a Mooncake*
Johnson, Stephen, *Alphabet City*
Zelinsky, Paul O., *The Maid and the Mouse and the Odd-shaped House*
Hoberman, Mary Ann*, A House is a House for Me*
Seltzer, Isadore, *The House I live In*

Common assessments including the end of unit summative assessment:

Unit 8 Assessment:
TBD

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 kindergarten math period.

- Differentiation: As students develop their familiarity with shapes, they move from requiring direct experience with a concrete object having a particular shape, to being able to recognize visual representations, such as pictures of objects that have those shapes, and drawings of the shapes. For a child with beginning skills and vocabulary, it is important to continue to provide opportunities to interact with concrete materials, even as other students move toward working more directly with visual representations. Additionally, instruction may involve fewer shapes for students needing support, and additional shapes, such as the rhombus and trapezoid for students who are ready for a challenge. These principles may be applied to any of the significant tasks in this unit.

- Predictable misconceptions: Triangles and squares are often shown to students primarily resting on the base. As a result, students may not recognize them as the same shape when they are turned to rest on a corner. The geoboard and other handheld models provide good opportunities for exploring the idea that a triangle is a triangle no matter what its orientation. For example, the teacher may construct a triangle with a horizontal base, then, after turning the geoboard one-quarter turn, ask, “Is it still a triangle?” Why?”

- Targeted Instruction: During this unit Targeted Instruction time can be focused on re-teaching early number skills for 0-20, fluency of addition and subtraction facts within 0-5, and exploration of addition and subtraction within 10. The *Windsor Math Protocols Binder* outlines several suggestions for students having difficulty with early number skills. Additionally, further time may

need to be devoted to teaching some students the names of shapes and their properties. For students ready for a challenge, the time can be used to teach additional shapes and their properties, such as the rhombus and trapezoid, and to compare, analyze and compose these shapes.

Windsor Public Schools
Curriculum Map for the Elementary Level
Kindergarten

Purpose of the Course (from CCSS): In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

Name of the Unit: Measurement by Direct Comparison (Unit 9)	Length of the unit: 4 weeks
Purpose of the Unit: This is the final unit of the year and reinforces all of the units preceding it. In this unit students classify objects into categories and compare objects having measurable attributes in common.	
Common Core State Standards Addressed in the unit: **K.MD.2: Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference.** ***For example, directly compare the heights of two children and describe one child as taller/shorter.*** *K.MD.1: Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.* *K.MD.3: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (Limit category counts to be less than or equal to 10.)*	
Big Ideas: 1. Measurements can be quantified using standard measures or common objects. 2. When comparing two objects you need to use a common or standard unit of measure.	Essential Questions: 1. Why do we measure objects? 2. How can we measure objects? 3. How can we compare objects using measurements?
Students will know: 1. measurement is quantitative data 2. length measures distance or heights 3. mass measures weight 4. when comparing two objects you need to use a standard measure or common objects	Students will be able to: 1. collect measurement data to describe heights, distance, or weights 2. compare two objects using a standard or common unit of measure

Significant task 1: Math Meeting/ Circle Time

Math Meeting / Circle Time continues to include routines for counting (such as attendance and/or lunch count on ten frames), activities to practice counting sequences within 100, problem solving, and shapes. Calendar counting may include such activities as students using the calendar to determine how many days until (or since) a special event and explaining their strategies. Another option may be to have students graph their responses to a survey question. For example, after reading a book about trains, such as *Trains,* by Gail Gibbons, and prior to the direct instruction of the lesson *Building Cube Trains,* students complete a survey about whether or not they have traveled on a train by writing their names on self-adhesive notes and placing them above the "yes" or "no" column heading of a graph. Class discussion then focuses on describing and interpreting the data.

Additionally, opportunities are provided for students to apply new vocabulary about measurement by direct comparison during the Math Meeting/ Circle Time of this unit. This may occur through discussion of read-alouds (See Common Learning Experiences section for a list of suggested read-alouds.), or review of the previous day's lesson. For example, the day after a lesson to teach students to compare lengths, students may be asked to sort objects into such categories as *longer than (10 connected cubes)* and *shorter than (10 connected cubes)* during Math Meeting/ Circle Time.

Timeline: Daily, throughout the duration of the unit for about ten minutes each day.
Key vocabulary: biggest, close to, compare, heavy, height, light, longer, longer than, longest, measure, same, shorter than, shortest, size, smallest, taller, weigh, weight
Resources:
Math Trailblazers, pp. 163-168, 219-226, 261-262, 291, 323-325, 521-523, 435-436, 503-504, 523-526
Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities*

Significant task 2: Direct Instruction

The following lessons provide many opportunities for students to classify objects into categories and compare objects having measurable attributes in common.

As Tall as a ___: In this lesson, the students compare their heights to a cutout of an object (or character). A cutout of a large pencil is provided for the activity, but can be substituted for another object or character. Before the activity, the teacher prepares a representation of the object that is about as tall as the average height of the children in the class, so that some children will fall into each of three categories (*shorter than, same height as, taller than).* Children first estimate whether they are shorter than, taller than, or about the same height as the object. The results are then sorted, recorded on a graph, and interpreted by the students.

Height Comparisons (How Tall is that Box?): After a Book is read (See Common Experiences section) to set the stage, the students are led to talk about comparisons in the book. Next, they are led to focus on taller/shorter comparisons in the children's families. The children use their own language to describe the differences they see. Ten to twelve similarly shaped objects, such as boxes or bottles, are then lined up for comparison. The teacher works with the students, who use a variety of strategies, to place the objects in order from shortest to tallest.

What is Tall? What is Short?: Children compare their heights to the heights of other objects and complete the pages of two books: (1) *What is Tall?,* and (2) "*What is Short?"* On each page the students compare themselves to one object, complete two sentences about these comparisons, and draw corresponding pictures.

Longer, Shorter, or the Same: Lengths of ribbon or yarn are used for comparing lengths in this lesson. Students first predict which piece of yarn will be longer, then compare the two to find out. Students learn to match the ends of the ribbon in order to accurately compare their lengths. The process is repeated for several pieces of yarn as two, then three pieces are compared at a time. Students sort and label the lengths, using labels for *longer, shorter, the same, longest* and *shortest.*

Length Comparisons (Longer, Shorter, or Close To)
Children compare the lengths of objects to a train made of six connecting cubes, using the terms longer, shorter, and close to the same length. They are asked to find two objects that are longer, two objects that are shorter, and two objects that are close to the same length.

Teddy Bear Line-Up (Measuring Stuffed animals) Prior to this lesson, students are asked to bring a favorite stuffed animal from home and to make a 30-link chain of connecting links. Each chain is made of alternating 10 of one color with 10 of another color, to facilitate counting by tens. Students are then shown how to measure an object with the chain stretched so there is no slack. As they measure several objects with the chain, they are encouraged to use the 10-link increments to count by tens. Children then work in partnerships to measure their stuffed animals, record the measurements, and "break" the chains to the correct lengths. Finally, children work in small groups to arrange their chain lengths in order from shortest to longest.

Weighing In (A Weight Sort): Students compare, sort and order an assortment of objects according to their weight, initially by hand and later by using a two-pan balance. As the lesson begins, the class suggests ways to sort the objects, such as by size, material, or shape. It is then suggested the objects be sorted by weight into the categories of *light* and *heavy*. Next, the objects within the *heavy* category are arranged in order from lightest to heaviest as children estimate which object is heavier by holding one object in each hand. Once the order is established, the two-pan balance is introduced and demonstrated. A group of students then uses the balance to compare and order the heavy objects by weight. This process is repeated with a new group of students comparing on the balance the objects that were categorized as *light*.

Cube Trains (Train Travel Graph and *Building Cube Trains)* : In this lesson, students complete a survey about whether or not they have traveled on a train by writing their names on a self-adhesive notes and placing them above the "yes" or "no" column heading of a graph. Class discussion then focuses on describing and interpreting the data. The next part uses a book about trains (that has been previously read to the students) to show pictures of trains with more than one car. Children are asked to build cube trains that show how many cars they see on each train. After completing several trains, the students are led to compare their lengths.

Comparing the Weights of Toy Vehicles: In this lesson, students explore the relationship between weight and size as they compare the weights of toy vehicles. An important concept for this activity is that one cannot determine an object's weight by its size. For example, a small steel vehicle may be heavier and weigh more than a large plastic bus. To enrich this lesson, connecting cubes, instead of another vehicle, may be used on one side of the balance. Students then work to determine how many cubes will balance each vehicle and discuss their findings.

What is Heavy? What is Light? Children make comparison between their weights and the weights of other objects to complete the pages of two books: (1) *What is Heavy?,* and (2) "*What is Light?* On each page the students compare themselves to an object, complete two sentences describing the

comparisons, draw corresponding pictures.

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: biggest, close to, compare, heavy, height, light, longer, longer than, longest, measure, same, shorter than, shortest, size, smallest, taller, weigh, weight
Resources:
Math Trailblazers, pp. 163-168, 219-226, 261-262, 291, 323-325, 521-523, 435-436, 503-504, 523-526
Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities* (3) *Math Protocols*

Significant task 3: Workstations and Small Group Activities

As described in the previous units, students may continue to engage in some of the familiar workstations and small group activities that are adjusted and repeated according to student needs and interest. In addition, they are introduced to new workstations and small group activities, such as:

Vehicle Sort: Students sort and classify toy vehicles according to variables they suggest, such as color, purpose, or size. After discussion of these variables, the 15-20 vehicles are placed at a workstation or used in small groups for sorting.

Longer or Shorter?: Students measure objects by comparing them to a train of 10 cubes (a "10 train") and sort them into two groups: (1) Things that are longer than my 10 train and (2) things that are shorter than my 10 train.

Grab and Measure: This activity may be used for students needing further practice with vocabulary and/or determining whether an object is longer or shorter. Each student grabs a handful of connecting cubes of one color, and a handful of another color. Trains of each color are made and compared by length. Given a sheet showing two empty trains, side by side, students color in the number of cubes in each train, then circle the longer (or shorter) train. A variation of this activity is to construct several trains, then put them in order from shortest to longest.

Timeline: Together, direct instruction and workstations take place daily during the unit for about 50 minutes a day.
Key vocabulary: biggest, close to, compare, heavy, height, light, longer, longer than, longest, measure, same, shorter than, shortest, size, smallest, taller, weigh, weight
Resources:
Math Trailblazers, pp. 163-168, 219-226, 261-262, 291, 323-325, 521-523, 435-436, 503-504, 523-526
Windsor Binders: (1) *Kindergarten Math* and (2) *Kindergarten Workstations and Small Group Activities*

Common learning experiences:
On Core Mathematics lessons 70-72

- *Math Links (Measurement):*
  http://www.windsorct.org/pages/Windsor_Public_Schools/District/Curriculum_Assessment/Teaching_Resources/PreK__Kindergarten/Mathematics/Math_Links/Kindergarten/9__Measurement
  1. Longer/Shorter: Compare objects to see which is longer or shorter.

2. Measuring Up: Describe measurable attributes with Clifford.

- Literature Connections:
  Amato, William, *Math in the Car*
  Baer, Edith, *This is the Way we Go to School: A Book About Chidren Around the World*
  Bailey, Donna, *Planes*
  Crews, Donald, *Freight Train*
  Crews, Donald, *School Bus*
  Crews, Donald, *Truck*
  Peet, Bill, *The Caboose Who Got Loose*
  Gibbons, Gail, *Trains*
  Rockwell, Anne, *Cars*
  Rockwell, Anne,*Trains*
  Rockwell, Anne,*Trucks*
  Murphy, Stuart J., *Best Bug Parade*
  Hill, Sandi, *Barnyard Math with Farmer Fred*
  Hoban, Tana, *Is it Larger? Is it Smaller?*
  Kellogg, Steven, *Much Bigger Than Marvin*
  Murphy, Stuart J*., Bug Dance*

Common assessments including the end of unit summative assessment:

Unit 9 Assessment
(TBD)

Teacher notes:

- Process standards to highlight through instruction: reason abstractly and quantitatively, model with mathematics, creating a viable argument and critiquing the reasoning of others.
- Refer to Unit 1 for the structure of the kindergarten math period.
- Predictable misconceptions: Students often have difficulty understanding that objects must be matched up at one end in order to measure length. They may think that an object is longer when in fact, neither end of the objects are in line with each other.
- Targeted Instruction: During this unit Targeted Instruction time can be focused on re-teaching early number skills for 0-20, fluency of addition and subtraction facts within 0-5, and exploration of addition and subtraction within 10. The *Windsor Math Protocols Binder* outlines several suggestions for students having difficulty with early number skills. Additionally, further time may need to be devoted to teaching some students the names of shapes and their properties, and to compose, compare, and analyze shapes. For students ready for a challenge, the time can be used to teach children to compare lengths using non-standard units of measure.

Grade: First Grade **Unit 1**	**Genre: Fiction and Fairy Tales** **Theme: Building a Reading Community and Retelling stories.**
Big Ideas	**Essential Questions**
▪ Readers read and discuss books ▪ All stories have certain elements ▪ Authors write with a purpose	▪ What is a reading community? ▪ How is every story the same? ▪ Why do authors write stories?
Standards addressed in this unit: **(Speaking & Listening/Language)**	**The students will *know* and be able to *do*:**
1. Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood. (1.SL.3)	▪ Ask questions ▪ Answer questions ▪ Gather additional information ▪ It is important to listen ▪ What to do when they do not understand what someone has said
2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media. (1.SL.2)	▪ Why it is important to remember
3. Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly. (1.SL.4)	▪ Describe people, place, things, events ▪ What make a detail relevant ▪ Express ideas and feelings clearly
Comprehension Standards addressed in this unit: **(Reading for Literature/Information Skills)**	**The students will *know* and be able to *do*:**
1. Read grade level prose with accuracy and understanding. (1.RL.10)	▪ Understand and use rituals and routines of Reader's Workshop ▪ Practice and demonstrate an understanding of the classroom routines for a successful reader's workshop. ▪ Practice and demonstrate an understanding of the classroom rituals explicitly taught for reader's workshop.
2. Retell stories, including key details and demonstrate understanding of their central message or lesson	▪ Understand and identify the major characteristics of fiction texts in order to retell stories using story elements; including characters, setting, problem, solution and key details in sequence. ▪ Understand and identify the major characteristics of fairy tales. ▪ Illustrate and add details in a story to describe its characters, setting and events. ▪ Describe characters, settings, and major events in a story, using key details. ▪ Identify the elements of the fairy tale genre ▪ Identify who is telling the story at various points in a text. ▪ Identify the author's purpose, message or lesson for writing the story orally or in written form. ▪
Reading Foundation Standards addressed in this unit: **(Print Concepts, Phonological Awareness, Phonics, Fluency, Vocabulary)**	**The students will *know* and be able to *do*:**
1. Demonstrate understanding of the organization and basic features of print. (1.RF1)	▪ Recognize the features of a sentence. ▪ Scan pages from top to bottom and left to right. ▪ Recognize high frequency words in continuous texts ▪ Understand that print conveys meaning

2. Demonstrate understanding of spoken words, syllables and sounds. (1.RF.2)	▪ Orally produce single-syllable words by blending sounds, including cvc and consonant blends. (teacher says "/c/-/a/-/t/", student blends the sounds to say "cat") ▪ Segment spoken single-syllable words into their complete sequence of individual sounds. (teacher says "bug", student segments "/b/-/u/-/g/") ▪ Distinguish long from short vowel sounds in spoken single-syllable words. (bit/bite) ▪ Isolate and pronounce the initial, medial vowel, and final sounds in spoken single-syllable words. (Teacher says a word; "dig", student identifies that /g/ is the final sound. Repeat with beginning and medial parts of the word.)
3. Know and apply grade-level phonics and word analysis skills in decoding words. 4. (1.RF.3)	▪ Decode regularly spelled one-syllable words. (cvc and vcc words-sit, dog, cat, bell, hill, mess) ▪ Know the spelling-sound correspondences for common consonant digraphs. (two letters that represent one sound—ch, th, sh, wh) ▪ Read words with inflectional endings (-s, -es, -ed, -ing)
5. Read with sufficient accuracy and fluency to support comprehension. (1.RF.4)	▪ Master the reading High Frequency Words with automaticity. (refer to grade level goal for Fall in Language Arts binder) ▪ Read independent-leveled text orally with accuracy, appropriate rate and expression in a manner that sounds like natural speech while attending to punctuation. ▪ Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

Significant Tasks

Significant Task 1 – Rituals and Routines (10-15 days)
Big Idea: We are a reading community
Essential Question: What is a reading community?

Teacher provides direct and explicit instruction in the rituals and routines of Reader's Workshop. (See Reader's Workshop Lessons – 1st grade) Students will demonstrate knowledge through asking and answering questions, role playing and creating charts that describe expectations for workshop. Students should begin working with partners and reading independently right away. Build on Kindergarten expectations to help facilitate a smooth transition. Teachers formally assess student success through anecdotal notes

Vocabulary: community, who, what, when, where, why, ritual, routine

Significant Task 2 – Understanding Story Elements (7-10 days)
Big Idea: All stories have certain elements
Essential Question: What do all stories have in common?

Using familiar fairy tales introduced during the rituals and routines, develop whole class understanding of common story elements including characters, setting and plot events. Using familiar texts, with the whole class model drawing a picture of a character and writing 3-5 sentences about the character. Teachers continue model thinking about the setting in a shared story, draw a picture and write 3-5 sentences about the setting. Continue to model how readers think about the plot events and draw/write them in sequence. Guided practice should include student participation in writing sentences and suggesting elements of the pictures. With partners and independently, students complete similar tasks with "just right" books when appropriate. Students receive additional instruction in cohesive ties as a way to connect the ideas/events in stories.

Using the familiar stories read throughout the unit, create a matrix where the teacher models making comparisons between common story elements. Teachers compare elements of fairy tales and stories. (See comparison lesson series) Students create a my story elements book for their "just right" book or student create a comparison matrix for several independent reading books or books read aloud.

Vocabulary: characters, setting, plot events, sequence, first, next, then, last, finally

Significant Task 3 – Author's Write with Purpose (5-7 days)
Big Idea: Writes write with a purpose
Essential Question: Why do authors write stories?

The teacher will spend several days reading aloud various stories highlighting the stories purpose. Through guided practice students work together with the teacher to identify the purpose of a particular text.

Grade: First Grade **Unit 2**	**Genre: Nonfiction** **Theme: Main Idea and Key Details**
Big Ideas	**Essential Questions**
▪ Nonfiction texts have main ideas and key details ▪ Readers use text features purposeful	▪ How do authors write nonfiction? ▪ How do we use text features?

Standards addressed in this unit: **(Speaking & Listening/Language)**	**The students will *know* and be able to *do*:**
1. Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood. (1.SL.3)	▪ It is important to listen ▪ The definition of a question ▪ The definition of an answer ▪ What to do when they do not understand what someone has said ▪ Ask questions ▪ Answer questions ▪ Question words ▪ Gather additional information ▪ Solve problems independently
2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media. (1.SL.2)	▪ Why it is important to remember
3. Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly. (1.SL.4)	▪ Describe people, place, things, events ▪ What make a detail relevant ▪ Express ideas and feelings clearly
Comprehension Standards addressed in this unit: **(Reading for Literature/Information Skills)**	**The students will *know* and be able to *do*:**
1. Know and use various nonfiction text features to locate key facts or information in a text. (1.RI.5)	▪ Identify nonfiction text features and their purpose (table of contents, glossary, bold words, pictures/captions, labels, maps, diagrams, charts, graphs, index, and headings). ▪ Compare and contrast fiction verses nonfiction by identifying basic similarities and differences between two texts on the same topic.
2. Identify the main topic and retell the key details in a text. (1.RI.2)	▪ Activate prior knowledge by determining their schema about a topic before reading (KWL chart). ▪ Notice, acquire and identify new information while reading a text. ▪ Revisit initial understandings (schema) about a topic to add new knowledge and adjust any misunderstandings. (KWL chart)
3. Ask and answer questions about key details in a	▪ Ask and answer questions, e.g. “who”, “what”,

text. (1.RI.1)	"when", "where", "why" and "how" questions about key details in a nonfiction text. ▪ Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
Reading Foundation Standards addressed in this unit: **(Print Concepts, Phonological Awareness, Phonics, Fluency, Vocabulary)**	**The students will *know* and be able to *do*:**
1. Demonstrate understanding of the organization and basic features of print. (1.RF.1)	*Continue from unit 1 as needed. ▪ *Recognize the features of a sentence.* ▪ *Scan pages from top to bottom and left to right.* ▪ *Recognize high frequency words in continuous texts* ▪ *Understand that print conveys meaning*
2. Demonstrate understanding of spoken words, syllables and sounds. (1.RF.2)	*Continue from unit 1 as needed. ▪ *Orally produce single-syllable words by blending sounds, including cvc and consonant blends. (teacher says "/c/-/a/-/t/", student blends the sounds to say "cat")* ▪ *Segment spoken single-syllable words into their complete sequence of individual sounds. (teacher says "bug", student segments "/b/-/u/-/g/")* ▪ *Distinguish long from short vowel sounds in spoken single-syllable words. (bit/bite)* ▪ *Isolate and pronounce the initial, medial vowel, and final sounds in spoken single-syllable words. (Teacher says a word; "dig", student identifies that /g/ is the final sound. Repeat with beginning and medial parts of the word.)*
3. Know and apply grade-level phonics and word analysis skills in decoding words. (1.RF.3)	▪ Know and decode final –e words for representing a long vowel sound. ▪ Know and decode common vowel team conventions for representing long vowel sounds (ai, ay, ee, ea, oa, oe). ▪ Know and decode vowel dipthongs (oi, oy, ow, ou).
4. Read with sufficient accuracy and fluency to support comprehension. (1.RF.4)	▪ Master High Frequency Words with automaticity. (refer to grade level goal for Fall in Language Arts binder) ▪ Read independent-leveled text orally with accuracy, appropriate rate and expression in a manner that sounds like natural speech while attending to punctuation. ▪ Use context to confirm or self-correct word recognition and understanding, rereading as

	necessary.

Significant Tasks

Significant Task 1 (7-10 days)
Big Idea: Readers use text features purposefully
Essential Question: How do text features help readers?

Teacher introduces each nonfiction text feature and its purpose to students through whole class mini lessons. Through guided practice, students work with the teacher and each other to identify text features in shared reading. Students identify the text feature in their independent reading and record in reader's notebook/post-it. After all text features have been introduced and practiced, students will apply/identify all text features through a scavenger hunt. After having read or read aloud a fiction and nonfiction book about the same topic, compare and contrast a fiction vs. nonfiction book using a graphic organizer.

-an example: fiction book-Stellaluna, nonfiction about bats

Vocabulary: (all text features, science content-based vocabulary)

Significant Task 2 (5-7 days)
Big Idea: Readers look for main ideas and key details
Essentials: How do readers read nonfiction texts?

Students write on sticky notes their schema (what they already know or think they know) about a topic and place it on a large class file folder. (teacher makes a schema file folder on chart paper and puts the topic on the tab) The teacher will model how to identify the main idea by identifying what the story is mostly about and identify key details (facts) that support the main idea. Teacher will model and provide students with a main idea/key details graphic organizer.
Using a different colored sticky note students revisit initial schema chart and clarify understanding. Students add new information learned after reading. Through independent practice students will also activate their schema and identify main idea and details of "just right" books. Students participate in an informal conversation about a text read together or independently using a graphic organizer as a resource when needed.

Vocabulary: schema, main idea, details

Grade: First Grade **Unit 3**	**Genre: Biography** **Theme: Main Idea and Compare/Contrast**
Big Ideas	**Essential Questions**
▪ Readers learn important information ▪ Readers develop new ideas from texts ▪ Readers use what they know to learn and confirm new learning	▪ What do readers learn while reading a Biography? ▪ Why are the characteristics of a genre important? ▪ How do readers compare texts?
Standards addressed in this unit: **(Speaking & Listening/Language)**	**The students will *know* and be able to *do*:**
1. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. (1.SL.5)	▪ Drawings and graphics enhance understanding
2. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 1 reading and content, choosing flexibly from an array of strategies. (1.L.4)	▪ Unknown words can often be solved using prior knowledge ▪ Strategies for solving unknown words ▪ Determine or clarify meaning of unknown words
Comprehension Standards addressed in this unit: **(Reading for Literature/Information Skills)**	**The students will *know* and be able to *do*:**
1. Read prose an poetry of appropriate complexity for grade. (1.RI.10)	▪ Define and identify the characteristics of a biography. ▪ Define a biography as a story of a real person's life who has accomplished something of interest ▪ Identify the elements/characteristics of a biography.
2. Identify the main topic and identify key details of a biography. (1.RI.2)	▪ Determine why a biography was written about a person.
3. Identify basic similarities in and differences between two individuals (ex. events in their lives that shaped them, ideas they had or interests) from biographies. (1.RI.9)	▪ Compare and contrast the lives of two different people after reading their Biography.
Reading Foundation Standards addressed in this unit: **(Print Concepts, Phonological Awareness, Phonics, Fluency, Vocabulary)**	**The students will *know* and be able to *do*:**
1. Demonstrate understanding of the organization and basic features of print. (1.RF.1)	*Continue from unit 1 as needed. ▪ *Recognize the features of a sentence.* ▪ *Scan pages from top to bottom and left to right.* ▪ *Recognize high frequency words in continuous texts* ▪ *Understand that print conveys meaning*
2. Demonstrate understanding of spoken words, syllables and sounds. (1.RF.2)	*Continue from unit 1 as needed. ▪ *Orally produce single-syllable words by blending sounds, including cvc and consonant blends. (teacher says "/c/-/a/-/t/", student blends the sounds to say "cat")* ▪ *Segment spoken single-syllable words into their complete sequence of individual sounds. (teacher says "bug", student segments "/b/-/u/-/g/")* ▪ *Distinguish long from short vowel sounds in spoken single-syllable words. (bit/bite)* ▪ *Isolate and pronounce the initial, medial vowel, and final sounds in spoken single-syllable words.*

	(Teacher says a word; "dig", student identifies that /g/ is the final sound. Repeat with beginning and medial parts of the word.)
3. Know and apply grade-level phonics and word analysis skills in decoding words. (1.RF.3)	▪ Know and decode words with r-control vowels (er, ir, ur, or, ar). ▪ Know and decode words with beginning and ending blends (l, r, s blends)
4. Read with sufficient accuracy and fluency to support comprehension. (1.RF.4)	▪ Master the reading High Frequency Words with automaticity. (refer to grade level goal for Winter in Language Arts binder) ▪ Read independent-leveled text orally with accuracy, appropriate rate and expression in a manner that sounds like natural speech while attending to punctuation. ▪ Use context to confirm or self-correct word recognition and understanding, rereading as necessary. ▪ Read grade-level text with purpose and understanding.

Significant Tasks

Significant Task 1 – Important people and biographies (5-7 days)

Big Idea: Readers learn important information
Essential Question: What do readers learn from biographies?

The unit begins by exploring how subjects are selected for a biography. Through whole class read alouds, the teacher reads both print text and electronic versions of biographies. The teacher models noticing important information about the subjects in the biography. Guided practice and independent practice consist of collaboratively identifying the important details about the subject in the text being read aloud. This is done to show students a biography is about a person who has accomplished something important. Teachers continue with whole class instruction on the characteristics of a biography: one subject/person, organized chronologically, setting, style, tone. As a whole class and through guided practice teachers model how understanding and using texts features find and use important information. Teachers conduct an informal assessment of student understanding of biographies through teacher conferences.

Vocabulary: biography, subject, important/key, characteristics, chronological, setting, style, tone

Significant Task 2 – The Main Idea (5-7 days)

Big Idea: Readers learn important information
Essential Question: What do readers learn from biographies?

Students review nonfiction text features as appropriate to biographies (table of contents, headings, title, pictures/captions, map). The teacher models how to identify the main accomplishment of a person with supporting details. (use graphic organizers resource below) Depending on the biography, teachers may introduce a cause and effect graphic organizer as another structure to represent a main idea and key detail structure. Through guided practice students complete various main idea and key details graphic organizers (choice/participation) together to highlight the main accomplishment of various biographical subjects along with any supporting or key details. The teacher makes clear connections between how the main accomplishment is supported by key details in the text. Students complete a biography book report using a differentiated graphic organizer; (based on independent reading level) using evidence from the text to support written responses.

Vocabulary: accomplishment, main idea, key,

Significant Task 3 – Making Comparisons to Draw Conclusions (w/opinion writing) (7-10 Days)

Big Idea: Readers learn novel ideas
Essential Question: What do readers learn from reading biographies?

Teacher will read at least two different biographies about people who have had like circumstances. These biographies should reflect grade level or above texts. Use text dependent questions to model comprehension of texts.

-two presidents
-two scientists
-two actors/actresses
-two athletes

The teacher will provide instruction in how to complete and use a graphic organizer (venn diagram or T-chart) to chart the similarities and differences of the two people. The teacher will model making comparisons and drawing conclusions. For example, if both athletes practiced for many hours to become good at their sport, the conclusion might be to get good at a sport you have to practice a lot. However, if two presidents were from different political parties, a conclusion might be that it doesn't matter what your political party is, you can still be president. This pushes students to use specific evidence from the text to draw conclusions and develop opinions. Use both whole class and For guided practice students work with partners to draw novel comparisons and conclusions about texts they are reading together. Assessment: Students can write an opinion piece, using the compare and contrast format, comparing themselves to Ruby Bridges. Students draw at least two conclusions. (ex. both first graders, go to school by herself and go to school with a class…what do the students think about this is the conclusion they will draw)

Vocabulary: compare, contrast, graphic organizer, conclusion, idea, novel

Grade: First Grade **Unit 4**	**Genre: Poetry** **Theme: Visualizing using descriptive language and identifying key details**
Big Ideas	**Essential Questions**
▪ Poetry communicates stories, images, feelings, and ideas. ▪ Poetry has distinct and unique features that distinguish it from other genres. ▪ Poems use descriptive language and specific word choice ▪ Poets write to communicates stories and ideas. ▪ Readers read poems closely for meaning	▪ What is poetry? ▪ How do poems differ from other genres? ▪ How do poems communicate stories, images, feelings, and ideas? ▪ Why do authors write poems? ▪ How do readers approach poetry?
(Speaking & Listening/Language Standard)	**The students will *know* and be able to *do*:**
1. Demonstrate understanding of figurative language, word relationships and nuances in word meanings. (1.L.5)	▪ The difference between figurative and literal language ▪ Identify figurative language in text ▪ Explain why an author would use specific language
2. Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly. (1.SL.4)	▪ Understand the difference between people, place, things, and events ▪ Describe people, places, things and events ▪ Use relevant details ▪ Express ideas and feelings clearly
Comprehension Standards addressed in this unit: (Reading for Literature/Information Skills)	**The students will *know* and be able to *do*:**
1. Retell stories, including key details, and demonstrate understanding of their central message or lesson. (1.RL.2)	▪ Define poetry as a unique way to communicate about and describe: stories, images, feelings and ideas. ▪ Identify the characteristics of the elements in poetry. ▪ Identify the author's purpose.
2. Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.	▪ Visualize a poem using descriptive language.
Reading Foundation Standards addressed in this unit: (Print Concepts, Phonological Awareness, Phonics, Fluency, Vocabulary)	**The students will *know* and be able to *do*:**
1. Demonstrate understanding of the organization and basic features of print. (1.RF.1)	*Continue from unit 1 as needed. ▪ *Recognize the features of a sentence.* ▪ *Scan pages from top to bottom and left to right.* ▪ *Recognize high frequency words in continuous texts* ▪ *Understand that print conveys meaning*
2. Demonstrate understanding of spoken words, syllables and sounds. (1.RF.2)	*Continue from unit 1 as needed. ▪ *Orally produce single-syllable words by blending sounds, including cvc and consonant blends. (teacher says "/c/-/a/-/t/", student blends the sounds to say "cat")* ▪ *Segment spoken single-syllable words into their complete sequence of individual sounds. (teacher says "bug", student segments "/b/-/u/-/g/")* ▪ *Distinguish long from short vowel sounds in spoken single-syllable words. (bit/bite)* ▪ *Isolate and pronounce the initial, medial vowel, and final sounds in spoken single-syllable*

	words. (Teacher says a word; "dig", student identifies that /g/ is the final sound. Repeat with beginning and medial parts of the word.)
3. Know and apply grade-level phonics and word analysis skills in decoding words. (1.RF.3)	▪ Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word.
4. Read with sufficient accuracy and fluency to support comprehension. (1.RF.4)	▪ Master the reading High Frequency Words with automaticity. (refer to grade level goal for Winter in Language Arts binder) ▪ Read independent-leveled text orally with accuracy, appropriate rate and expression in a manner that sounds like natural speech while attending to punctuation. ▪ Use context to confirm or self-correct word recognition and understanding, rereading as necessary. ▪ Read grade-level text with purpose and understanding.

Significant Tasks

Significant Task 1 – What is Poetry? (3-5 days)
Big Idea: Poetry communicates stories, images, feelings and ideas.
Essential Question: What is poetry?

Students develop understanding about poetry through the reflective question, "What is poetry?" Chart student schema on paper. Students can think-pair-share ideas. Teacher reads aloud 3 different examples (mentor examples to refer back to throughout the unit) of various types of poems listed on chart paper or Smartboard. After sharing examples, chart students adjusted schema and create a class definition of poetry for future lessons. Teach mini lessons on the various elements of a poem (rhyme and sound, rhythm, shape, figurative language (ex. Similes), meaning and emotion. Students complete a "what is poetry?" assessment.

--see attached lessons for ideas on some of the various elements of a poem.

Vocabulary: poetry, schema, communicate, stories, ideas, feelings, rhyme, sound, rhythm, shape

Significant Task 2 – Using Visualization (7-10 days)
Big Idea: Readers read poems closely
Essential Question: How do readers approach poetry?

Teach students that authors use descriptive language purposefully in all writing but especially in poetry. Use several days to provide whole class, small group and individual opportunities to demonstrate understanding of how visualization and examining word choice enhance understanding of poetry. Teacher reads a very general poem without specific details or descriptive language included (ex. About an animal) Students visualize and draw a picture to match the words of the poem. Students share and compare their pictures (note: they will all be different because of the lack of descriptive words in the poem) Teacher re-reads the same poem but adding describing words and specific details. Students visualize and draw a "new" picture of the animal described in the poem. Students share and compare their "new" pictures (note: they should look very similar due to descriptive language) Students can highlight the descriptive language (on the SmartBoard or chart paper and on individual copies) that helped them visualize the animal in the poem. Discuss how and why their pictures changed. (the use of descriptive words) Students are provided with poems at their independent level to identify the descriptive words or phrases and visualize/draw a picture. Students can share in whole group or with a partner their pictures and why they chose the details they did.

Vocabulary: descriptive, visualize, stanza, rhyming
Assessment: Read aloud The New Kid on the Block by Jack Prelutsky omitting the last stanza. Students draw a picture of how they visualize the character's appearance and write why they think the character looks this way based on the describing words in the poem. Then, read the last stanza and students create a new picture how they visualize the character's appearance based on the new information and details

Significant Task 3 – The Poem's Purpose – (5-7 days)
Big Idea: Authors write poems to communicate ideas, stories, feelings and events.
Essential Question: Why do authors write poems?

Teacher tells students, "authors always have a purpose for what they have written". "Everyone wants a piece of the PIE" (see attached sheet)—this stands for Persuade, Inform, or Entertain. Read various types of poetry that exemplifies the author's purpose to persuade, entertain or inform the reader. (ex. Persuade-Sick-Shel Silverstein, Inform-Is it Living? I'd like to know!—see attached) As a teacher use multiple poems to model identifying the author's purpose through the stories or images they choose to highlight in their poetry. Use guided practice to have work collaboratively with partners and the teacher to identify the author's purpose. Students should also practice this skill with their "just right" texts.

Vocabulary: purpose, persuade, inform, entertain

Grade: 1st **Time: 3-4 weeks**	**Genre: Informational Texts** **Theme: Forces and Motion**
Big Ideas	**Essential Questions**
The sun appears to move across the sky in the same way every day, but its path changes gradually over the seasons.	What makes objects move the way they do?
Standards addressed in this unit: **(Speaking & Listening/Language)**	**The students will know and be able to do:**
1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and large groups. (1.SL.1)	▪ Folllow agreed upon rules for discussions ▪ Build on others' talk in conversations ▪ Respond to the comments of others ▪ Ask questions to clear up confusion
2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media. (1.SL.2)	▪ Listen carefully ▪ Use question words accurately ▪ Ask and answer questions ▪ Identify key details
Comprehension Standards addressed in this unit: **(Reading for Information Skills/Writing)**	***The students will know and be able to do:***
1. Ask and answer questions about key details in a text. (1RIT.1)	▪ Know questions words (who, what, when, where, why, how) ▪ Answers come from the texts observations and experiments ▪ Ask and answer questions about texts ▪ Refer to text for explicit examples
2. Use the illustrations and details in a text to describe its key ideas. (1.RIT.7)	▪ Illustrations share important information ▪ Use information from illustrations and words
Science Standards addressed in this unit:	***The students will know and be able to do:***
1.1.a. An object's position can be described by locating it relative to another object or the background.	▪ An object's **relative position** can be described by comparing it to the position of another stationary object. One object can be *in front of, behind, next o, inside of, above or below* another object. ▪ The sun's position in the daytime sky can be described relative to stationary objects on Earth. For example, the sun can be "just above the treetops," "high or low in the sky," or "on the other side of the school." ▪ The description of an object's position from one observer's **point of view** may be different from that reported from a different observer's viewpoint. For example, a box of crayons between two students is near Susan's left hand but near John's right hand. ▪ When an observer changes position, different words may be needed to describe an object's position. For example, when I am sitting on the bench the sun is "behind" me; when I move to the slide, the sun is "in front of" me. ▪ The same object when viewed from close up appears larger than it does when viewed from far away (although the actual size of the object does not change.) For example, a beach ball held in one's arms appears larger than it does when viewed from across the playground. ▪ An object's position can be described using words ("near the door"), numbers (10 centimeters away from the door) or labeled diagrams.

	▪ Changes in the sun's position throughout the day can be measured by observing changes in shadows outdoors. ▪ Shadows occur when light is blocked by an object. An object's shadow appears opposite the light source. Shadow lengths depend on the position of the light source ▪ Compare and contrast the relative positions of objects using words (in front of, behind, next to, inside of, above or below) and numbers (by measuring its distance from another object).
1.1.b. An object's motion can be described by tracing and measuring its position over time.	▪ Things **move** in many ways, such as spinning, rolling, sliding, bouncing, flying or sailing. ▪ Motion can be caused by a push or a pull. A push or pull is called a force. Pushes and pulls can start motion, stop motion, speed it up, slow it down or change its direction. ▪ An object is in **motion** when its position is changing. Because the sun's position changes relative to objects on Earth throughout the day, it appears to be moving across the sky. ▪ Apply direct and indirect pushes and pulls to cause objects to move (change position) in different ways (e.g., straight line, forward and backward, zigzag, in a circle). ▪ Classify objects by the way they move (e.g., spinning, rolling, bouncing). ▪ Conduct simple experiments and evaluate different ways to change the speed and direction of an object's motion. ▪ Observe, record and predict the sun's position at different times of day (morning, noon, afternoon or night). ▪ Conduct simple investigations of shadows and analyze how shadows change as the relative position of the sun (or an artificial light source) changes.
Standards addressed by this unit: (Foundation standards)	***The students will know and be able to do:***
1. Know and apply grade level phonics and word analysis skills in decoding words. (3.RFS.3)	▪ Identify and know the meaning of the most common prefixes and derivational suffixes.
2. Read with sufficient accuracy and fluency to support comprehension. (3.RFS.4)	▪ Read and demonstrate understanding of grade level texts (see district benchmarks)

Significant Tasks
Significant Task 1 (5-7 days) Big Idea: The sun appears to move across the sky in the same way every day, but its path changes gradually over the seasons. Essential Question: What makes objects move the way they do? Through whole class direct instruction students are introduced to prepositional phrases as content-based vocabulary. As small groups students pretend to be human props to demonstrate the relative position of an object. Students are moved to various positions around the classroom and are asked to compare their location relative to another classmate, another

person wearing the same color, etc. For example, I am in front of my best friend. Students work with partners to observe, record and predict the sun's position at different times of day (morning, noon, afternoon or night). Students conduct simple investigations of shadows and analyze how shadows change as the relative position of the sun (or an artificial light source) changes.

Students select various points around the classroom and building to observe and describe the sun. Students visit with adult supervision, the assigned sports. Students write about how their observations at various points of the day and create illustrations to support their observations.

Significant Task 2 (5-7 days)
Big Idea: The sun appears to move across the sky in the same way every day, but its path changes gradually over the seasons.
Essential Question: What makes objects move the way they do?

Students participate in various experiences to test how object respond to force and to describe its' motion using content appropriate vocabulary. Students work in small groups to travel between various stations testing, observing, and recording experiences. Through guided practice students conduct simple experiments and evaluate different ways to change the speed and direction of an object's motion.

Vocabulary: position, motion, shadow, push, pull, force

Unit 6 Author Study

Grade: First Grade **Time: May**	**Genre: Fiction** **Theme: Author Study**
Big Ideas	**Essential Questions**
▪ Readers engage in text in multiple ways ▪ Authors share what they think about the world	▪ Why are character traits important to a story? ▪ Why is the author's message important? ▪ How do readers compare and contrast stories?

Comprehension Standards addressed in this unit: (Reading for Literature/Information Skills)	**The students will *know* and be able to *do*:**
1. Describe characters, settings, and major events in a story, using key details. (1.RL.3)	▪ Identify character traits using evidence from the text. ▪ Summarize the key events of a story in sequence. ▪ Identify the setting of a story using evidence from the text.
2. Compare and contrast the adventures and experiences of characters in stories. (1.RL.9)	▪ Compare and contrast story elements and character traits using multiple books by the same author.
3. Ask and answer questions about key details in a text. (1.RL.1)	▪ Ask and answer questions identifying the central message, character's feelings and motivations, problem and solution. ▪ Infer character's feelings and motivations through reading their dialogue ▪ Hypothesize about how a character could have behaved differently.
4. Students will demonstrate an understanding of the central message or lesson in a story. (1.RL.2)	▪ Identify the author's purpose, message or lesson for writing the story orally or in written form.
Reading Foundation Standards addressed in this unit: (Print Concepts, Phonological Awareness, Phonics, Fluency, Vocabulary)	
1. Know and apply grade-level phonics and word analysis skills in decoding words.	▪ Recognize and read grade-appropriate irregularly spelled words.
2. Read with sufficient accuracy and fluency to support comprehension.	▪ Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

Significant Tasks

Significant Task 1 - Studying the characters, setting and events – (5-7 days)
Big Idea: Readers engage in text in multiple ways
Essential Question: Why do readers study characters?

The teacher selects an author for students to study closely as readers. Teachers select an author who is heavy in character development. Build student understanding that students study authors to see what they have to say about life. Also, build student understanding through mini lesson instruction that authors use characters to teach the reader and to help share the author's message. Utilize read aloud time to read several texts aloud by the selected author. Begin by studying characters closely. Notice what the characters say and do. Through mini lesson instruction introduce students to different character traits. Provide students with a list of traits. Utilize words from your word wall, previous vocabulary lesson, etc. to introduce new traits to students utilize this as an additional opportunity to build vocabulary. Model for students how readers draw conclusions and notice the character traits based on this evidence from the text through read aloud time. Guided practice consists of student participation in identifying various character traits and evidence from the text to support conclusions. Students work in just right

texts independently and with partners to identify character traits and utilize supporting evidence to support conclusions. After studying characters, model how readers notice the setting (in some stories the setting may not be emphasized). When the setting impacts the character, use mini lesson instruction to demonstrate how authors purposefully choose the setting to teach us about the character. Complete the study of the author through closely modeling for students how readers notice the events in the story and what characters feel, do, or motivation in these important events. Through mini lesson instruction summarize the major events in the story and impact on the character. Work with students through guided practice to identify the major events in the story and to retell them in sequence. During independent reading students summarize the major events of the story and identify character traits, feelings, and motivation through use of key details from the story.

Vocabulary: development, traits, close, summarize, impact

Significant Task 2 – Comparing and Contrasting (3-5 days)
Big Idea: Readers engage in texts in many ways
Essential Question: Why do readers compare characters?

Utilize whole class mini lesson instruction to compare characters from the texts read aloud by the author being studied. Examine how the author writes about characters that are the same and about characters that are very different. Read closely to examine character traits to help draw these conclusions. Model during read aloud drawing conclusions about characters. Use key details from the text as support and record on a class criteria chart. In whole class and student partnerships, discuss how the author uses characters to teach us something. Model that readers looks closely for patterns in characters if you read a lot of stories by the same author. Model reading closely to look for the patterns of characters between an author's texts. Consistently use text evidence to support conclusions and traits attributed to characters. Create a whole class character matrix to compare various characters. For guided practice, students work with partners and adult guidance to contribute information to the class matrix. Working in student partnership or independently, students will create a character matrix for authors they are reading about in their "just right" books.

Vocabulary: evidence, pattern, compare, conclusions

Significant Task 3 – Author's message
Big Idea: Authors share what they think about the world
Essential Question: Why is the author's message important?

Review with students how authors write stories to share with us what they think about the world. Re-read key parts from the texts read aloud to support students' understanding of what the text is about. Model for students that readers read stories closely, paying attention to characters and events to determine the author's message. Model during read aloud how readers notice what characters feel, say, and think. Model how readers also infer character motivations. Additionally, notice and model how readers hypothesize how the character could have behaved differently. Consistently notice key details from the text as support for decisions. Record these findings to help determine what the author is trying to say. With partners and independently students practice these skills using their "just right: texts. Assess student understanding in small group or individual conferences.

Vocabulary: message, hypothesize, motivation

Launching the Writers Workshop/Small Moments

Grade: First Grade **Time: September/October**	**Genre:** **Theme: Launching Writing Workshop/Small Moments**
Big Ideas	**Essential Questions**
Writers write independently for longer periods of time (to build stamina) Writers revise their writing Writers work with partners to enhance their writing Writers publish their writing	How do writers build stamina during writer's workshop? How do writers make their writing better? How do writers work with a partner? How do partners help improve your writing? How do writers publish their work?

Standards addressed in this unit:	**The students will know and be able to do: (Independently)**
1. (W.1.3) Write narratives in which they recount two or more appropriately sequenced events, includes some details regarding what happened, use temporal words to signal event order, and provide some sense of closure. 2. (W.1.5) With guidance and support from adults, focus on the topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed. 3. (W.1.6) With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.	▪ Routines of Writing Workshop o Come to carpet o Exhibit appropriate mini lesson behaviors o Work with an established writing partner o Turn and talk about their writing o Choose a topic to write about o Sketch a topic selected o Write about a selected topic ▪ Carry on independently o Quick sketch drawings o Start a new piece of writing ▪ Use supplies independently ▪ Stretch and Write Words o Stretch words out hear individual letter sounds o Apply word wall words quickly ▪ Spell Really Hard Words o Apply knowledge of letter sounds to writing ▪ Use Writing Tools ▪ Write-in-Process/Long Term Projects o Work on writing over multiple days o Revise writing o Write story over several pages ▪ Spell words the best way they can ▪ Revise and edit writing o Re-read story to see if it makes sense o Act out a story with a partner o Add details to writing o Publish writing pieces

Significant Tasks

Significant Task 1 – Launching Writer's Workshop (10-15 days)
Essential Question: What do writers do?
How do writers build stamina during writer's workshop?
Big Idea: Writers write independently for longer periods of time (to build stamina)

Introduce students to the routines of writer's workshop. Explicitly model and practice a few major classroom expectations at this time, more are introduced later in the unit. Develop a class rubric that measures success with the routines and expectations. Emphasize throughout the unit that everyone's a writer, so begin writing on day one. This includes the teacher modeling writing before the class and with the class. Students will need guidance in what they can write about. Develop student understanding that their own life is the best source of ideas. Model how students can label, write, draw and/or sketch during independent writing. Model how writers stretch words like a rubber band, saying it really slowly. Also, model the concept of "when we're done, we've just begun" to build stamina. This strategy is used to encourage the writer to start a new piece of writing as soon as they finish. Follow this instruction with additional routines like where to store their papers and where to find materials or any additional routines necessary. The Writer's Workshop class rubric will be used to assess progress during the workshop.

Vocabulary: rituals, routines, writer, stamina

Significant Task 2 – Writers share their writing with others.
Essential Question: How do writers work with a partner?
How do partners help improve your writing?
Big Idea: Writers work with partners to enhance their writing.

Model for students how writing partners plan stories out loud to each other, listening to make sure their stories make sense and use specific vocabulary. Students practice writing the exact words spoken. Writers share their stories by telling the story orally, then reading all they have written, touching the words as they read them. Partners practice sharing their writing by sitting hip-to-hip, holding the booklet between them. Teach students what to say when sharing their writing and how partners should respond. Partners will help each other revise their writing by reading a small part of the writer's text aloud, then acting out that part as well. This will help students realize what details need to be added to their writing. Add to class WW rubric a section about working with partners.

Vocabulary: oral, acting, details

Significant Task 3 – Revising and lifting the level of student work towards a published piece.
Essential Question: How do writers make their writing better?
Big Idea: Writers revise their writing

Model how writers add dialogue to their stories by rereading and thinking back to the actual words someone said. Students then go back into their stories to add in these exact words. Teach students how to quickly apply word wall words that they can't spell to limit interruptions. While revising, students practice asking questions like, "Does this make sense?" "Is this clear?" and if it doesn't, or it's not, they need to revise for clarity. The teacher models how to add details to students' stories, starting with the question, "What happened next?" Teach when writing endings to your stories you don't have to stray far from what's actually happening in your story. Students will usually get a better ending by staying close-in to the moment and remembering back to the next thing that happened or

how they thought or felt during that moment. Students practice revising many of their favorite stories by rereading using their reading finger, adding missing words, adding detail and editing for end punctuation. Students and teachers use revising/editing rubric to assess writing as they prepare to publish. Students work to completion and publish a small moment. Once published small moments are shared with small groups of peers. Vocabulary: dialogue, interrupt, resources, revise, clarity

Grade: One **Time: November/December (3-4 Weeks)**	**Genre: Writing** **Theme: Informational Books**
Big Ideas	**Essential Questions**
• Writers revise their writing into categories so it can be read more easily. • Writers revise their writing by elaborating to begin writing longer books. • Writers revise their writing in preparing to publish.	• How do writers sort information to help them revise their writing? • How do writers revise and elaborate their writing? (Adding pictures and labels) • How do writers revise their writing in preparing to publish?

Standards addressed in this unit: Writing, Speaking and Listening, & Language	**The students will know and be able to do: (Independently)**
1. Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. (W.1.2) 2. With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed. (W.1.5) 3. With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. (W.1.6) 4. Participate in shared research and writing projects (e.g., explore a number of how-to books on a given topic and use them to write a sequence of instructions) (W.1.7) 5. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer questions. (W.1.8) 6. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. (SL.1.5) 7. With guidance and support from adults, demonstrate understandings of figurative language, word relationships and nuances in word meanings. (L.1.5)	▪ Pick a topic that they know all about ▪ Generate details about that topic ▪ Divide book into categories using the same book making a table of contents ▪ Write about those categories using same book ▪ Write a lot more than one sentence on a page ▪ Revise their writing by answering questions their partners have about their writing. ▪ Revise by adding pictures and labels to their books ▪ Revise by looking at previous work and group under the appropriate heading that will become their table of contents. ▪ Revise their writing in preparation for publishing by thinking about what their audience might want to know more about or if there are any confusing. ▪ Revise their writing in preparation for publishing by working with a partner to reread their pages and ask, "Does this information go with this chapter?" ▪ Revise their pictures in preparation for publishing by adding more specific details and labels. ▪ Revise their writing in preparation for publishing by rereading and editing their work

Significant Task 1: Informing Others 3-5 days

Big Idea: Writers revise their writing into categories so it can be read more easily.
Essential Question: How do writers sort information to help them revise their writing?

Students have read aloud and read with partners many informational texts. Students receive direction instruction in the characteristics/elements of the informational genre (table of contents, chapter titles, and diagrams, etc…). Students practice choosing topics about which they know a lot. Using their fingers as a visual to plan and determine the topic and if they know enough to teach others students test their knowledge about various topics to write about. Students tell everything they know about this topic to their writing partner and then write. Students are reminded through mini lesson instruction that the purpose of their writing is to teach others about their special topic.

During this unit students will refer to informational rough drafts they have in their writing folders. They will work on revising as they learn new strategies. For example, after learning about categories, students go back to their writing folders and revise by physically cutting and pasting information into categories. Students continue to use their "Tiny Topic" notepads to add additional topics they have experienced and/or want to learn more about. To foster independence in their writing the teacher will start an anchor chart on elaboration strategies to serve as a resource. Student progress is assessed through works in progress.

Vocabulary: plan, ideas, text features, diagrams, table of contents, glossary, chapter titles, headings

Significant Task 2: Adding more details by elaborating (3 days)
Big Idea: Writers revise their writing by elaborating to begin writing longer books.
Essential Question: How do writers revise and elaborate their writing? (Adding pictures and labels)

Students are challenged to expand their writing and write more. Students receive direct instruction in how writers can focus on the important part of a picture so that the reader has a closer view. Students will make comparison and discuss as a whole class how elaborating in nonfiction is similar and different to elaborating in with fictional texts. Students receive instruction in how to add diagrams with labels to show the parts, draw action lines and arrows to show direction and captions to explain the pictures. Students receive additional instruction in how elaboration of nonfiction can occur in the form of a Fun Fact or Question and Answer page in the back of their informational book. Students will look for examples of these elements in the informational texts with their writing partners. Students will practice using one or more of these techniques during independent writing.

Vocabulary: caption, expand, elaboration

Significant Task 3: Finishing up our stories (3-5 days)
Big Idea: Writers revise their writing in preparing to publish
Essential Question: How do writers revise their writing in preparing to publish?

Students are challenged to elaborate by rereading a page and thinking, "Can I add an example?" Students use their best piece of writing being prepared for publishing. Students reread and incorporate previous learned elaboration strategies and include a specific example. To further revise their writing, students work with writing partners and ask each other "What parts do I need to make better?" and/or "Does it make sense? Students reread writing and edit by asking themselves, "Are all my word wall words spelled correctly?" "Are there finger spaces between my words?" "Did I use punctuation?" Teacher will teach students to use carets and arrows to revise their work. Students work independently, with peers and adults to publish at least one informational book.

Vocabulary: example, elaborate, edit, punctuation

Resources

- Pre-made booklets with a table of contents page and a line for chapter title on the top of each page
- Mentor texts-Informational texts
- Tiny Topic notepads



Grade: 1 **Time: January/February**	**Genre: Realistic Fiction** **Theme: Writing**
Big Ideas	**Essential Questions**
• Writers write realistic fiction stories using everything they know about writing • Writers revise and edit their writing	• How do writers write realistic fiction? • How do writers make their writing better?

Standards addressed in this unit: Writing and Speaking & Listening	**The students will know and be able to do: (Independently)**
• Write narratives in which they recount two or more appropriately sequenced events, includes some details regarding what happened, use temporal words to signal event order, and provide some sense of closure. (W.1.3) • With guidance and support from adults, focus on the topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed. (W.1.5) • With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. (W.1.6) • Describe people, places, things and events with relevant details, expressing ideas and feelings clearly. (S.L.1.4) • Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. (S.L.1.5)	▪ Imagine characters that they want to include in stories (may be characters like them or people they know) ▪ Choose topics that present a problem for the characters ▪ Write stories with problems and solutions ▪ Work with writing partners to make sure problems and solutions are realistic ▪ Imagine different kinds of problems characters might have (use books they already know, change them around and make them their own) ▪ Write stories about what they know (create a character that is like them-use character's name, or he, she, they, and their) ▪ Use everything they have learned from previous lessons to create stories that include different kinds of punctuation, easy to read handwriting, and use of new words ▪ Revise realistic fiction writing by stretching out important parts (by adding dialogue and small actions, describing the setting and add emotions to other characters in the story)

Significant Tasks
Significant Task 1: Writers draw on everything they know to write realistic fiction stories (5 days) *Big Ideas: Writers write realistic fiction stories using everything they know about writing* *Essential Questions: How do writers write realistic fiction?* The teacher reads several brief realistic fiction books to help students understand the rhythm and structure of stories. While reading these stories create a chart for students to refer back to while writing, focusing on the characters, problem and solution. The students will develop their own realistic fiction stories by creating a character, drafting a problem and solution. Students begin the process by selecting a planning strategy from a repertoire of possible ways to plan and then plan for five or ten minutes by thinking of a character who has a problem and solution. The students write the starts of their stories on paper. They will then think of another possible story and write the start of that story repeating this process several times. This will allow students to work independently and progressing at their own pace.

Vocabulary: problem, solution, character, realistic fiction

Significant Task 2: Developing/elaborating on characters (3-5 days)
Big Ideas: Writers use everything they know
Essential Questions: How do writers write realistic fiction?

The teacher will model how to create an interesting character. The teacher and students work together to develop at least one class character during storytelling through the use of shared writing. This work is shared as a model, helping students to create their own fictional character based on themselves or a character they know. Students can talk and act out the character with a partner about what their character is like and how the character goes about doing things. The students will generate several story ideas and write a couple of different first pages to each of these stories. The students will create several mini-books by quickly sketching each part of the story.

Vocabulary: ideas, generate, sketch

Significant Task 3: Problem/solution
Big Ideas: Writers use everything they know
Essential Questions: How do writers write realistic fiction?

The teacher refers back to mentor texts and charts from previous lessons to remind students that the character always faces a problem. The teacher models for students how to generate different ideas for problems from familiar situations in their own lives. Once students have a plan for their story they can rehearse with a partner to help them think about their story before they write. Students may then go back and elaborate their sketches or immediately begin to write their stories. Students will become story tellers by working with peers to help bring life and add dialogue, (aligning with Common Core Speaking and Listening Standard 1.4) to their stories. The partnership can be an ongoing structure throughout the unit to help with drafting, elaborating and revision.

Vocabulary: storyteller, situation, dialogue

Common Formative Assessment
Prior to the unit teacher will conduct an "on-demand" assessment of the student's abilities to write fiction. Students have been introduced to narrative writing in previous lessons. This will be a baseline to inform further instruction.

Grade: 1 Time: March (4 weeks)	Genre: Writing Theme: Poetry
Big Ideas	**Essential Questions**
• Poets write about meaningful topics; things that matter to them: special people and places, strong feelings, and things they love. • Poets write about ordinary things in the world and see them in a different way. • Poets pay attention to the words they write. They use precise words and phrases to create images in their poems. • Poets read and reread their poems to be sure they sound just right.	• How do poets choose what they will write about? • How do poets choose the words they use in their poems? • How do poets revise their poetry?

Standards addressed in this unit: Writing, Reading, Speaking & Listening, and Language	The students will know and be able to do: (Independently)

• With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed. (W.1.5)
 	
• Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings. (SL 1.5)
 	
• With guidance and support from adults, demonstrate understanding of figurative language, word relationships and nuances in words meanings. (Distinguish shades of meaning among verbs differing in manner (e.g. look, peek, glance, stare, glare, scowl) and adjectives differing in intensity (e.g. large, gigantic) by defining or choosing them or by acting out the meanings (L.1.5).
 	
• Identify words and phrases in stories or poems that suggest feelings or appeal to the senses. (RL.1.4.)
	▪ Write in a variety of poetic forms that may include:
	  ▪ acrostic
	  ▪ haiku
	  ▪ simile poems
	  ▪ All About Me poems
	  ▪ riddles
	  ▪ rhyming (couplet)
	  ▪ shape poems, etc.
	  ▪ like a favorite poet (e.g. Jack Prelutsky, Valerie Worth, Eloise Greenfield, Bobbi Katz, Shel Silverstein, Dr. Seuss)
	▪ Use descriptive sensory language to describe an object using the 5 senses
	▪ Use figurative language to compare unlike objects (similes and metaphors)
	▪ Revise poetry with partners
	▪ Publish their favorite poem(s)

Significant Tasks

Significant Task 1 – Introducing the genre of poetry and discussing why a poet chose to write about a topic (2 days)

Big Idea: Poets write about meaningful topics; things that matter to them: special people and places, strong feelings, and things they love.

Poets write about ordinary things in the world and see them in a different way.

Essential Question: *How do poets choose what they will write about?*

The teacher will refer to anchor charts from prior writing units to identify how topics were chosen for other genres. For example, in the Small Moments unit we learned that "Writers think about special people,

places, big / important feelings, and things they love". Teacher explains to students that this can be true about poetry as well. Students refer to their previous topic lists found in their tiny topics notebooks to begin to generate lists of special people, special places, times they have had strong feelings, and things they love to use as topics for their own poetry. Student work is assessed through small group and individual teacher conferences.

Vocabulary: poetry, special, strong, topic

Significant Task 2 – Introducing Poetry Word Choice (3-5 days)
Big Idea: Poets pay attention to the words they write. They use precise words and phrases to create images in their poems.
Essential Question: How do poets choose the words they use in their poems?

Teachers introduce workstations that will immerse students into the genre of poetry. These stations will provide opportunity for students to explore and write their own poetry. These workstations could include:
Five Senses Station – Students practice using descriptive sensory language about objects provided.
Comparison Station – Students compare objects by using phrases including "…is like a…" or '…reminds me of…" or " (-- is as ….as a ….)
Singing Voices Station – Students might sing songs and write new ones.
Poetry Station – Students write poems including shape poems/ all about me/ rhyming couplets / acrostic / etc. They could also cut up poems to play with the line breaks, or read familiar poems with feeling, drama, and rhythm.

Vocabulary: drama, rhythm, sensory, descriptive

Significant Task 3 – Using our poetry partners to help make our poems even better! (3-5 days)
Big Idea: Poets read and reread their poems.
Essential Question: How do poets revise their writing?

Teachers will model asking probing questions to help the poet focus their poems. Questions could include: "What is the big / strong feeling in this poem? Or "What are you trying to show us?" or "Have you thought of using this word instead?" Students will meet with a partner to reread their poems. Partners will use the probing questions modeled by the teacher. Partners will help one another revise their writing and choose the best words for their poems.

Students will choose their favorite poem(s) to publish and celebrate. (Use the revising checklist posted in the classroom.) Students will consider what they need to do to make their poem its best. They will consider whether they have created clear images with precise language to create imagery. They will evaluate their handwriting to be sure people can read what they have written. They know that it is important that each word is readable.

Vocabulary: precise, clear, imagery

Common Formative Assessment:
Students will practice reading and rereading at least one poem that they have written to the group. They will ask themselves questions like: 'How do I want my voice to sound? Should I speed up here? Slow down there?' They will practice making their voices match the feelings and meaning behind their poem.

Grade: First Grade **Time: April/May (3-4 weeks)**	**Genre: Writing** **Theme: How-To Books**
Big Ideas	**Essential Questions**
• Writers choose a topic that interests them • Writers rehearse topics with partners • Writers write how-to books to teach others about a topic. • Writers use specific words to help the readers follow the directions. • Writers revise their how-to text	• How do writers choose topics? • How do writers rehearse topics with partners? • How do writers write how-to books? • How do writers write so readers can follow the directions? • How do writers revise their how-to books?

Standards addressed in this unit: Writing, Language and Speaking & Listening	**The students will know and be able to do: (Independently)**
• Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. (W.1.2) • With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed. (W.1.5) • With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. (W.1.6) • Participate in shared research and writing projects (e.g., explore a number of how-to books on a given topic and use them to write a sequence of instructions) (W.1.7) • With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (W.1.8) • Describe people, places, things and events with relevant details, expressing ideas and feelings clearly. (SL.1.4) • Participate in collaborative conversations with diverse partners about grade one topics and texts with peers and adults in small and larger groups. (SL.1.1) • Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (L.1.1)	▪ Choose a topic that interests them while thinking about their audience ▪ Rehearse and talk with a partner about their topic ▪ Revise adding any missing steps ▪ Use time order words (first, then, next, afterward, before, finally, and at last) ▪ Use action words to elaborate ▪ Use describing words to ensure clarity ▪ Revise and edit focusing on punctuation ▪ Elaborate instructions for clarity ▪ Publish a how-to book

• Demonstrate the command of the conventions of standard English capitalization, punctuation, and spelling when writing. (L.1.2)	

Significant Tasks

Significant Task 1: Thinking of topics, rehearsing and writing how-to books (5 days)
Big Idea: Writers choose a topic that interests them
Writers rehearse topics with partners
Essential Question: How do writers choose topics?
How do writers rehearse topics with partners?

The teacher launches the unit by reading aloud a variety of procedural (how-to) texts. Students will generate a list of how-to topics that interest them. They are given an opportunity to rehearse and talk through their topic with their peers. Additionally, with a partner, students can practice going through the steps they have planned in order to teach a reader. Students are encouraged to use time order and precise words to convey actions. After rehearsing, students now write the directions they orally shared with their partner using pictures, specific action words or describing words, and time order words so the readers know exactly what to do. Students will then read their how-to books to their partners to see if they can follow the directions.

Vocabulary: how-to, rehearse, topics, generate

Significant Task 2: Write in a way that readers can read the text and follow the directions. (5 days)
Big Idea: Writers write how- to books to teach about a topic
Writers use specific words to help the readers follow directions
Essential Question: How do writers write how-to books?
How do writers write so readers can follow the directions?

The teacher shows/reads examples of several types of how-to books to use as a guide for revising and adding features of nonfiction to their own writing. The teacher and students work together to create a chart of features found in mentor texts (ex. nonfiction features, materials page, persuasive components, and entertaining conclusion) that students can use to lift their level of writing. First, students should envision the steps of their book in their mind. Keeping their audience in mind, students should write their steps as thoroughly and precisely as they can. The teacher chooses a piece of writing that lacks clarity to read to the class while acting out what the writer has said. The purpose is to help students revise their writing by adding all the crucial steps and bits of information necessary to follow the directions written. Students will read their writing to a partner while the partner pantomimes to help the writer identify missing steps. Students will independently revise their writing adding and/or clarifying any missing steps. Students share with teacher in small groups and/or individual conferences, the revisions made to make the their writing more clear to the reader. Use a previously created book to assess student revision work.

Vocabulary: envision, pantomime, revise, clarify

Significant Task 3: Writers revise and edit their how-to books (3 days)
Big Idea: Writers revise their how-to texts
Essential Questions: How do writers revise their how-to books?

The teacher models how to use different forms of punctuation, specific language and how to elaborate using explicit instructions. The teacher guides the students in using specific words and actions by creating a class chart for reference. Students continue to revise and edit their writing checking for these components. Students choose one book to publish.

Vocabulary: revision, elaborate, publish

Unit Resources: How to Make a Bird Feeder by Liyala Tuckfield (Rigby)
The Pumpkin Book *("How to Carve a Pumpkin")* by Gail Gibbons
How to Make a Hot Dog by Joy Cowley
How to Make Salsa by Jamie Lucero

Common Formative Assessment:
As an assessment students will become "Teacher for a Day", demonstrating the task they wrote about and reading their texts to others. A variety of digital tools can be used to publish writing by allowing writers to create a how-to video.

Grade: First Grade **Time: June (2-3 Weeks)**	**Genre: Non-Fiction** **Theme: Informational Writing about science (Sunshine and Shadows)**
Big Ideas	**Essential Questions**
• Scientists write to learn about the world around us • Scientist experiment to answer questions • Writers write informational books to teach others about what they have learned • Writers publish informational/experiment books	• How do scientists learn to write about the world around them? • How does a scientist write to answer questions from an experiment? • How to writers write informational books to share information? • How do writers put all their learning together to publish books?

Standards addressed in this unit: Writing, Speaking & Listening, & Language	**The students will know and be able to do: (Independently)**
• Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. (W.1.2) • With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed. (W.1.5) • With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. (W.1.6) • Participate in shared research and writing projects (e.g., explore a number of how-to books on a given topic and use them to write a sequence of instructions) (W.1.7) • With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (W.1.8) • Participate in collaborative conversations with diverse partners about grade one topics and texts with peers and adults in small and larger groups. (SL.1.1) • Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (L.1.1) • Demonstrate the command of the conventions of standard English capitalization, punctuation, and spelling when writing. (L.1.2)	▪ Sketch experiments using labels and captions ▪ Plan an informational/experiment book by using the important things they learned ▪ Use precise vocabulary ▪ Adding captions to add more detail ▪ Record observations and thoughts ▪ Write step by step ▪ Label parts using scientific language and appropriate vocabulary ▪ Use mentor science texts as a resource/reference ▪ Ask questions about what we're learning ▪ Make hypothesis ▪ Record observations ▪ Write a conclusion based on observations ▪ Work with a partner to clarify ▪ Write a procedural how-to text to teach others ▪ Edit their writing

Significant Tasks

Significant Task 1- **Learning scientific vocabulary terms to be used in informational writing about science (3-5 days)**
Big Idea: Scientists write to learn about the world around us.
Essential Questions: How do scientists learn to write about the world around them?

Along with their students, teachers will discuss and create a scientific vocabulary wall relating to the Sunshine and Shadow Science Unit. When possible, vocabulary words are accompanied by a picture. Terms include such scientific vocabulary words as: hypothesis, observation, etc. Students will sketch and label diagrams using scientific language (ie. light source, object, surface, shadow, translucent, opaque and silhouette).
Following this introduction to the science unit of study, teachers will make available unit materials and resources so that students can investigate, use tools, observe, and ask questions relevant to the Sunshine and Shadows Science unit. Students will begin sketching with labels and captions and move to where scientists draw the set-up of an experiment. They will then label their drawing using precise vocabulary from their word wall and adding captions that explain the process in greater detail.

Vocabulary: light, source, object, hypothesis, observation

Significant Task 2- **Writing about an experiment like a scientist (3-5 days)**
Big Idea: Scientists experiment to answer questions
Essential Questions: How does a scientist write to answer questions from an experiment?

Once students have had an introduction to scientific vocabulary and the concept of sketching and labeling, teachers will think aloud and generate questions based on how light penetrates objects or creates a shadow. Using specific objects including a glass of water, plastic wrap, wax paper, a book, and light sources such as flashlights, students will record their questions using prompts and their hypotheses about the experiment. With partners, students will complete the experiment, recording observations; writing big ideas and conclusions. (See scientific recording sheet template in science kit or create your own.) The teacher and students will collaboratively write the steps of how to do the light penetrating experiment using temporal (sequence) words to organize thinking. Discuss the important and not important parts, revising to make sure the steps match.

Vocabulary: shadow, experiment, conclusions

Significant Task 3- **Writing an informational book**
Big Idea: Writers write informational books to teach others about what they have learned
Writers publish informational/experiment books
Essential Questions: How to writers write informational books to share information?
How do writers put all their learning together to publish books?

On a subsequent day, students will then design their own variation of the experiment from their unanswered and/or lingering questions. (This could be as simple as a change in one variable- different light source, different tested material.) Students record/sketch and label their observations using specific language and prompts (I notice…I see…This reminds me of….I wonder….) to elaborate their observations creating a how-to-text following the steps of the scientific process. Finally, students/partnerships then engage in revision by adding size, color, and texture vocabulary to their written observations.

Vocabulary: linger, variable, scientific process

Unit resources: Sunshine and Shadows Science Kit

Windsor Public Schools
7th Grade English/Language Arts

Purpose of the Course: To facilitate continued student growth as competent, literate citizens of the 21st Century and life-long readers and writers as dictated by the new Common Core state standards. Students read closely sophisticated and complex 7th grade level texts across a variety of genres and share through discussion and written expression ideas about what the texts says explicitly and implicitly. At the same time, students develop as critical, independent thinkers. Students will also have authentic opportunities to write in narrative, informational and argument modes to a plethora of audiences and for varied purposes. Short and long research projects are undertaken all throughout the course.

Name of the Unit**:** **Building a Reading and Writing Life (Unit 1)**	Length of the unit: 3 weeks (August-September)
Purpose of the Unit: To establish routines for Reader's and Writer's workshop, develop positive student relationships, and learn about individual student reading and writing interests, abilities and behaviors.	

RL.7.1: Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

SL.7.4: Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.

SL.7.6: Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

W.7.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

Big Ideas:	Essential Questions:
All reading workshops follow the same basic routines.	- What routines provide a structure to our community?
Everyone has a role to play within a community	- How does a community work best?
Good readers and writers exhibit certain behaviors	- What are the habits of good readers and

There are six traits found in all good writing	writers? - What does good writing in all modes look like?
Students will know: -specific routines and expectations for workshops - they will recognize their role in a diverse and respectful learning community - literacy is a skill that is developed through the use of close reading - The following routines provide a structure for reader's workshop: warm up, read aloud, mini lesson, independent reading, and closure. - The six traits found in all good writing are: organization, ideas, fluency, conventions, word choice, and voice.	Students will be able to: - Participate in basic routines within the workshop - Communicate effectively and respectfully with members of the learning community - Select and closely read texts independently - Communicate their ideas in writing

Significant task 1: (R) **Close Reading** Students practice close reading using their independent reading book and various self-selected graphic organizer. Students learn double-entry journal as new format for taking notes during close reading of independent and shared reading. Timeline: 1-2 days Key vocabulary: contradictory, surprising, significant, thought provoking, repetition, pattern Resources: close reading graphic organizer, double entry diary/journal
Significant task 2: (W) **Initial Writing Assignment(s)** (Choice of: parent letter, "Guess Who," Name Reflection, Bio Poems, Ten Things, Writing Territories, Heart Map) Students build writing stamina, workshop routines, and team-building skills in students in order to create a safe learning community. Students use teacher modeled work as an exemplar for independent work for writing responses. Students develop rapport with teacher through individual teacher conferences and through sharing student work reveal strengths, challenges, and goals as a writer. Students regularly share their work with their peers and receive and give feedback about specific elements. Timeline: 1 week Key vocabulary: reflection, territories, free write Resources: Atwell binder, Guess Who cards, "My Name" chapter from *House on Mango Street*
Significant task 3: (R) **Summer Reading Book Talks** Students give book talks to whole class from a summer reading selection. Student learn about their peers' favorite books and why and take note when appropriate. During book talks students share basic plot information and personal conclusions developed throughout the reading that would be of interest to their new reading community. Student audience members develop a list of potential books they would like to read in their reader's notebook as a "future reading list" based on peer book talks.

Timeline: 2 days
Key vocabulary: potential, influence, talk, speech
Resources: book talk graphic organizer, book talk rubric

Common learning experiences:

- Mini-lesson on close reading
- Research on name etymology
- Book recommendations from peers

Common assessments including the end of unit summative assessment: ** Unit is designed to establish routines and relationships so a summative assessment is not necessary.

- Close Reading response (define & explain importance)
- Book Talk
- Routine Behavior checklist (personal reflection)

Teacher notes:
We have provided a variety of ice breakers from which teachers may choose.
Rituals and Routine of Reader's and Writer's Workshop checklist
Close reading lessons
Writing territories – resource/lessons

Windsor Public Schools
7th Grade ELA

Purpose of the Course:
To facilitate continued student growth as competent, literate citizens of the 21st Century and life-long readers and writers as dictated by the new Common Core state standards. Students read closely sophisticated and complex 7th grade level texts across a variety of genres and share through discussion and written expression ideas about what the texts says explicitly and implicitly. At the same time, students develop as critical, independent thinkers. Students will also have authentic opportunities to write in narrative, informational and argument modes to a plethora of audiences and for varied purposes. Short and long research projects are undertaken all throughout the course.

Name of the Unit: **Narrative Text (Unit 2)**	Length of the unit: 7 weeks (September - October)
Purpose of the Unit: To appreciate and understand the literary elements that shape fiction and to use those elements to create narrative text.	

Common Core State Standards Addressed in the unit:

RL.7.1: Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

RL.7.2: Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; summarize the text.

RL.7.3: Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).

RL.7.6: Analyze how an author establishes and contrasts the points of view of different characters or narrators in a text.

RL.7.10: By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as necessary at the high end of the range

W.7.3: Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds

naturally and logically.

b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters.
c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another.
d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.
e. Provide a conclusion that follows from and reflects on the narrated experiences or events.

W.7.5: With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

W.7.10: Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

L.7.1: Observe conventions of grammar and usage when writing or speaking.

a. Explain the function of phrases and clauses in general and their function in specific sentences.
b. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas.
c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.*

L.7.2: Observe conventions of capitalization, punctuation, and spelling when writing.
Use a comma to separate coordinate adjectives (e.g., *It was a fascinating, enjoyable movie* but not *He wore an old[,] green shirt*).

Big Ideas:	Essential Questions:
Authors use literary elements to shape narrative text and develop theme(s). Theme develops over the course of a text. Suspense (drama) drives conflict, which drives the plot.	How do literary elements work together to drive the plot of a story? How do authors develop and convey a theme? How can I use literary elements to convey the theme of narrative writing?
Students will know how: Literary elements such as the plot pyramid, types of conflict, characterization, symbolism, and	Students will be able to: • Infer and substantiate theme(s) based on cited evidence from the text.

flashback work together to develop a theme. Dialogue is formatted by specific conventions (quotations, capitalizations, commas, and end marks).	• Use literary elements to create original narrative text. • Create a plot pyramid for narrative text and analyze the development and interaction of literary elements and their influence on rising and falling action. • Punctuate dialogue properly in written text.

Significant task 1:
(R) Students will analyze a piece of literature and create a plot pyramid by graphing the suspense and foreshadowing in their independent reading book.

Students develop a plot pyramid with guided practice on a shared reading piece. Students create a bulleted list of the top ten important events in their story based on whole class agreed upon criteria. Students use "what makes it suspenseful criteria" to rank the list of events on a scale of one to ten. Students graph using an excel spreadsheet the level of suspense as it unfolds chronologically/sequentially in their independent reading text. Students display graphs in small groups and draw conclusions about similarities between the suspense levels in their independent reading books.

Timeline: 2 days
Key vocabulary: conflict, suspense, foreshadowing, exposition, rising action, climax, falling action, resolution, plot
Resources: Mentor Texts - Short story of teacher's choice.

Significant task 2: (R/W) Students will determine the theme(s) and/or symbolism present in their independent reading books as it develops and incorporate a theme and/or symbol of their own choosing into their narrative draft.

Students work with teacher to identify and evaluate the themes of fables read aloud in class. Students discuss in partnerships their conclusions using key ideas and details from the story. In collaborative groups, students read a short story and analyze and discuss its theme supporting conclusions with key ideas and details. During independent reading, students determine the theme of their independent reading book as it develops using evidence directly from text. In writer's workshop students create a plan for incorporating theme into their narrative pieces. Students revise many works in progress to practice author's craft of illustrating themes through characters and events. Groups will present their chosen themes to their classmates. On another day the teacher will follow the same process for the concept of symbolism.

Timeline: 4 days
Key vocabulary: theme, moral, infer, evidence, resolution, life lesson
Resources: Aesop's Fables, The People Could Fly, The Scholarship Jacket, and short stories or novel passages of teacher's choice.

Significant task 3: (W) Students will implement conventions of writing dialogue into their narrative story. (Include links for differentiated tasks.)

The teacher will present an overview of conventions of writing and formatting dialogue. The teacher will use think aloud to model the process of punctuating a brief conversation between two people or characters and show a conversation modeled in the mentor text. Students will practice applying dialogue skills to authentic writing independently and in pairs as peer edit/revise activities. Students will practice formatting dialogue correctly in any mode of their choice during writing workshop and in their required narrative piece.

Timeline: 3 days
Key vocabulary: quotation marks, narrator, speaker, dialogue, indent, open quote, closed quote, quotation
Resources: Easy Grammar Plus workbook, Write Source 2000 skills book, teacher-created materials for modeling, mentor texts: passages from novels or short stories of teacher's choice.

Common learning experiences: Mini-lessons on literary elements, the plot pyramid, flashback, theme, and symbolism.

Common assessments including the end of unit summative assessment: Students will create their own narrative text, brought through several revisions to final draft form. Students will create a plot diagram to show how the elements of their story interact to develop a specific theme of their own creation. Common assessment on literary elements.
(Provide link to assessments and rubrics.)

Consider the 21st Century Learning Framework when designing common assessments.

Teacher notes:

Consider having students rate and graph the suspenseful moments in a text of their choice to create a plot pyramid and show how suspense drives the elements of literature in a story. Show how setting affects character development and conflict in a text.

Windsor Public Schools
7th Grade ELA

Purpose of the Course:
To facilitate continued student growth as competent, literate citizens of the 21st Century and life-long readers and writers as dictated by the new Common Core state standards. Students read closely sophisticated and complex 7th grade level texts across a variety of genres and share through discussion and written expression ideas about what the texts says explicitly and implicitly. At the same time, students develop as critical, independent thinkers. Students will also have authentic opportunities to write in narrative, informational and argument modes to a plethora of audiences and for varied purposes. Short and long research projects are undertaken all throughout the course.

Name of the Unit: **Unit 3 – Interdisciplinary** (Historical/Expository/Egypt)	Length of the unit: 8 weeks (Oct. – Dec.)
Purpose of the Unit: To understand the ways that authors convey information in a historical context. To understand how to appropriately include factual information in writing.	

Common Core State Standards Addressed in the unit:

RI.7.1: Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

RI.7.2: Determine two or more central ideas in a text and analyze its development over the course of the text and their relationship to one another; summarize the text.

RI.7.4: 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.

RI.7.5: Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to the development of the ideas.

RI.7.10: By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as necessary at the high end of the range

RL.7.9: Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.

W.7.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.
c. Use precise language and domain-specific vocabulary to inform about or explain the topic.
d. Establish and maintain a formal style.
e. Provide a concluding statement or section that follows from and supports the information or explanation presented

W.7.5: With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

W.7.6: Use technology, including the Internet, to produce and publish a minimum of four pages of writing as well as to interact and collaborate with others.

W.7.7: Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.

W.7.8: Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

W.7.9: Draw evidence from literary or informational texts to support analysis, reflection, and research.

a. Apply *grade 7 Reading standards* to literature (e.g., —Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history]).

W.7.10: Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

SL.7.2: Analyze the main ideas and supporting details presented in graphical, oral, visual, or multimodal formats and explain how the ideas clarify a topic, text, or issue under study.

SL.7.4: Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.

SL.7.5: Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.

L.7.1: Observe conventions of grammar and usage when writing or speaking.

a. Explain the function of phrases and clauses in general and their function in specific sentences.
b. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas.

L.7.3: Use language to enhance meaning, convey style, and achieve particular effects when writing or speaking.

Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.*

L.7.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 7 reading and content*, choosing flexibly from a range of strategies.

a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.
b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *belligerent*, *bellicose*, *rebel*).
c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.

Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

- Language Standards 1a, 1b, 3a, 4a, 4c, 4d, 5b, 6

L.7.5: Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

a. Interpret figures of speech (e.g., literary, biblical, and mythological allusions) in context.
b. Use the relationship between particular words (e.g., synonym/antonym, analogy) to better understand each of the words.

Big Ideas:	Essential Questions:
Authors use historical details to enhance their description of actual or fictional events to show rather than tell what happened.	Why should I appreciate and interpret historical texts?
In historical fiction, authors research specific time periods to make the setting and characters as accurate as possible.	How do authors include relevant and accurate historical detail into text?
When you use others' ideas in your writing, you must give credit to the author whether it is a summary, a paraphrase, or a direct quotation.	How can I include factual information in my writing while avoiding plagiarism?
To paraphrase effectively, you must go beyond	Is there a difference among a paraphrase, a

word choice and alter the structure of sentences. A summary of nonfiction text must include certain information.	summary, and a quotation? How do you paraphrase a nonfiction text? How do you select important information for a summary of nonfiction text?
Students will know: Authors include historical details to describe factual or fictional events. It is necessary to cite research when including facts and ideas in your writing. The steps to effective paraphrasing • Reread the source • Jot down the paraphrase • Label and organize notes • Check paraphrase against original • Use quotation marks for quoted material • Record the source The 5 W's +H of writing effective nonfiction summaries: who, what, when, where, why/how.	Students will be able to: Read and evaluate the accuracy and quality of historical texts. Using their research, students will synthesize information to create an original, historically based text in the mode of their choice. Paraphrase and cite research properly using MLA guidelines. Present research projects to the class.

Significant task 1: (W) Research an Egyptian pharaoh and write a report. In the Social Studies curriculum, students are studying Egypt and Nubia. Concurrently in Language Arts, students select a pharaoh to research based student-generated interest from social studies. The teacher coordinates with the library to arrange for a cart of expository resources as well a web page linking to other resources. The students have direct instruction in taking notes, paraphrasing, word choice, fluency, and formatting a works cited page tailored to meet their students' needs. The students use workshop time to practice word choice, sentence fluency, taking notes and paraphrasing. Timeline: 2-3 weeks Key vocabulary: paraphrase, plagiarism, citation, cite, works cited, MLA, restate/rephrase, summary Resources: paraphrasing lessons using short nonfiction articles on current world or political leaders, books and internet articles on Egyptian pharaohs, Social Studies materials from Egypt unit, specifically pharaoh materials and text book, MLA handbook for citation of sources, assignment sheet and rubric for research report.
Significant task 2: (W) Students write a research-based writing piece on your pharaoh in one of the following modes:

narrative, expository, poetry, persuasion, or drama.

Using the information gathered during research of the pharaoh, the students synthesize historical facts and their creative inspiration to write a text in one of the previously taught modes: narrative, expository, poetry, argument. Students receive small group and individualized instruction in traits-based lessons according to their students' needs. Students work collaboratively with peers and adults to give and receive feedback about writing

Timeline: 1 week
Key vocabulary: writing mode, genre, expository, compare/contrast, historical, accurate,
Resources: assignment sheet and rubric for different project choices.

Significant task 3: (W) Present research and response to class in one of the following formats: website, tri-board, PowerPoint, or speech.

Using their research and creative product, students will present their learning to their peers in one of the formats listed above. Students receive mini-lesson instruction on presentation skills and the effective use of technology in a presentation. Students use workshop time to practice presentation skills and/or continue to revise their creative piece.

Timeline: 1-2 weeks
Key vocabulary: presentation skills, eye contact, bullet points, body language, body positioning, format, audience awareness, volume, pronunciation, visual aids, multimedia, inflection
Resources: Computer access/lab, tri-boards, website construction training (Library), assignment sheet and rubric for presentation

Significant task 4: (R) Evaluate the historical accuracy of a fictional text using independent reading books.

During reader's workshop, teachers will coordinate with the library to create a selection of paired historical fiction and corresponding expository text on various reading levels. Students select a pair of books from the same historical time period: one historical fiction and one expository. The teacher will use an assortment of Egypt-related historical fiction and expository text as mentor texts, as well as expository text on modern world leaders. The teacher will create mini-lessons on the following topics: the way that setting shapes characters or plot in historical fiction, how to evaluate the quality and/or historical accuracy of text, thematic relevance of historical text, summarizing nonfiction text, tracing a central idea through a nonfiction text, the author's purposeful use of text structures and/or features, with a focus on comparing and contrasting. Students will practice these skills using the text set of their choice. The teacher will create meaningful activities during independent reading for students to focus students' reading on the skills addressed in the mini-lessons.

Timeline: 6-8 weeks
Key vocabulary: historical, historical fiction, historical record, manipulate, accurate, accuracy, facts, quality, expository, nonfiction, fiction,
Resources: List of books – selection of paired nonfiction and historical fiction books relating to Egypt or other historical time periods – of various reading levels.

Common learning experiences:
Metropolitan Museum in NYC – Egyptian collection field trip
Lessons on paraphrasing
Library training on website design

Common assessments including the end of unit summative assessment:
End of unit test on paraphrasing (W)
End of unit test on comparing two text excerpts and evaluating the quality and accuracy of the historical fiction. (R)

Teacher notes:
Teachers will need to create daily reading and writing mini-lessons to align with this curriculum.

Windsor Public Schools
7th Grade ELA

Purpose of the Course:
To facilitate continued student growth as competent, literate citizens of the 21st Century and life-long readers and writers as dictated by the new Common Core state standards. Students read closely sophisticated and complex 7th grade level texts across a variety of genres and share through discussion and written expression ideas about what the texts says explicitly and implicitly. At the same time, students develop as critical, independent thinkers. Students will also have authentic opportunities to write in narrative, informational and argument modes to a plethora of audiences and for varied purposes. Short and long research projects are undertaken all throughout the course.

Name of the Unit: **Art of Argument (Unit 4)**	Length of the unit: 6 weeks (December-February)
Purpose of the Unit: To understand that the various techniques of persuasion can be used to strengthen an argument or interpret an author's argument in multiple genres of text.	

Common Core State Standards Addressed in the unit:

RI.7.3: Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).

RI.7.6: Determine an author's point of view or purpose in a text and analyze how the author distinguishes his or her point of view from that of others.

RI.7.7: Compare and contrast the experience of reading a text to experiencing an audio, video, or multimedia version of it, analyzing the text's portrayal in each medium (e.g., how the delivery of a speech affects the impact of the words).

RI.7.8: Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is sufficient to support the claims.

RI.7.9: Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts.

RI.7.10: By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as necessary at the high end of the range

RL.7.6: Analyze how an author establishes and contrasts the points of view of different

characters or narrators in a text.

RL.7.4: Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of rhymes and other repetitions of sounds (e.g., alliteration) on a specific verse or stanza of a poem or section of a story or drama.

W.7.1: Write arguments to support claims with clear reasons and relevant evidence.

a. Introduce claim(s), acknowledge alternate or opposing claims, and organize the reasons and evidence logically.
b. Support claim(s) with logical reasoning and relevant evidence, demonstrating an understanding of the topic or text.
c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence.
d. Establish and maintain a formal style.
e. Provide a concluding statement or section that follows from and supports the argument presented

W.7.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

a. Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts.

W.7.5: With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

W.7.9: Draw evidence from literary or informational texts to support analysis, reflection, and research.

b. Apply *grade 7 Reading standards* to literary nonfiction (e.g., —Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is sufficient to support the claims‖).

W.7.10: Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

SL.7.3: Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance of the evidence.

SL.7.4: Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.

SL.7.6: Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See standards 1–3 in Language, pages 53–57, for specific expectations.)

L.7.5: Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *refined*, *respectful*, *polite*, *diplomatic*, *condescending*).

Big Ideas: There are deliberate and specific techniques authors use to formulate an argument. Knowing others' perspectives helps to strengthen your argument. Know your audience. Support your arguments with evidence.	Essential Questions: How do authors communicate their position in non-fiction argument pieces? How do authors develop an argument within the genre of fiction? How can I use persuasive techniques to strengthen my writing?
Students will know: ▪ There are 11 techniques to persuade a reader: o fact, statistic, example, expert quote, bandwagon, scare tactic, refute the opposition, appeal to logic and emotion, anecdote, descriptive words. ▪ Persuasion can be direct or implied within a narrative plot or multimedia format.	Students will be able to: ▪ Write a persuasive letter. ▪ Analyze a persuasive editorial or speech. ▪ Infer an author's tone or bias within narrative text. ▪ Interpret persuasive advertisements or multimedia clips. Analyze how an author develops and contrasts opposing viewpoints within narrative text.

Significant task 1: (W) Students will use SIRS to research persuasive articles on a chosen topic.

Using a Web Quest and the SIRS website, students will research a topic of their choice. Students will use their research to produce one of the following final products: a persuasive essay (process piece), group debate, a speech, or an advertisement for a created product.

Timeline: 5 days
Key vocabulary: tone, bias, refute, persuade, persuasion,
Resources: SIRS website, web quest page, process piece assignment, speech assignment, debate assignment and guidelines, advertisement assignment

Significant task 2: (R) Students will analyze an issue from multiple perspectives.

Teacher will model how to interpret an issue or situation from multiple perspectives. In groups, students will read an article of choice about an issue and then interpret it through those same multiple perspectives. Students will use the graphic organizer labeled "Group" to record their thinking. The

following day, use the burglar/home buyer activity to reinforce the previous day's lesson. Then, students will identify a question or situation in their independent reading book and apply the multiple lenses to it. In student reader's notebook students will respond to a question demonstrating understanding of how multiple perspectives can impact interpretation.

Timeline: 2 days
Key vocabulary: perspective, lens, limitless, positive, negative, emotional, factual, viewpoint
Resources: Decision lens handouts, short, nonfiction articles of teacher's choice, graphic organizers, burglar/home buyer activity.

Significant task 3: (R) Students will debate an issue in a group setting.

The teacher will review the debate guidelines as the mini lesson. Students will break into groups first based on choice topic. Within topic groups, students will form pro and con sides and debate their issue while the other group observes and uses the Persuasive Techniques Checklist to judge the stronger argument. Debaters and observers will switch roles and repeat the process for the other issues. After the debates, students will complete a reflection activity individually.

Timeline: 2 days
Key vocabulary: pro, con, opposition, position, persuasive techniques, audience awareness, organization
Resources: Group Debate Guidelines, Persuasive Techniques Checklist, non-fiction persuasive articles of teacher's choice, Debate Reflection activity.

Common learning experiences: SIRS database

Common assessments including the end of unit summative assessment:

2 persuasive letters, one timed and one process piece.

Students will read two persuasive pieces with opposing viewpoints on the same topic. Students will trace the authors' development of their arguments and position, comparing and contrasting each author's techniques. (Which of these two pieces is more powerful, and why? Trace the specific techniques and viewpoints the author used to be more effective in their argument.)

Teacher notes: ***Possible mentor texts***
Flipped by Wendelin Van Draanen; *I am the Dog, I am the Cat* by Donald Hall (opposing viewpoints on one topic), *The Giving Tree* by Shel Silverstein, assorted nonfiction persuasive articles.

Windsor Public Schools
7th Grade ELA

Purpose of the Course:
To facilitate continued student growth as competent, literate citizens of the 21st Century and life-long readers and writers as dictated by the new Common Core state standards. Students read closely sophisticated and complex 7th grade level texts across a variety of genres and share through discussion and written expression ideas about what the texts says explicitly and implicitly. At the same time, students develop as critical, independent thinkers. Students will also have authentic opportunities to write in narrative, informational and argument modes to a plethora of audiences and for varied purposes. Short and long research projects are undertaken all throughout the course.

Name of the Unit: **Mystery (Unit 5)**	Length of the unit: 6 weeks
Purpose of the Unit: To develop close reading skills through analysis of explicit and inferred text interpretation. To craft a well-developed mystery through use of genre specific techniques and character analysis. Compare and contrast a written version with the film version.	

Common Core State Standards Addressed in the unit:

RL.7.1: Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

RL.7.10: By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as necessary at the high end of the range

RL.7.7: Compare and contrast a story, poem, or drama to its audio, filmed, staged, or multimedia version, analyzing the effects of techniques unique to each medium (e.g., lighting, sound, color, camera focus and angles).

W.7.3: Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically.
b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters.
c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another.
d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.

Provide a conclusion that follows from and reflects on the narrated experiences or events.

L.7.5: Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

a. Interpret figures of speech (e.g., literary, biblical, and mythological allusions) in context.

Big Ideas:	Essential Questions:
Close reading can help us understand characters, their motivations, and the structure of a mystery. Mysteries have specific structure?	How can we analyze evidence to help solve a mystery? How is a mystery different than a narrative? How does a writer use evidence to create a mystery?
Students will know: The structure of a mystery.	Students will be able to: Apply close reading skills to a mystery. Interpret a mystery. Write a mystery.

Significant task 1: (W) As a writing project, students will have a choice of the following:

The teacher will continue to deliver daily mini lessons on elements of a mystery and some of the 6 traits of writing (ideas, organization, sentence fluency), using *The Westing Game* as a mentor text. However, during independent writing time, students will have a choice of which project/genre they want to work in. Choices include:

- Write a two to four page mystery (individually or as part of a small group)
- Write an expository book report (individually)
- Write a persuasive letter about a mystery book (individually)
- Write an essay analyzing the theme of a mystery book (individually)

Timeline: 7 writing days
Key vocabulary: alibi, clue, detective, distraction/red herring, lie, object/objective, scene of the crime, suspect
Resources: *The Westing Game*, Ruth Culham 6 Traits for Middle School book and CD

Significant task 2: (R) Solve short written mysteries, either student-created or teacher-selected. (Include links for differentiated tasks.)

Teacher will read aloud a short mystery story. Students will work in groups to solve the mystery, using deductive reasoning skills. Groups will present their conclusions and support with evidence from the text. Credit will be given for reasonable (not necessarily correct) conclusions supported by textual evidence.

Timeline: 1-2 reading days
Key vocabulary: alibi, clue, detective, distraction/red herring, lie, object/objective, scene of the crime, suspect
Resources: A book of short mysteries, such as Two-Minute Mysteries or Whodunit Mysteries.

Significant task 3: (R) As a reading project, students will have a choice of the following:

The teacher will continue to deliver daily mini lessons on elements of a mystery and close reading, using *The Westing Game* as a mentor text. However, during independent reading time, students will have a choice of which project/genre they want to work in as well as a daily focus for their independent mystery book. Choices include:

- Create a mystery board game based on their independent reading book.
- Create a mystery game app based on their independent reading book.
- Create a book cover of their independent reading book.
- Give a book talk about their independent reading book.

For the first two projects, students will have the option of working individually or in small groups of 2 or 3. The last two are individual projects.

Timeline: 5 reading days
Key vocabulary: alibi, clue, detective, distraction/red herring, lie, object/objective, scene of the crime, suspect
Resources:

Common learning experiences:

- Read *The Westing Game* (mentor text)
- Play Clue (board game or CD/app versions)
- *The Westing Game* movie
- Comparisons – movie to movie, movies to books, movie to game
- Solve each other's mysteries
- Play each other's games

Common assessments including the end of unit summative assessment: Reading – AR test for *The Westing Game*, Rubric for Reading Project. Language Arts – Rubric for Writing Project (Provide link to assessments and rubrics.)

Teacher notes:

Windsor Public Schools
7th Grade ELA

Purpose of the Course:
To facilitate continued student growth as competent, literate citizens of the 21st Century and life-long readers and writers as dictated by the new Common Core state standards. Students read closely sophisticated and complex 7th grade level texts across a variety of genres and share through discussion and written expression ideas about what the texts says explicitly and implicitly. At the same time, students develop as critical, independent thinkers. Students will also have authentic opportunities to write in narrative, informational and argument modes to a plethora of audiences and for varied purposes. Short and long research projects are undertaken all throughout the course.

Name of the Unit: **Drama (Unit 6)**	Length of the unit: 6 weeks
Purpose of the Unit: To compare and contrast the choices made by authors of a written drama to the choices made by creators of its filmed version. To create a drama from a written narrative or nonfiction text.	

Common Core State Standards Addressed in the unit:

RL.7.3: Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).

RL.7.5: Analyze how a drama's or poem's form or structure (e.g. sonnet, soliloquy) contributes to its meaning.

RL.7.7: Compare and contrast a story, poem, or drama to its audio, filmed, staged, or multimedia version, analyzing the effects of techniques unique to each medium (e.g., lighting, sound, color, camera focus and angles).

RL.7.10: By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as necessary at the high end of the range

W.7.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

SL.7.1: Engage effectively in a range of collaborative discussions (one-on-one and in groups) on *grade 7 topics*, *texts*, *and issues*, building on others' ideas and expressing their own clearly.

a. Come to discussions prepared, having read or researched material under study;

explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.

b. Work with peers to set rules for collegial discussions, clear goals and deadlines, and individual roles as needed.
c. Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed.

Acknowledge new information expressed by others and, when warranted, modify their own views and understanding.

SL.7.5: Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.

SL.7.6: Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See standards 1–3 in Language, pages 53–57, for specific expectations.)

Big Ideas:	Essential Questions:
Each media format benefits from techniques specific to its structure and function. Authors make decisions specific to the format they choose. Though both are entertaining, the audience applies different skills when appreciating film vs. text.	How do film and written text differ? Why do authors make different choices in written text than in film? How do screenwriters manipulate a text to create a film? Why is it necessary or appropriate for film and text to differ?
Students will know: • The elements and structure of a written drama. • The techniques specific to film.	Students will be able to: • Plan and draft a dramatic interpretation of their reading text. • Compare and contrast film to a written text.

Significant task 1: (W) Write one of the following pieces:

- Rewrite a scene from your literature circle book as a play
- Write a scene of your own original play
- Write a review of your literature circle book or film
- Write an expository piece about the process of converting your literature circle book to a film (will require additional research such as director or actor interviews about your film)
- Write a collection of 3 to 6 poems that reflect the changing moods and thematic elements of your literature circle text or film.

The teacher will give daily mini lessons on drama-specific concepts using the key vocabulary and Brian's Song. These mini lessons will point out the various aspects of and reasons for drama formatting in Brian's Song. Students will apply these concepts to one of the writing projects listed above. For any of the above options, students must use 10 of the 18 vocabulary terms for the unit in their piece

Timeline: 4-5 days
Key vocabulary: beat, camera angle, camera focus, color, drama, exterior, fade in, fade out, freeze frame, full shot, interior, lighting, long shot, pan, sound, tight on, voice-over, zoom
Resources: Brian's Song as mentor text and model for student work.

Significant task 2: (W) To perform *Brian's Song* or a scene from a student generated play (collaborative group activity).

In pairs or groups, students will perform a scene from Brian's Song or a student-generated play. This activity is meant to help familiarize students with the format, vocabulary, and purpose of the dramatic structure. This activity will reinforce students speaking skills and their listening skills. The students in the audience will complete a feedback sheet for each actor.

Timeline: 4 days
Key vocabulary: beat, camera angle, camera focus, color, drama, exterior, fade in, fade out, freeze frame, full shot, interior, lighting, long shot, pan, sound, tight on, voice-over, zoom, constructive criticism, glows and grows
Resources: Brian's Song as mentor text, exemplars of student work, play performance rubric, and student feedback sheet for actors, construction paper and assorted materials for props and costumes

Significant task 3: (R) Read and analyze a book that also has a movie version. Compare and contrast the text and film versions (a self-directed, collaborative group activity to be completed as a literature circle). (Include links for differentiated tasks.)

Students will select a book, from a list of titles in their ZPD range, that corresponds with a film rated G through PG-13. From students' choices, teacher will form literature circles with rotating roles (Discussion Director, Text Connecter, Summarizer, Passage Master). Teacher's daily mini lessons include the following: skills and concepts specific to the drama genre, film techniques, literature circle roles, text film comparisons. Literature circle time will take place during the independent reading time where teacher will conference with whole literature circle groups.

Timeline: 4 weeks
Key vocabulary: point of view, first person point of view, third person limited point of view, third person omniscient point of view, tone, mood, beat, camera angle, camera focus, color, drama, exterior, fade in, fade out, freeze frame, full shot, interior, lighting, long shot, pan, sound, tight on, voice-over, zoom
Resources: Classroom sets of leveled book titles and DVD of each movie version, literature circle roles and resources packet.

Common learning experiences: *Brian's Song* play, *Brian's Song* Movie (Disney version), Vocabulary Bingo

Common assessments including the end of unit summative assessment: (W) Create an award such as Golden Globe or Razzie, write a justification or acceptance speech for the award for *Brian's Song*.

Teacher notes: On the days when it is necessary for students to view the book's film version, each LA/Reading teacher could show a movie in their classroom. Students will be divided by their group's book choice to watch a movie in its assigned room (not necessarily their teacher).

Unit 1 - 8th ELA Launching Reader's Workshop

Windsor Public Schools
8th Grade ELA

Purpose of the Course:
To facilitate continued student growth as competent, literate citizens of the 21st Century and life-long readers and writers as dictated by the new Common Core state standards. Additionally, 8th grade ELA is mindful of the transition students are making toward high school English. Students read closely sophisticated and complex 8th grade and beyond level texts across a variety of genres and share through discussion and written expression ideas about what the texts says explicitly and implicitly. At the same time, students develop as critical, independent thinkers. Students will also have authentic opportunities to write in narrative, informational and argument modes to a plethora of audiences and for varied purposes. Short and long research projects are undertaken all throughout the course.

Name of the Unit: Launching Reader's Workshop	Length of the unit: 4-6 weeks

Purpose of the Unit:
The purpose of the Launching Reader's Workshop unit is to teach students the routines, skills, and concepts of Reader's Workshop needed to be successful 8th grade readers. They will also understand the elements of a story and include them in an objective fiction summary.

Common Core State Standards Addressed in the unit:

RL.8.1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

RL.8.2. Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.

RL.8.10. By the end of the year, read and comprehend literature, including stories, dramas, and poems, at the high end of grades 6–8 text complexity band independently and proficiently.

W.8.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

- W.8.9a. Apply grade 8 Reading standards to literature (e.g., “Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new”).

SL.8.4. Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.

SL.8.6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

L.8.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

- L.8.2b. Use an ellipsis to indicate an omission.
- L.8.2c .Spell correctly.

L.8.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening. Vocabulary Acquisition and Use

L.8.4. Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies.

- L.8.4a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.
- L.8.4b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., precede, recede, secede).
- L.8.4c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.
- L.8.4d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

L.8.5a. Interpret figures of speech (e.g. verbal irony, puns) in context.

L.8.6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Big Ideas:	Essential Questions:
•Authors use a common structure in works of fiction. •Authors write for a purpose. •Reading communities have norms and routines.	• How do authors structure texts to communicate meaning? • How do authors communicate meaning in their writing? • How do readers actively engage in texts? • What norms and routines need to be in place to have an effective reading community?

Students will know:
 	
Elements of a story:
• Plot
  o Exposition
  o Conflict
  o Climax
  o Resolution
• Protagonist
• Antagonist
• Theme
	Students will be able to:
	
	• Follow classroom rituals and routines in a Reader's Workshop.
	• Identify the elements of a story.
	• Examine how the elements of a story help to develop the plot.
	• Write an objective summary of a fictional text by incorporating the elements of a story seamlessly.
	• Use an ellipses to indicate and omission

	when citing evidence from the text.
	• Students will be able to determine the meaning unknown/multi-meaning words
	  ○ Context clues and Make Inferences
	  ○ Greek and Latin affixes and roots
	  ○ Consulting reference materials to clarify meaning and find pronunciation

Significant task 1:
Students complete a plot map as a small group jigsaw activity using texts based on general reading levels. Students demonstrate basic understanding of plot elements through the accurate completion of plot map graphic organizers. Small groups share with the whole class the elements of the plot of the group's story. Through both whole class and small group discussion students share how Reader's Workshops from year-to-year have the same components just like stories have the same elements of the plot. Students give and listen to brief book talks about a summer reading selection. Students focus on summarizing the major plot elements. Students share their personal recommendations, using specific evidence from the text to support conclusions.

As a whole class students discuss the habits of all good readers. Students demonstrate understanding of basic comprehension reading strategies through a weekly reader response. Students establish purpose for reading, select the comprehension strategies to best support purpose, including vocabulary strategies, and provide evidence of strategic use in reader's response journal/notebook.

Timeline: 3 days
Key vocabulary: plot map, summary, recommendation
Resources: see teacher notes below

Significant task 2:

Students participate in familiar rituals and routines of Reader's Workshop to build classroom community expectations. While building classroom community, students begin whole class discussions about how summaries are different from retellings, discuss summer reading selections, and begin personal independent reading plan for this year, including AR goals. Students read multiple texts as a whole class, with partners and in small groups to summarize the elements of the plot objectively. Students demonstrate understanding through presenting a written summary of a text either read aloud or independently. Whole class uses digital media to create a class book of summaries to utilize for reference later when looking for a text selection.

Timeline: 3-5 days
Key vocabulary: community
Resources: Rituals and routines lessons

Common learning experiences:

- Reader's Workshop ritual and routine lessons
  - Mini-lessons
  - Modeling
  - Independent Practice
- Reader's Workshop Elements of a story lessons

- Mini-lessons
- Modeling
- Independent Practice using fiction independent reading books

- Reader's Workshop Fiction Summary lessons
  - Mini-lessons
  - Modeling
  - Independent Practice using fiction independent reading books
  - Peer and self evaluations of summaries using constructive feedback, rubric, and revision

Common assessments including the end of unit summative assessment:

Fiction Summary
Other Written Assessment
Students will write objective fiction summaries.
*** Summary Rubrics Attached ***
Pre test:
High: "Raymond's Run"
Middle: "Raymond's Run" Holt adapted version
Low: "Julie's Race" ***Attached***
Post test:
High: "The Broken Chain"
Middle: "The Broken Chain" Holt adapted version
Low: "A Trip to the Eye Doctor" ***Attached***

Teacher notes:

Plot Map differentiated group activity
- Above: "Sunday in the Park"
- On grade level: "The Bike"
- Below: "The Skeleton Key"

- Book Talk ***Rubric Attached ***
- Individual Reading Purposes
  - Teacher models various independent reading purposes for students to apply while they are reading
  - Students practice these active reading strategies (before, during, and/or after their reading) all year long
- Steps to Vocabulary Acquisition (Independent Reading Purpose)
  - Teacher models the process for exploring unfamiliar vocabulary
  - Students will follow the steps to explore unfamiliar words through their independent reading all year long
    1. ID Vocab words
    2. Parts of the word you know (Greek/Latin Roots)

3. Context Clues
4. Look it up in resources and come up with a student friendly definition you and others understand
5. Explain how the word is used in context
6. Use the word or a form of the word in a different context

Unit 2- 8th ELA Launching Writer's Workshop

Windsor Public Schools
8th Grade ELA

Purpose of the Course:
To facilitate continued student growth as competent, literate citizens of the 21st Century and life-long readers and writers as dictated by the new Common Core state standards. Additionally, 8th grade ELA is mindful of the transition students are making toward high school English. Students read closely sophisticated and complex 8th grade and beyond level texts across a variety of genres and share through discussion and written expression ideas about what the texts says explicitly and implicitly. At the same time, students develop as critical, independent thinkers. Students will also have authentic opportunities to write in narrative, informational and argument modes to a plethora of audiences and for varied purposes. Short and long-term research projects are undertaken all throughout the course.

Name of the Unit:	Length of the unit:
Launching Writer's Workshop	6 weeks

Purpose of the Unit:

- Teach students the routines, skills, and concepts of Writer's Workshop needed to be successful 8th grade writers.
- Teach students to communicate their ideas in writing using the Ideas and Organization Trait from the 6 + 1 Traits of Writing.

Common Core State Standards Addressed in the unit:

W.8.3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

- W.8.3a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically.
- W.8.3b. Use narrative techniques, such as dialogue, pacing, description, and reflection, to develop experiences, events, and/or characters.
- W.8.3d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.
- W.8.3e. Provide a conclusion that follows from and reflects on the narrated experiences or events.

W.8.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

W.8.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

W.8.6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with

others.

W.8.10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two)

L.8.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

L.8.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

- L.8.2a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break.
- L.8.2c .Spell correctly.

L.8.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.

L.8.6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Big Ideas: • Writers use a common structure in works of fiction. • Writers write for a purpose. • Writing communities have norms and routines. • Good writing shares common traits.	Essential Questions: • What does good writing look like? • Where do writers get their ideas? • How do writers communicate and organize their ideas? • What norms and routines need to be in place to have an effective writing community?

Students will know:
Elements of a story:
• Plot:
  ○ Exposition
  ○ Conflict
  ○ Climax
  ○ Resolution
• Protagonist
• Antagonist
• Theme
Expectations from the Ideas, Organization, & Conventions rubric (6+1 Traits of Writing).
Rubric Attached
Students will know the following conventions:
	Students will be able to:
	• Write a fictional narrative including the elements of a story
	Ideas:
	• Show instead of tell the details in their narrative.
	• Provide insight and understanding about life through the development of their theme.
	• Write a fictional narrative that is creative and original.

• Subject/Predicate (Complete Sentences vs. Fragments) • Independent/Dependent Clauses (appropriate comma/semicolon usage) • End punctuation • Capitalization • Spell Correctly (Homonyms) (Using appropriate resources) • Comma, ellipses, and dash to indicate a pause break	

Significant task 1:

As whole class students discuss how this is really the students' last year of Reader's and Writer's Workshop. As a whole class students discuss the importance of the major experiences of Reader's and Writer's workshop and how they are becoming habits for the writers and readers. They are moving onto high school where the format is somewhat different. Additionally, most students in 8th grade have had RW and WW since Kindergarten. That being the case, the students decide on which components of the model need to be personalized for 8th grade. Students transfer knowledge of Reader's and Writer's workshop to 8th grade community. Students work as a whole class to determine "common knowledge." Students write and publish at least one fictional narrative, revealing strengths, interests, and challenges as writers. See Common Assessments for requirements.

Timeline: 5-7 days
Key vocabulary: narrative, fictional
Resources: mini lesson resources

Significant task 2:

As a whole class students participate in direct instruction and class discussion about the 6 traits of writing. The students build common definitions with peers and adults and develop class criteria charts. Students practice many strategies to strengthen writing using 6 traits as a guide on various pieces of works in progress. Student partnerships conduct peer assessments using the trait rubric.

Timeline: 10 days
Key vocabulary: traits
Resources:

Common learning experiences:
Exposure and mini-lessons using the Ideas Rubric.
Steps of the Writing Process.

- Brainstorming
  - Mini-lesson on creative and original ideas
- Plan using Plot Structure Graphic Organizer
- Drafting
  - Mini-lessons on including the elements of a story to develop a theme
- Revising for Ideas and Content

- Developing Supporting Details (Show vs. Tell)
  - Dialogue
  - Action
  - Sensory Details
- Peer Revision for the elements of a story

- Editing
- Publishing

Common assessments including the end of unit summative assessment:

Fictional Narrative
Narrative Writing
Students will write a fictional narrative using the elements of a story and focusing on Ideas and Content from the 6+1 Traits of Writing.

Rubric Attached

Fictional Narrative Timed Prompts
Narrative Writing
Pretest:

You are walking down the street and you find a dollar bill on the sidewalk. In a well elaborated multi-paragraph narrative, tell the story of the dollar bill's journey. Where has it been? What has it experienced?

Posttest:

You arrive at school and find a sign on the door that says "Closed." In a well elaborated multi-paragraph narrative, tell the story of your day.

Ideas Rubric Attached

Ideas Assessment Log Attached

Teacher notes:

Unit 3 - 8th ELA Expository (writing)

Windsor Public Schools
8th Grade ELA

Purpose of the Course:
To facilitate continued student growth as competent, literate citizens of the 21st Century and life-long readers and writers as dictated by the new Common Core state standards. Additionally, 8th grade ELA is mindful of the transition students are making toward high school English. Students read closely sophisticated and complex 8th grade and beyond level texts across a variety of genres and share through discussion and written expression ideas about what the texts says explicitly and implicitly. At the same time, students develop as critical, independent thinkers. Students will also have authentic opportunities to write in narrative, informational and argument modes to a plethora of audiences and for varied purposes. Short and long research projects are undertaken all throughout the course.

Name of the Unit:	Length of the unit:
Expository Writing – Unit 2	6 weeks

Purpose of the Unit:
The purpose of the Expository Writing unit is to have students understand the types of expository writing that exist and how they are organized to convey the author's purpose. Students will explore all types of expository writing and then will use the writing process to create one expository piece that is submitted for a class publication. In the writing process students will focus on the ideas and organization aspects of the 6 + 1 Traits of writing.

W.8.2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

- W.8.2a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
- W.8.2b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.
- W.8.2c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.
- W.8.2e. Establish and maintain a formal style.
- W.8.2f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

W.8.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

W.8.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose

and audience have been addressed.

W.8.6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.

W.8.10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two)

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- L.8.1a. Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences.
- L.8.1d. Recognize and correct inappropriate shifts in verb voice and mood.

L.8.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- L.8.2c .Spell correctly.

L.8.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
- L.8.3a. Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).

Big Ideas:	Essential Questions:
• Writers use a common structure in works of nonfiction. • Writers write for a purpose.	• How do writers convey their purpose for writing to readers? • How do writers organize their writing to clearly communicate their ideas to readers?

Students will know:
• Types of expository writing:
  o Informational
  o How To
  o Editorial
  o Advice
  o Review
• Nonfiction organizational structures:
  o Main Idea & Detail (Description)
  o Compare & Contrast
  o Cause & Effect
  o Problem/Solution
  o Sequence
• Grammar Usage
  o Participles
  o Active/Passive Verb Usage
	Students will be able to:
	• Ideas Trait
	  o Use the types of expository writing to clearly communicate their ideas to readers.
	  o Choose a relevant and narrow topic.
	  o Develop their ideas with details and elaboration techniques.
	• Organization Trait
	  o Write all types of expository writing.
	  o Compose a hook/lead.
	  o Organize their ideas clearly to communicate their ideas to readers.

○ Recognize and correct inappropriate use in verb voice	• Conventions ○ Use participles to add detail to their writing ○ Write in active voice to add detail, clarity and meaning to their writing. ○ Determine appropriate use of the passive vs. active voice.

Significant task 1:
Students participate in whole class discussions about the various types of nonfiction or expository writing a writer can undertake. A class list is created as a resource and shared as a whole class criteria chart or as an individual resource (for example, a student bookmark). Students receive direct instruction in the format and structure of the various types of expository writing. During independent practice students practice writing a variety of nonfiction pieces. As partners and small groups, students share, review, give and receive feedback about works in progress collaboratively with their peers and teacher.

As a whole class students receive instruction in generating and evaluating ideas as well as determining which organizational structure best serves their purpose as authors. Students generate ideas for potential pieces individually and with partners. Students use peers and class created rubrics to assess writing. Students receive instruction in the importance and comparison of revision, editing, and using feedback that enhances writing. Students publish at least one expository piece.

Timeline: 18 days
Key vocabulary: opinion, editorial, article
Resources: mini lesson resources

Common learning experiences:
DAY 1: Introduce types of non fiction writing, model: examine samples of writing and categorize.
Independent Practice: magazine scavenger hunt.
Days 2-7 are intended to allow students to dabble in all of the types of expository writing before they work on a publishable piece.
DAY 2: Intro to Informational Articles:
Model writing Current Events/Culture articles
Brainstorming: Using the types of non-fiction writing to list ideas
Independent Practice: in class writing practice of informational article
DAY 3:Intro to Informational Articles:
Model writing Trending articles
Brainstorming: Using the types of non-fiction writing to list ideas
Independent Practice: in class writing practice of informational article
DAY 4: Intro to Reviews
Model writing article
Brainstorming: Using the types of non fiction writing to list ideas
Independent Practice: in class writing practice of review article
DAY 5: Intro to: Opinion Editorial
"What it's Like to be a Scientologist" (editorial)

"Cash Technique" (editorial)
Model writing article
Brainstorming: Using the types of non fiction writing to list ideas
Independent Practice: in class writing practice of op ed article
DAY 6: Intro to Advice
Model writing article
Brainstorming: Using the types of non fiction writing to list ideas
Independent Practice: in class writing practice of advice article
(Practice swapping questions and writing advice to one another)
DAY 7: Intro to How To
Model writing article "Flairs" or "Spanish Tortilla" or write your own.
Brainstorming: Using the types of non fiction writing to list ideas
Independent Practice: in class writing practice of a How To article
Students will write their own publishable expository piece. They will be choosing a new topic from the types of writing that we have explored.
DAY 8:
Mini-lesson: Model choosing the type of nonfiction writing, topic
Model evaluating ideas using the rubric criteria (original and narrow) and revise topic as needed
Guided Practice: Give topics to students working in groups and have them evaluate the ideas using the rubric
Independent Practice: Generating ideas: Select a type of nonfiction writing and topic and evaluating using the ideas rubric
DAY 9:
Mini-lesson: Selecting Organizational Structure to achieve author's purpose
Model choosing a topic and filling in 2 graphic organizers to explore the best way to organize their writing
Independent Practice: Choose 2 graphic organizers to explore which structure to use to achieve your purpose (Choose 2 graphic organizers in the shared drive to explore your topic)
Reflection on which organizational structure helps to achieve the author's purpose
DAY 10:
Mini-lesson: Model drafting using the graphic organizer; composing a lead
Independent Practice: Drafting (compose a lead, draft)
DAY 11:
Mini-lesson: Model drafting; organizing using main ideas, details, and transitions
Independent Practice: Drafting (main ideas, details, and transitions)
DAY 12:
Mini-lesson: Model Revising for Ideas
Guided Practice: Peer revisions for Ideas (worksheet in the shared drive)
Independent Practice: Revise for Ideas
DAY 13:
Mini-lesson: Model Revising for Organization
Guided Practice: Peer revisions for Organization (worksheet in the shared drive)
Independent Practice: Revise for Organization
DAY 14:
Mini-lesson: Add to Editing Non-negotioables (Model editing)
Independent Practice: self-editing checklist
DAY 15:
Mini-lesson: Model publishable piece: Formatting an Expository Article (columns, title, author, headings,

photos, captions)
Independent Practice: publishing (type)
DAY 16:
Mini-lesson: Model Formatting an Expository Article (columns, title, author, headings, photos, captions)
Independent Practice: publishing (format and publish)
DAY 17:
Share in class / Reflect and Feedback
DAY 18:
Culmination Task: Share final publishable pieces with other classes, analyze and reflect in writing on the written pieces of their peers.

Common assessments including the end of unit summative assessment:

Expository Writing Class Publication

Expository Writing
Background: Through our study of non-fiction, we have learned about the types of non-fiction writing as well as their organizational structures.
Your Task: Your task is to write an expository article that incorporates what we've learned about non-fiction writing.
Final Product: Your final piece will be published in a class publication.
*** Rubric Attached ***

Expository Prompt
Expository Writing
Students will take a pre and post assessment focusing on the Ideas and Organization aspects of the 6 Traits of writing.
Pretest:
Prompt: What is one item that you cannot imagine life without? Write a well developed, multi-paragraph essay explaining what the item is, its significance, and why you can't imagine life without it.
Posttest:
Prompt: There are many problems in our world today. Write a well developed, multi-paragraph essay, explaining what the problem is, its significance, and what you would do to solve it.

*** Ideas and Organization Trait Rubrics Attached ***
*** Expository Assessment Log Attached ***

Teacher notes:

Unit 4 - 8th ELA Historical Fiction (reading)

Windsor Public Schools
8th Grade ELA

Purpose of the Course:
To facilitate continued student growth as competent, literate citizens of the 21st Century and life-long readers and writers as dictated by the new Common Core state standards. Additionally, 8th grade ELA is mindful of the transition students are making toward high school English. Students read closely sophisticated and complex 8th grade and beyond level texts across a variety of genres and share through discussion and written expression ideas about what the texts says explicitly and implicitly. At the same time, students develop as critical, independent thinkers. Students will also have authentic opportunities to write in narrative, informational and argument modes to a plethora of audiences and for varied purposes. Short and long research projects are undertaken all throughout the course.

Name of the Unit:	Length of the unit:
Historical Fiction Reading	6 weeks

Purpose of the Unit:
The purpose of the Historical Fiction Reading unit is to have students use close reading skills to analyze how literary elements are used to communicate themes in Historical Fiction.

Common Core State Standards Addressed in the unit: (Provide the link to the specific standards.)

RL.8.1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

RL.8.2. Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.

RL.8.3. Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.

RL.8.4. Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.

RL.8.6.Analyze how differences in the points of view of the characters and the audience or reader (e.g., created through the use of dramatic irony) create such effects as suspense or humor.
Integration of Knowledge and Ideas

RL.8.7. Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script, evaluating the choices made by the director or actors.

RL.8.10. By the end of the year, read and comprehend literature, including stories, dramas, and poems, at the high end of grades 6–8 text complexity band independently and proficiently.

W.8.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

- W.8.9a. Apply grade 8 Reading standards to literature (e.g., "Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new").

L.8.4. Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies.

- L.8.4a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.
- L.8.4b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., precede, recede, secede).
- L.8.4c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.
- L.8.4d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

L.8.5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

- L.8.5a. Interpret figures of speech (e.g. verbal irony, puns) in context.
- L.8.5b. Use the relationship between particular words to better understand each of the words.
- L.8.5c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., bullheaded, willful, firm, persistent, resolute).

L.8.6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Big Ideas: • Good readers read closely. • Authors write to convey meaning.	Essential Questions: • How do good readers read closely? • How do authors convey meaning?
Students will know: Academic Vocabulary: • Allusion • Conflict • Imagery • Point of view • Falling action • Flashback • Author's purpose • Motivation • Tone • Character (static, dynamic)	Students will be able to: • Read closely to determine literal and inferential meaning • Providing quality evidence to support a conclusion • Draw conclusions • Support analysis with two to three pieces of quality textual evidence • Determine theme • Use specific story elements to analyze development of theme • Analyze story elements and how they

• Characterization • Foreshadowing • Theme • Genre • Historical Fiction • Irony (Dramatic, Verbal, Situational) • Mood • Inference • Narrator • Perspective • Symbolism • Literal meaning • Connotation • Denotation • Style • Drawing a Conclusion • Analogies • Paradox (Contradiction, implied meaning about the work of literature and the world around it: Thematic) • Oxymoron Background Knowledge terms and content: • Fuhrer • Auschwitz • Hail Hitler • Commandant • Traitor	create conflict • Analyze character's dialogue, thoughts and actions • Analyze character development • Analyze how character's development impacts the plot • Identify and analyze the impact of figurative and connotative language on meaning and tone • Explain how the author develops point of view • Compare and contrast multiple points of view • Analyze how different points of view (character, audience, reader) create effects such as suspense/humor • Compare and contrast a story or drama to its film or live production • Evaluate choices made by the director or actors • Understand figurative language, words relationships and nuances in word meanings • Examine word choice and how it helps to convey the author's purpose. By examining word relationships, a reader can explore how the word chosen helps to convey meaning -For example: An author uses writes: "The lawyer slams his fist on the podium" -Examine "slam" and its word relationships, (synonyms, antonyms, etc.)

Significant task 1: Students participate in discussion about theme and how readers identify themes in texts. Students receive whole class instruction in close reading and looking for patterns in texts. In small groups, students use lyrics and music videos to help students practice identifying themes through close reading through patterns. Student work is assessed though small group conferences to evaluate choices. Timeline: 3-5 days Key vocabulary: close reading, theme, lyrics, patterns Resources: lyrics "Two Black Cadillacs" by Carrie Underwood, "Forget You" by Cee Lo Green, "You Belong with Me" by Taylor Swift, "Just a Dream" by Carrie Underwood
Significant task 2:

Students review strategies for close reading by examining patterns and using different literary elements to focus upon. Students are read aloud from a historical fiction text and the teacher models the strategies of close readers. Students practice using the literary areas of focus including: vocabulary, diction, point of view, characterization, symbolism, imagery, foreshadowing, mood, and tone. Students work in a cooperative activity to closely read and analyze a passage. Students groups produce a paragraph analyzing their text using specific examples. Students share analysis with the whole class. Students read "just right" text closely writing a weekly reader response that demonstrates a close reading and analysis of the text being read independently.

Close Reading Jig Saw Activity
Areas of close reading focuses:

- Vocabulary
- Diction
- Point of View
- Characterization
- Symbolism
- Imagery
- Foreshadowing
- Mood
- Tone

Timeline: 15 days
Key vocabulary: diction, point of view, symbolism, imagery, mood, tone, foreshadowing
Resources: mini lesson resources

Significant task 3:

Timeline:
Key vocabulary:
Resources:

Common learning experiences:

Model using *The Boy in the Striped Pajamas* by John Boyne
Independent Practice using student chosen fiction independent reading books
General Unit Plan:

- Pre-assessment: Close Reading Theme Analysis on "A Rice Sandwich"
- Review identifying themes
- Introduce Close Reading, Annotating Text/Dialectical Notes
- Significant Task 1

Using lyrics & music videos to help students practice close reading skills

- "Two Black Cadillacs" by Carrie Underwood
- "Forget You" by Cee Lo Green
- "You Belong with Me" by Taylor Swift
- "Just a Dream" by Carrie Underwood

- Close reading for patterns and drawing conclusions about the themes in the text based on the following literary elements:
    - Vocabulary
    - Diction
    - Point of View
    - Characterization
    - Symbolism
    - Imagery
    - Foreshadowing
    - Mood
    - Tone
- Significant Task 2:

Close Reading Jig Saw Activity
All students read the same passage but they are analyzing the work using different close reading focuses:

- Vocabulary
- Diction
- Point of View
- Characterization
- Symbolism
- Imagery
- Foreshadowing
- Mood
- Tone

Watch *The Boy in the Striped Pajamas* film version and analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script, evaluating the choices made by the director or actors.

- Practice writing Close Reading Theme Analysis with selected passages and independent reading books
- Revise the pre-assessment using their newly acquired close reading skills
- Post-assessment: Close Reading Theme Analysis on "Sally"

Common assessments including the end of unit summative assessment:
(Provide link to assessments and rubrics.)

Close Reading Theme Analysis Pre assessment
Analytical Writing
Students will read a passage from The House on Mango Street and analyze how literary elements help to develop theme.

Close Reading Theme Analysis Post assessment
Analytical Writing
Students will read a passage from The House on Mango Street and analyze how literary elements help to develop theme.

Teacher notes:

Unit 5 - 8th ELA Argument Writing

Windsor Public Schools
8th Grade ELA

Purpose of the Course:
To facilitate continued student growth as competent, literate citizens of the 21st Century and life-long readers and writers as dictated by the new Common Core state standards. Additionally, 8th grade ELA is mindful of the transition students are making toward high school English. Students read closely sophisticated and complex 8th grade and beyond level texts across a variety of genres and share through discussion and written expression ideas about what the texts says explicitly and implicitly. At the same time, students develop as critical, independent thinkers. Students will also have authentic opportunities to write in narrative, informational and argument modes to a plethora of audiences and for varied purposes. Short and long research projects are undertaken all throughout the course.

Name of the Unit:	Length of the unit:
Argument Writing	6 weeks
Purpose of the Unit: The purpose of the Argument Writing unit is to have students compose effective written arguments using the 6 Traits of Writing.	

Common Core State Standards Addressed in the unit:
W.8.1. Write arguments to support claims with clear reasons and relevant evidence.

- W.8.1a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.
- W.8.1b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.
- W.8.1c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.
- W.8.1d. Establish and maintain a formal style.
- W.8.1e. Provide a concluding statement or section that follows from and supports the argument presented.

W.8.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

W.8.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

W.8.6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.

W.8.10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two)

L.8.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

- L.8.1a. Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences.
- L.8.1c. Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood.
- L.8.1d. Recognize and correct inappropriate shifts in verb voice and mood.

L.8.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

- L.8.2a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break.
- L.8.2b. Use an ellipsis to indicate an omission.
- L.8.2c .Spell correctly.

L.8.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.

- L.8.3a. Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).

Big Ideas: Authors must support and develop their claim. Authors try to engage their reader.	Essential Questions: How do authors support and develop their writing? How do authors make people want to read what they are writing?
Students will know: • Academic Vocabulary o Claim o Logical Evidence ▪ Statistic ▪ Quote ▪ Fact ▪ Example o Emotional Evidence ▪ Anecdote ▪ Bandwagon ▪ Loaded Words ▪ Rhetorical Questions o Thesis Statement o Main Ideas o Supporting Details o Elaboration o Hook o Call to Action	Students will be able to: • Write argument to support claims with clear reasons and relevant evidence. o Take a position on an issue o Acknowledge and refute the opposition o Organize reasons and evidence logically o Support claims with logical and relevant evidence o Sophisticated Transitions to connect ideas o Use powerful word choices to convey meaning o Use a voice appropriate for your audience o Incorporate a thoughtful conclusion the summarize

○ Refute the Opposition ○ Traits of Good Writing ▪ Ideas & Content ▪ Organization ▪ Voice ▪ Conventions • Grammar Usage ○ Infinitives ○ Gerunds ○ Indicative, Imperative, Interrogative, Conditional, Subjunctive Mood ○ *All previous Grammar and Usage Skills taught are still expected to be applied*	the ideas and concepts in the argument ○ Use the writing process ○ Use Microsoft Word to publish work • Use appropriate conventions: ○ Students will be able to incorporate gerunds in order to create emphasis ○ Students will be able to incorporate infinitives in their writing in order to add detail or place emphasis ○ Students will be able to use the various moods (Indicative, Imperative, Interrogative, Conditional, Subjunctive) in their wiring in order to influence how their audience feels

Significant task 1: Students view the Severn Suzuki video transcript and analysis video, analyze how they can tell she is passionate about her topic, and brainstorm topics they are passionate about to potentially compose their persuasive essay about. Students participate in small group discussion about how they can tell the subject is passionate. Students write a response in their writer's notebook to support their thinking. Students begin to create a personal passionate topics list. Throughout the unit students participate in flash drafts to build and strengthen argument development skills. Timeline: 3-5 days Key vocabulary: passionate, persuade, argument, flash draft, text set Resources: video, transcript
Significant task 2: Students spend several class sessions practicing and reviewing peer writing using a peer feedback form for the 6 traits of good writing: ideas, organization, voice, word choice. Student feedback is based on multiple student works in progress and assigned published piece in student writer's notebook or works in progress folder. Students continue working on unit assessment – persuasive piece. Timeline: 3-5 days Key vocabulary: ideas, organization, voice, word choice Resources: feedback form, 6 trait rubric, 6 trait lessons
Significant task 3: Students select one piece or argument writing to take through the writing process to publish. Students follow whole class agreed upon criteria for what constitutes a published piece. Once published and

approved by classroom teacher and building leadership, students will distribute authentic writing to its intended audience.

Timeline: 3 days
Key vocabulary: publish, final, experts,
Resources: publish pieces lessons

Common learning experiences:

- Timed persuasive prompt pre-assessment (Sports and Grades)
- Flash draft your position for your text set debate (multiple times throughout the reading unit)

Compose a persuasive essay using the writing process
Focus on Voice and Word Choice

- Choosing a topic you are passionate about
  - Severn Suzuki video and transcript
  - Brainstorm persuasive topic ideas that they relate to
- Explore both sides of their top 3 issues Pro and Con Chart
- Setting a purpose using RAFT
- Using the 6 Traits in prompt writing
  - Students Draft
- Revise for Ideas: Elaboration/Evidence/Explanation
- Revise for Organization (Organizational Structure, Sophisticated Transitions, Conclusions)
- Revise for Voice
- Revise for Word Choice (Loaded words, tone)
- Edit
- Publish
- Timed persuasive prompt post-assessment (Cafeteria Seating)

Common assessments including the end of unit summative assessment:

Argument Writing Process Piece
Persuasive Writing
Students are using the writing process to create a publishable piece.

Sports and Grades Timed Prompt – Pre Assessment
Persuasive Writing
Students will compose a persuasive essay within a 45 minute period. (Extended time for students with accommodations)

Cafeteria Seating Timed Prompt – Post Assessment
Persuasive Writing
Students will compose a persuasive essay within a 45 minute period. (Extended time for students with accommodations)

Teacher notes:

Unit 6 - 8th ELA Evaluating Argument Reading

Windsor Public Schools
8th Grade ELA

Purpose of the Course:
To facilitate continued student growth as competent, literate citizens of the 21st Century and life-long readers and writers as dictated by the new Common Core state standards. Additionally, 8th grade ELA is mindful of the transition students are making toward high school English. Students read closely sophisticated and complex 8th grade and beyond level texts across a variety of genres and share through discussion and written expression ideas about what the texts says explicitly and implicitly. At the same time, students develop as critical, independent thinkers. Students will also have authentic opportunities to write in narrative, informational and argument modes to a plethora of audiences and for varied purposes. Short and long research projects are undertaken all throughout the course.

Name of the Unit: Evaluating Argument	Length of the unit: 6 weeks
Purpose of the Unit: The purpose of the Evaluating Argument unit is to have students identify an author's claim and evaluate the quality and quantity of evidence in an argument.	

Common Core State Standards Addressed in the unit:
RI.8.1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

RI.8.2. Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.

RI.8.4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.

RI.8.5. Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept.

RI.8.6. Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.
Integration of Knowledge and Ideas

RI.8.7. Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.

RI.8.8. Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.

RI.8.9. Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.
Range of Reading and Level of Text Complexity

RI.8.10. By the end of the year, read and comprehend literary nonfiction at the high end of the grades 6–

W.8.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

- W.8.9b. Apply grade 8 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced").

L.8.4. Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies.

- L.8.4a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.
- L.8.4b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., precede, recede, secede).
- L.8.4c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.
- L.8.4d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

L.8.6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Big Ideas: Good readers think critically about the texts they read Good readers evaluate the ideas of others.	Essential Questions: • How do good readers evaluate the ideas of others? • How do good readers think critically about what they read?

Students will know:
• Logical Evidence
  ○ Quotes
  ○ Statistics
  ○ Facts
  ○ Examples
• Emotional Evidence
  ○ Loaded Words (analogies and allusions)
  ○ Bandwagon
  ○ Anecdotes
	Students will be able to:
	• Read closely to determine literal and inferential meaning
	• Evaluate and analyze the quality of evidence.
	• Determine main idea.
	• Identify and analyze the impact of figurative and connotative language on meaning and tone.
	• Identify and analyze analogies and allusions in a text.

○ Rhetorical Questions • Claim • Refute the Opposition • Bias • Relevant vs. irrelevant evidence • Tone • Connotation • Denotation	• Explain how an author develops point of view. • Compare and contrast multiple points of views. • Analyze how different points of view structure their arguments. • Evaluate effectiveness of various mediums to communicate an idea. • Explain the author's argument. • Determine quality, quantity of evidence used to support a claim. • Evaluate the relevance or lack thereof of evidence used to support claims. • Analyzing the differences between various authors' presentation of conflicting information for a singular topic. • Close reading and comprehension at a grade 8 complexity band (ex. lexile levels from 955 to 1155)

Significant task 1: Students explore text sets to identify the different parts of an argument specifically the claims and evidence. Students identify, analyze and evaluate evidence from multiple texts read with the whole class and independently. Students take notes on the claims, (ideas) and evidence and work collaboratively to identify types of evidence, evaluate evidence, and compare the quality and effectiveness of various types of evidence. Students participate in whole class discussions to practice identifying arguments in texts. Students respond in their reader's journal to why authors use all three types of evidence to make claims and build arguments. Timeline: 3-5 days Key vocabulary: argument, claim, evidence Resources: mini lesson resources
Significant task 2: Students evaluate the quality of the author's choice of medium to communicate a message. Students view and read two different medium on the same topic/subject - one Youtube clip about the benefits of chocolate milk and a series of milk advertisements to communicate the same idea. Students compare the claims and evidence and evaluate the effectiveness. Students respond to a question to reflect on which medium is more effective and why. Timeline: 3 days Key vocabulary: evaluate, identify, medium Resources: mini lesson resources
Significant task 3:

Students continue reading various nonfiction texts about a particular topic. Students identify the claims and evidence and determine which evidence is the best. Students begin practicing several analytical responses to analyze the argument and claims an author makes. Students use various graphic organizers and participate in whole class, small group, and individual discussions to analyze a response orally before in writing. Students build on oral experiences to write a written analysis of an argument.

Timeline: 3-5 days
Key vocabulary: analysis, response, oral
Resources: mini lesson resources

Common learning experiences:
Prior to unit:
Students select a topic to explore; teacher creates text sets (see the shared drive) and groups for the students to use
Teacher models skills using mentor texts from the Chocolate Milk topic.
Day 1:

- Mini lesson: Note taking for ideas and evidence using Cornell Notes
- Model with Chocolate Milk folder materials
    - Issue: Is chocolate milk beneficial or harmful?
    - Possible Claims:
        - Chocolate milk is more beneficial than other drink alternatives.
        - Drinking chocolate milk is harmful to your health.
    - Reasons:
- Independent Practice: Tour your folder: Identify the issue, the claims, and some of the common reasons

Day 2:

- Mini lesson: Types of logical evidence (Quotes, Statistics, Facts, Examples)
- Model finding logical evidence in "Got Milk? Try Chocolate After Your Workout"
- Independent Practice: Note taking to find logical evidence in one article

Day 3:

- Mini lesson: Identify emotional evidence (Anecdotes, loaded words, rhetorical questions, bandwagon)
- Model finding emotional evidence in "Adding Chocolate to Milk Doesn't…" and various Got Chocolate Milk? Advertisements
- Independent practice: Note taking to find emotional evidence in one article

Day 4

- Mini lesson: Evaluating the quantity of evidence
    - Is there a sufficient amount?
    - Is there a balance between logic and emotional evidence?
- Model using:
    - "Sugar in Chocolate Milk Compared to Other Treats" (Not as balanced)
    - "Schools May Ban Chocolate Milk over Added Sugar" (More balanced)
- Independent Practice: Note taking to evaluate the quantity of evidence in one article

Day 5

- Mini lesson: Evaluating the quality of evidence (refute the opposition, relevant to position, generalizations, bias, false information, (un)reliable sources, figurative and connotative

language: tone/loaded language)

- Model using videos:
    - Australian YouTube video about Jamie Oliver LA Schools
        1. Flaws:
            1. Unreliable source "I don't know what that other stuff has in it?"
            2. Refute the opposition using an unreliable source
            3. Over generalizes: Bus full of sugar for the U.S. (connotative)
            4. Bandwagon: Queensland Health Minister cares because Oliver is famous
            5. Biased toward Jamie Oliver's opinions supporting removing chocolate milk from schools
        2. Strengths:
            1. Reliable source: Jamie Oliver (chef and food expert), etc.
            2. All evidence is relevant to their position
            3. Facts about sugar intake
    - Another video

Day 6

- Mini lesson: Compare, contrast and evaluate the effectiveness of various mediums to communicate an idea
    - Compare and Contrast à How do they communicate the same ideas in different ways? à Which one is the most effective and why?
- Model using:
    - Raise Your Hand for Chocolate Milk YouTube video: dietician from a dairy organization
        1. Reliable source
        2. Visual advertisements
        3. Bias because she works for a dairy organization
        4. Bandwagon
        5. Product endorsement
        6. See the expert enjoy the product
        7. Audience: children and mothers
    - "Chocolate Milk Refuels Muscles After Workout"
        1. Reliable source
        2. Unbiased expert (exercise scientist at UConn) however a biased argument because the study was based on a grant from a dairy organization
        3. Research based: statistics, case study
        4. Anecdote
        5. Audience: fitness
- Independent Practice: Compare and Contrast how two mediums communicate the same ideas in different ways. à Which one is the most effective and why?

Day 7:

- Mini lesson: Compare, Contrast and Evaluate the effectiveness of various mediums to communicate an idea
    - Compare and Contrast à How do they communicate the same ideas in different ways? à Which one is the most effective and why?
- Model using:
    - Print ads for "Got Chocolate Milk"
    - Raise Your Hand for Chocolate Milk YouTube video with celebrities
    - Both mediums are utilizing bandwagon but geared toward different audiences

Day 8:

- Mini lesson: Evaluating an argument and providing an analytical response.
    - Analytical Question: After reading the article "…", evaluate the strengths and weaknesses of the author's argument. Provide evidence from the text and explain your thinking.
- Model:
- Independent Practice:

Day 9:

- Mini lesson: Evaluating an argument and providing an analytical response.
    - Analytical Question: After reading the article "…", evaluate the strengths and weaknesses of the author's argument. Provide evidence from the text and explain your thinking.
- Model:
- Independent Practice:

Day 10:

- Mini lesson: Evaluating an argument and providing an analytical response.
    - Analytical Question: After reading the article "…", evaluate the strengths and weaknesses of the author's argument. Provide evidence from the text and explain your thinking.
- Model: Revise Pre assessment
- Independent Practice: Revise Pre assessment

Common assessments including the end of unit summative assessment:

Evaluating Argument Pre assessment
Analytical Writing
Students will read an argument and evaluate the quality and quantity of evidence, compose an analysis of the argument, and cite evidence from the text to support their analysis.

Post assessment
Analytical Writing
Students will read an argument and evaluate the quality and quantity of evidence, compose an analysis of the argument, and cite evidence from the text to support their analysis.

Teacher notes:

Unit 7 - 8th ELA Genocide research

Windsor Public Schools
8th Grade ELA

Purpose of the Course:
To facilitate continued student growth as competent, literate citizens of the 21st Century and life-long readers and writers as dictated by the new Common Core state standards. Additionally, 8th grade ELA is mindful of the transition students are making toward high school English. Students read closely sophisticated and complex 8th grade and beyond level texts across a variety of genres and share through discussion and written expression ideas about what the texts says explicitly and implicitly. At the same time, students develop as critical, independent thinkers. Students will also have authentic opportunities to write in narrative, informational and argument modes to a plethora of audiences and for varied purposes. Short and long research projects are undertaken all throughout the course.

Name of the Unit: Genocide Research	Length of the unit: 6 weeks

Purpose of the Unit:
Using a focused research question, the purpose of the Genocide and Injustice unit is to have students research a genocide or injustice committed against a group of people anywhere in the world and compare it to the Holocaust. Students will then draw conclusions using their findings about people or life in general and personally reflect on their new understanding.

Common Core State Standards Addressed in the unit:

RI.8.1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

RI.8.2. Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.

RI.8.3. Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).

RI.8.10. By the end of the year, read and comprehend literary nonfiction at the high end of the grades 6–8 text complexity band independently and proficiently.

W.8.2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

- W.8.2a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
- W.8.2b. Develop the topic with relevant, well-chosen facts, definitions, concrete details,

quotations, or other information and examples.

- W.8.2c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.
- W.8.2d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
- W.8.2e. Establish and maintain a formal style.
- W.8.2f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

W.8.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

W.8.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

W.8.6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.

W.8.7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

W.8.8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

W.8.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

- W.8.9b. Apply grade 8 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced").

- W.8.10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two)

L.8.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

L.8.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

- L.8.2a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break.
- L.8.2b. Use an ellipsis to indicate an omission.
- L.8.2c .Spell correctly.

L.8.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
Vocabulary Acquisition and Use

L.8.4. Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies.

- L.8.4a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.
- L.8.4b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., precede, recede, secede).
- L.8.4c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.
- L.8.4d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

Big Ideas:	Essential Questions:
• Good readers research what they seek to understand. • Good readers build new learning through research	• How do good readers find out what they want to know? • How do good readers create new understandings about the world around them?
Students will know:	Students will be able to:

• MLA Citing
• Cornell Notes
• Main Ideas
• Supporting Details
• Genocide
• Injustice
• Compare
• Contrast
• Paraphrasing
• Draw a Conclusion
• Reflect
• 6 Traits of Good Writing:
  ○ Ideas
  ○ Organization
  ○ Conventions
  ○ Presentation
	• Draw conclusions
	• Support analysis with at least two or three pieces of quality textual evidence
	• Determine main idea
	• Use quality supporting details to show development of main idea through the whole piece
	• Provide an objective summary
	• Analyze how a text connects or distinguishes between individuals, ideas, and events
	• Determine the meaning of words and phrases used in a text
	• Conduct a short research project to answer a focused research question
	• Gather relevant information from multiple sources
	• Paraphrase
	• Cite sources

	• Draw evidence from informational texts to support analysis, reflection, and research • Use the writing process • Use technology to produce and publish writing

Significant task 1:

Students build background knowledge through multiple readings and responses about the holocaust. Students engage in activities to help explain the holocaust including a photo gallery, picture walk and reflection, power point presentation and discussion, and independent identity analysis. Students demonstrate basic understanding of the 5Ws of the Holocaust through participation in classroom discussion.

Timeline: 3-5 days
Key vocabulary: holocaust, gallery, response
Resources: holocaust background knowledge

Significant task 2:

Students receive direct instruction in taking formal notes using the Cornell format. Students work with partners and independently to practice taking notes from nonfiction materials. Student practice identifying main ideas, relevant details and citing resources for a works cited page. Student assessments of notes occur in small group and individual reading conferences.

In whole class format, students receive direct instruction in turning notes into paragraphs, paraphrasing and quoting, and choosing a narrow research topic to compare. Students work independently to practice skills on individually assigned topics. Student partnerships engage in conversations in which they compare information gathered about the two different topics. Students examine information gathered to determine about what they already know and what questions that still need to be answered. Students generate a list of research questions to write comparison essay.

Students receive additional whole class instruction in locating sources to answer research questions using Google advanced search, developing a thesis statement, drafting compare/contrast paragraphs, and drawing conclusions and writing reflections. Students use Google advanced search to locate and select appropriate resources based on student generated research questions. Independently students read additional resources about selected/assigned topic, and take notes. Students use information gathered to develop a thesis statement, draft compare and contrast paragraph and compose a conclusion and reflection paragraph.

Timeline: 10-15 days
Key vocabulary: paraphrase, quote, compare
Resources: mini lesson scope and sequence

Significant task 3:

Students receive whole class instruction in revision and editing. Students discuss the importance of and difference between the two. Students work both in the computer lab and in the classroom to create written portion of final assessment. Students work independently and with peers to self-assess work using class rubric on revision and editing.

Timeline: (4-6 days)
Key vocabulary: revision, editing
Resources: mini lessons resource

Common learning experiences:

Overview of Objective: Students will select a topic to study and compare and contrast to the Holocaust
Final Product: Students will create a poster that teaches their peers about their topic and how it relates to a specific of the Holocaust.
Reader's Workshop:
Day 1-5:
Holocaust Background Knowledge Days:

- KWL
- Holocaust Identity Activity
- Reader's Workshop Lessons (articles and reader response)
- Photo gallery and reflection
- PowerPoint and synthesis discussion
- Introduce Project and Rubric and topic selection

Day 6:
Assign Topics, Tour Folders/gathering info to teach and share with peers
Purpose: Reading to identify the main ideas of your topic.
Mini Lesson: Synthesizing Information from multiple resources in order to understand the big picture

- Note Taking Using Cornell Notes (Model with Native American Folder)
    - Main ideas (left column)

Independent Practice: Note Taking Using Cornell Notes

- Main ideas (left column)

Closure: Group Discussion on Topic

- (What do you know about your topic? What is important about your topic?)

Day 7:
Mini Lesson: Note Taking Using Cornell Notes (Model with Native American Folder)
Understanding the purpose of gathering info to teach and share with peers

- Main ideas (left column)
- Important and relevant details (center column)
- Article# Paragraph # (right column)

Independent Practice: Note Taking Using Cornell Notes
(Background Knowledge Section of the poster)
Day 8:
Mini Lesson: MLA Citations: Note Taking Non Fiction (Model with Native American Folder)

- MLA format

Independent Practice:

- Reading folder texts and taking notes
- Create a Works Cited page
- Converting A#/P# to proper MLA Format

Writer's Workshop:

Day 9:

Mini lesson: Drafting Background Knowledge Paragraph (Model with Native American Folder)

- Using notes to organize writing into a paragraph that defines and explains their topic
- Paraphrasing lesson

Independent Practice: Drafting Background Knowledge paragraph using paraphrasing and quoting

Day 10:

Mini lesson: comparing/contrasting two topics as a whole (in general)

- Model with Holocaust and Native American

Guided Practice: Group Work discussing similarities and differences of the two topics, filling in graphic organizer

Independent Practice: Reflection on group's findings (what similarities and differences did you notice about the two topics?)

Writer's Workshop:

Day 11:

Mini lesson: choosing a narrow and specific research question for comp/cont paragraph

- Model with Native American topic

Independent Practice:

- Identify topic and research question
    - (modified for students: Give list of research questions to choose from)
- Examine notes and what they are already know,
- Make a list of questions that still need answering

Day 12:

Mini-Lesson:

- Locating sources to answer research question using Google Advanced Search
- Citing sources using BibMe

Independent Practice:

- Computer Lab time to gather additional resources and print texts to add to research.
- Use BibMe to gather citation information for articles in order to MLA cite later

Day 13:

Mini-Lesson: research texts and examine similarities and differences

- Note Taking using Cornell Notes to develop thesis statement (Model with Native American topic)

Independent practice: Read addition sources and note taking using Cornell Notes to develop thesis statement

- Modified: Fill in graphic organizer on specific research question
- Include citations

Day 14:

- Mini Lesson: Drafting compare and contrast poster section paragraphs
    - Model with Native American topic
    - organizing information to support thesis
- Independent Practice: Drafting Paragraphs
- organizing information to support thesis

Day 15:

- Mini Lesson: Draw conclusions and Reflect
    - Model with Native American topic
- Independent Practice: Composing Conclusion and Reflection section of poster

Day 16:
Mini lesson: revising drafts for ideas, organization (Model with Native American)
Guided Practice: Peer revising for ideas, organization, feedback and questions
Independent Practice: Self Revision based on feedback
Day 17:
Mini Lesson: Editing for conventions and MLA citations
Independent Practice: self editing checklist (non-negotiable conventions and MLA citations)
Day 18:
Mini lesson: presentation expectations (rubric)
Independent Practice: computer lab time to create poster

- Type writing, photos, titles, captions, visual appeal

Day 19:
Independent Practice: computer lab time to create poster

- Type writing, photos, titles, captions, visual appeal

Reader's Workshop:
Day 20:
Gallery Walk:
Posters are hung up in the room
Students will choose a pre determined number of posters to visit, reflect and respond to.
Day 21:
Post Gallery Walk Discussion and reflection on big picture

Common assessments including the end of unit summative assessment:
(Provide link to assessments and rubrics.)

Genocide and Injustice Project
Expository Writing
Students will assemble a poster that compares and contrasts a topic of their choice with the Holocaust in order to draw conclusions about the human condition.

Teacher notes:

All Windsor High School students (entering grades 9-12) are required to read two summer reading books.

Windsor High School 2013 Summer Reading List for Grades 9-12

"**Read, Read, Read—Read Everything…READ**!" (William Faulkner)

CONTEMPORARY FICTION

The Fault in Our Stars by John Green
Sixteen-year-old Hazel, a stage IV thyroid cancer patient, has accepted her terminal diagnosis until a chance meeting with a boy at cancer support group forces her to reexamine her perspective on love, loss, and life. TIME MAGAZINE #1 FICTION BOOK

Flight by Sherman Alexie
This is the story of a troubled foster teenager — a boy who is not a "legal" Indian because he was never claimed by his father — who learns the true meaning of terror. About to commit a devastating act, the young man finds himself shot back through time on a journey in American history. ALA

Dark Dude by Oscar Hijelos
In the 1960s, Rico Fuentes, a pale-skinned Cuban American teenager, abandons drug-infested New York City for the picket fence and apple pie world of Wisconsin, only to discover that he still feels like an outsider and that violent and judgmental people can be found even in the wholesome Midwest. ALA

Copper Sun by Sharon Draper
Amari's life was once perfect. Engaged to the handsomest man in her tribe, adored by her family, and living in a beautiful village, she could not have imagined everything could be taken away from her in an instant. But when slave traders invade her village, Amari finds herself dragged away to a slave ship headed to the Carolinas. CORETTA SCOTT KING AWARD

Extremely Loud and Incredibly Close by J. Safran Foer
Nine-year-old Oskar Schell has embarked on an urgent, secret mission that will take him through the five boroughs of New York. His goal is to find the lock that matches a mysterious key that belonged to his father, who died on the morning of September 11.
SCHOOL LIBRARY JOURNAL, NEW YORK TIMES

If Beale Street Could Talk by James Baldwin
This is a story of love in the face of injustice told through the eyes of Tish, a nineteen-year-old girl, in love with Fonny, a young sculptor who is the father of her child. Tish and Fonny have pledged to get married, but Fonny is falsely accused of a terrible crime and imprisoned. LIBRARY JOURNAL

Sold by Patricia McCormick
Lakshmi is a thirteen-year-old girl who lives with her family in a small hut in a mountain village in Nepal. Her life is made up of simple pleasures like going to school and spending time with her loving "ama" and baby brother. But these happy times are undercut by the desperate poverty that threatens the lives of the villagers. PRINTZ AWARD, NATIONAL BOOK AWARD FINALIST

A Northern Light by Jennifer Donnelly
Mattie Gokey collects words and stores them up as a way of fending off the hard truths of her life…the secret dreams that keep her going—visions of going to college in New York City, becoming a writer. The story is based on Theodore Dreiser's classic, *An American Tragedy*. PRINTZ AWARD, ALA

I Am the Messenger by Markus Zusak
Meet Ed Kennedy—underage cabdriver, pathetic card-player, and useless at romance. He lives in a shack with his coffee-addicted dog, the Doorman, and he's hopelessly in love with his best friend, Audrey. His life is one of peaceful routine until he inadvertently stops a bank robbery. PUBLISHER'S WEEKLY BEST

Tales of a Madman Underground by John Barnes
In September 1973, high-school senior Kurt Shoemaker determines to be "normal," despite his chaotic home life with his volatile, alcoholic mother and the deep loyalty and affection he has for his friends in the therapy group dubbed the Madman Underground. PRINTZ HONOR

The Heretic's Daughter by Kathleen Kent
Martha Carrier was one of the first women to be accused, tried and hanged as a witch in Salem, Massachusetts. Martha and her daughter are openly challenging the small, brutal world in which they live. They are forced to stand together against the escalating hysteria of the trials and the superstitious tyranny that led to the torture and imprisonment of more than 200 people accused of witchcraft. PUBLISHER'S WEEKLY BEST

The Road by Cormac McCarthy
Unfolding in a terrifying future where Armageddon has been waged and lost, the narrator traces the odyssey of a father and his young son through a desolate landscape of devastation and danger. PULITZER PRIZE

The House of the Scorpion by Nancy Farmer
Matteo Alacran was not born; he was harvested. His DNA came from El Patron, lord of a country called Opium. Most consider him a monster -- except for El Patron. He loves Matt as he loves himself, because Matt is himself. PRINTZ HONOR, NEWBERY HONOR, NATIONAL BOOK AWARD

The Women of Brewster Place by Gloria Naylor
Once the home of poor Irish and Italian immigrants, Brewster Place, a rotting tenement on a dead-end street, now shelters black families. This novel portrays the courage, the fear, and the

anguish of some of the women there who hold their families together, trying to make a home. NATIONAL BOOK AWARD

NONFICTION & MEMOIR

Breaking Night by Liz Murray
Liz Murray, who was homeless at age fifteen and had drug-addicted parents, reflects on how she overcame obstacles and eventually attended Harvard University. ALA, NEW YORK TIMES BESTSELLER

The Other Wes Moore by Wes Moore
The author, a Rhodes Scholar and combat veteran, analyzes the various sociocultural factors that influenced him as well as another man of the same name and from the same neighborhood who faced much more unfortunate circumstances. NEW YORK TIMES BESTSELLER

The Devil's Rooming House by William M. Phelps
Set in Windsor, Connecticut, this work chronicles the life, times, and crimes of Amy Archer-Gilligan, the first female serial killer in the United States.

The Immortal Life of Henrietta Lacks by Rebecca Skloot
Twenty years after her death from cervical cancer in 1951, the children and husband of Henrietta Lacks learned that doctors and researchers took cells from her cervix without her consent, which were used to create the immortal cell line known as the HeLa cell. NEW YORK TIMES BESTSELLER

The Autobiography of Malcolm X by Alex Haley
If there was any one man who articulated the anger, the struggle, and the beliefs of African Americans in the 1960s, that man was Malcolm X. His autobiography is now an established classic of modern America, a book that expresses like none other the crucial truth about our times. TIME MAGAZINE'S TOP TEN MOST INFLUENTIAL BOOKS OF THE 20th CENTURY

The Devil in the White City by Erik Larson
Daniel Burnham, the main architect of the 1893 Chicago World's Fair, faces challenges in creating the hugely successful "White City" while a serial killer- Henry H. Holmes- uses the fair to lure victims to their deaths. NATIONAL BOOK AWARD FINALIST

Black Elk Speaks by John Neihardt
Lakota visionary and healer Nicholas Black Elk met the distinguished poet and writer John G. Neihardt in 1930 on the Pine Ridge Reservation in South Dakota. Neihardt conveyed Black Elk's experiences in this powerful and inspirational message for all humankind. CCSS RECOMMENDED

American Shaolin by Matthew Polly
The author spent two years living and studying in China, performing with Shaolin monks, who taught him important life lessons about his place in the universe. BARNES & NOBLE GREAT NEW WRITER

In the Heart of the Sea by Nathaniel Philbrick
The ordeal of the whaleship Essex was an event as mythic as the sinking of the Titanic. The Essex left Nantucket with twenty crew members aboard. The ship was rammed and sunk by an angry sperm whale. As the crew drifted, they ultimately turned to drastic measures in the fight for survival. NATIONAL BOOK AWARD

GRAPHIC NOVEL & ILLUSTRATED

Take What You Can Carry by Kevin Pyle
The lives of two boys—one teen growing up in 1977 suburban Chicago and another living in 1941 in Berkeley—intersect as they learn about compassion and loyalty. ALA, SCHOOL LIBRARY JOURNAL

The Boy Who Couldn't Sleep and Never Had To by D.C. Pierson
A social misfit spends time trying not to be noticed while drawing characters for a planned film series and book. He befriends another outcast, Eric, who reveals that he never sleeps. ALA

American Born Chinese by Gene Luen Yang
When his family moves to a new neighborhood, he suddenly finds that he's the only Chinese-American student at his school. Jocks and bullies pick on him constantly, and he has hardly any friends. Then, to make matters worse, he falls in love with an all-American girl. PRINTZ AWARD

ADVANCED PLACEMENT & "CLASSICS"

The House of Mirth by Edith Wharton
A dark view of society, the somber economics of marriage, and the powerlessness of the unwedded woman in the 1870s emerge dramatically in this tragic novel. Faced with an array of wealthy suitors, New York socialite Lily Bart falls in love with lawyer Lawrence Selden, whose lack of money spoils their chances for happiness together. AP LANGUAGE REQUIRED

The Sun Also Rises by Ernest Hemingway
A brilliant profile of the Lost Generation, Hemingway's first bestseller captures life among the expatriates on Paris's Left Bank during the 1920s, the brutality of bullfighting in Spain, and the moral and spiritual dissolution of a generation. AP LANGUAGE REQUIRED

A Passage to India by E.M. Forster
An exquisitely observed novel, set in Colonial India, which explores the clash of cultures and the consequences of perception. It unravels the growing racial tension between Indians, uneasy at best with colonial power, and the British, largely ignorant and dismissive of the society they're infiltrating. AP LITERATURE REQUIRED

Invisible Man by Ralph Ellison
The nameless narrator of the novel describes growing up in a black community in the South, attending a Negro college from which he is expelled, moving to New York and becoming the chief spokesman of the Harlem branch of "the Brotherhood", and retreating amid violence and confusion to the basement lair of the Invisible Man he imagines himself to be. AP LITERATURE REQUIRED

"Read, Read, Read—Read Everything…READ!" (William Faulkner)