

Unit: 1.1	Counting within 200 Using Skip Counting	5 days
Essential Questions		
How do you count by 1, 5s, 10s with numbers less than 200? Ongoing skill (to 999) to be taught as the year progresses.		
Content to be Learned		Skills
<ul style="list-style-type: none"> • Count within 200 • Skip count by 5s, 10s, up to 200. • Solve word problems involving pennies, nickels, and dimes. 		<ul style="list-style-type: none"> *Fluently using mental strategies (fact families) within 20. *Doubles and combinations of ten fluently.
Assessments		Standards
Teacher gathered materials		2. NBT.2 Count within 1000; skip-count by 5s, 10s, and 100s.
Sample Instructional Activities		Resources
<ul style="list-style-type: none"> * Count cubes in groups of five and ten * Make tally marks in groups of five * Look for patterns in counting * Solve problems involving counting by fives and tens 		<ul style="list-style-type: none"> Investigations Math Manual On-Core Math Manual

Unit: 1.2	Composing and Decomposing Numbers Using Place Value	12 Days
Essential Questions		
<p>How do you know the value of a digit? In what ways can you express any number up to 200? What strategies would you use to add or subtract 10 to and from any number to 200? Explain your thinking.</p>		
Content to be Learned		Skills
<p>* Read and write numerals to 200 using base-ten numerals, number names and expanded form. * Ongoing skill (to 999) to be taught as the year progresses.</p>		<p>* Use place value to describe the value of the digits in a two-digit number. * Model two-digit numbers using base-ten blocks.</p>
Assessments		Standards
Teacher gathered materials		2.NBT.3 Read and write numbers (to 999) using base-ten numerals, number names, and expanded form.
Sample Instructional Activities		Resources
<p>Teachers will guide students through OnCore Lesson 26. Help students understand that the value of a digit relates to its position in a number, Its place value, is the foundation of our number system. Insure that all students name the digits 0-9. Using only these digits have students write two digit numbers. This will help them realize that they can combine digits to make different numbers and also show how their value changes depending on its place. Use place value blocks to distinguish between tens and ones and to help students name numbers I more than one way. 5 tens, 2 ones is same as 52. NOTE: Students will not be asked to say 4 tens, 12 ones until On-Core Lesson 29.</p>		<p>On-Core Math Manual Base-Ten blocks</p>

Unit: 1.3	Composing and Decomposing Numbers within 100 Using Addition and Subtraction	10 days
Essential Questions		
<ul style="list-style-type: none"> • How is the make a ten strategy used to find sums? • How does getting to 10 in subtraction help when finding differences? • How are addition and subtraction related? • What mental strategies have you learned to add and subtract within 20? • How can you use doubles to find sums for near doubles facts? • How do you use addition and subtraction strategies to solve for the unknown? • How are bar models and number sentences used to show addition and subtraction situations? • How can a diagram help when solving problems? • How do you write a number sentence to represent a problem? 		
Content to be Learned		Skills
<ul style="list-style-type: none"> • Use mental strategies to add and subtract within 20. See standard 1.OA.6 for a list of mental strategies: counting on, making ten, decomposing a number leading to a 10, relationship between addition and subtraction, creating equivalent but easier or known sums. • Add and subtract numbers within 100 to solve one-step word problems. • Solve problems using strategies: adding to, taking from, putting together, taking apart with the unknown in all positions. • Represent problems by using drawings and equations with the symbol for the unknown number. 		<ul style="list-style-type: none"> • Find and record combinations of ten. • Mentally adding on to ten in order to subtract. • Represent the subtraction problem with the cubes. • Solve, record (use equations) and discuss strategies. • Use related math facts to help subtract. • Practice subtraction facts. • Use double facts as a strategy for finding sums for near double facts. • Write equations to represent and solve a variety of addition and subtraction problems using many different strategies.
Assessments		Standards
Teacher gathered materials		2.OA.2 Fluently add and subtract within 20 using mental strategies (see Content to be Learned). By end of Grade 2, know from memory all sums of two one-digit numbers.

Sample Instructional Activities	Resources
<ul style="list-style-type: none">• “Make a Ten”• “Tens Go Fish”• Using connecting cubes in two colors, make a cube train and name the addition fact that is shown.• Breaking off one color and naming the subtraction fact that is shown.	Investigations Math Manual On-core Math Manual

Unit: 1.4	Composing and Decomposing and Comparing Numbers Using Place Value	Days: 10
Essential Questions		
<ul style="list-style-type: none"> • How can you represent 100? • What can you tell about the value of ____ (a multiple of 100) • How can you show a three-digit number using concrete materials such as snap cubes or base -10 blocks? • How can you describe the values of the digits in numbers? • How can you compare these two numbers by creating a model and using symbols such as <, >, or =? • What strategy did you use to solve the problem? Explain your thinking. • How can you use place value to solve the problem? • How do you write the number name for the number ____? (e.g., 983) • How would you write the number 235 in expanded form? 		
Content to be Learned		Skills
<ul style="list-style-type: none"> • Understand that 100 is 10 tens. • Read and write numbers to 1,000. • Recognize the 100, 200, 900 are that many hundreds, 0 tens, and 0 ones. • Use place value to represent three-digit numbers. • Compare two 3-digit numbers using place value. • Represent the results of comparing two 3 –digit numbers using symbols <, >, or =. • Add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. 		<ul style="list-style-type: none"> • Bundle 10 tens into 100 • Count by 100 • Understand # of 10’s in hundreds; e.g. 300 is 30 tens • Understand that the 3 digits of a 3-digit number represent amounts of hundreds, tens, and ones. • Expressing 3 digit numbers in multiple ways • Read three digit numbers correctly without using the word <i>and</i> between the digits. • Read and write numbers to 1000 using base-ten numerals, number names and expanded form. • Compare two 3-digit numbers based on the meaning of their hundreds, tens and ones (using/drawing simple place value models.) • Compare using the symbols >, =, or < and then read the result of their comparison correctly from left to right. • Add/Subtract within 100 using strategies based on place value and properties of operations that include addition splits

	(break apart) compensation (break apart 2 digit numbers), and the use of the number line.
Assessments	Standards
Teacher gathered materials.	<p>2.NBT.1 Understand that the three digits of a three-digit number represents amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:</p> <p>a. 100 can be thought of as a bundle of 10 tens – called a “hundred”.</p> <p>b. The numbers 100, 200, ..900 refer to one, two,....nine hundreds (0 tens and 0 ones).</p> <p>2.NBT.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.</p> <p>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.</p> <p>2.NBT.5 Add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.</p>
Sample Instructional Activities	Resources
Using coins 10 pennies = 1 dime = 100 pennies or 1 dollar Play game Close to 10 and Collect \$1.00	Investigations Math Manual On – Core Math Manual

Unit:2.1	Title: Measuring Time to the Nearest Hour & Nearest 5 Minutes	5 days
Essential Questions		
<p>How can you use an analog clock to help you tell time to the hour and half-hour? How can you use the digital clock to help you tell time to the hour and half-hour? Why do you use a.m and p.m on the digital an analog clock? What activities do you do in the a.m/p.m? How can you tell and write the following times to the nearest five minutes using analog/digital clocks? How do you tell and write time using am and pm? Why would you use am or pm to describe time?</p>		
Content to be Learned		Skills
<p>*Tell and write time from digital and analog clocks to the nearest hour and half-hour using am & pm *Understand the difference between am and pm *Tell time to the nearest five minutes using digital and analog clocks using am and pm *Write time to the nearest five minutes using digital and analog clocks using am and pm. *Naming and using notation for times that are 30 and 15 minutes before or after the hour. *Count by 5 to determine 15 minutes after or before the hour.. *Recognize the quarter before (9) and quarter after (3) times on an analog clock.</p>		<p>Students will develop and understanding of am and pm as they associate times with daily events. Some students may remember how to match these times to the times on the analog clock.</p> <p>Students will begin to understand the times of 15 before and after the hour.. Some students may recognize these times on the clock. Students understand that quarter of an hour is equivalent to 15 minutes.</p> <p>Students will tell time from an analog and digital clock to the nearest 5 minutes. They will understand the meaning of am and pm as they talk about the different activities that happen in the morning (am) or afternoon and nighttime (pm). Once students understand this, they will begin to label the times they write using am and pm. Students will understand that the small hand on an analog clock points to the hour and the large hand points to the minute (this can be very confusing) and that when the hour hand is halfway between</p>

	two numbers, like 7 and 8, it is usually read “half past 7” or “written 7:30. This means the time is moving toward 8:00
Assessments	Standards
Teacher gathered materials	2.MD.7 tell and write time from analog and digital clocks to the nearest five minutes, using am and pm
Sample Instructional Activities	Resources
<p>Teacher will guide students to build understanding of am and pm by associating time with daily events.</p> <p>Teachers will introduce the different ways to say 7:15 (seven fifteen, quarter past 7, 15 minutes past the hour of 7). Teachers may introduce the concept of skip counting by 5’s as a way to determine the 15 minutes past, etc.</p> <p>Teacher may use clocks, Oncore Lesson 81 and additional pages of their choice to review how to tell time to the half hour and hour. Teacher will review the importance of the big hand (minute) and little hand (hour) on an analog clock and the difference between am and pm with the students. Teachers will assess students’ understanding of the roles of the minute and hour hands and the relationship between them. Provide opportunities for students to experience and measure times to the nearest hour and half hour. Have them focus on the movement and features of the hands on real or geared manipulative clocks. This will help the students see when the time changes from 5:00 to 6:00, or from one hour to the next how the hour hand moves between the hours.</p>	<p>Oncore math manual</p> <p>Clocks</p>

Unit: 2.2	Recognizing and Applying Standard Units of Measurement to Measure and Compare Lengths of Objects	15 days
Essential Questions		
<ul style="list-style-type: none"> *Why do you need to have standard units of measure? *How would you determine which tool to use to measure a ____? *What is your estimate of the length of this object? Explain your thinking. *How can you determine how much longer Object A is than Object B? Show your mathematical thinking. 		
Content to be Learned		Skills
<ul style="list-style-type: none"> *Understand the need for standard units of measure. *Use concrete models to measure the lengths of objects in inches/centimeters. *Measure the lengths of objects to the nearest inch using an inch ruler and the nearest centimeter using a centimeter ruler. *Select appropriate tools for measuring different lengths. *Measure the same object twice using different units of measurement. *Recognize that the smaller the unit, the more equal-sized units are needed to cover a given length. *Estimate lengths using units of inches, feet, centimeters, and meters. *Measure to determine how much longer one object is than another using standard units. *Solve word problems involving adding and subtracting lengths that are given in the same units. *Represent whole number sums and differences using a number line. 		<ul style="list-style-type: none"> *Using color tiles, measure the lengths of different objects. *Make an inch ruler and express lengths in inches. *Use a concrete model to measure the lengths of objects in centimeters. *Measure objects to the nearest inch/nearest centimeter. *Select appropriate tools for measuring different lengths. *Measure classroom objects to the nearest inch and to the nearest foot, and compare measurements to gain an understanding that a 12-inch ruler is equal to a foot, that a 3-foot object is longer than a 3-inch object, and a 5-foot object is many inches in length. *Measure classroom objects to the nearest centimeter and nearest meter. *Solve problems about measuring length. *Name objects that are about the length on a one-inch tile. *Estimate the lengths of objects by mentally partitioning the lengths into inches. *Compare lengths to determine the best estimate. *Hold their hands apart to show a distance of about 1 meter and estimate the lengths of objects by picturing 1-meter segments. Measure two objects. Subtract the lengths of the two objects and compare them.

	<ul style="list-style-type: none"> *Draw number lines to help them add and subtract. *Write number sentences to solve. *How can drawing a diagram help when solving problems about length? *How can you use a number line to represent sums/differences?
Assessments	Standards
Teacher gathered materials	<p>2.MD.1 Measure the length of an object by selecting and using the appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.</p> <p>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.</p> <p>2.MD.3 Estimate lengths using units of inches, feet, centimeters, and meters.</p> <p>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.</p> <p>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.</p> <p>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.</p>
Sample Instructional Activities	Resources
<p>Teachers will guide children to use concrete models to measure the lengths of objects to the nearest inch, make an inch ruler and use it to measure lengths of objects, and select appropriate tools for measuring different lengths. Also, Teachers will guide children to use concrete models to measure the lengths of objects to the nearest inch/centimeter.</p> <p>Supply color tiles for students to use to measure lengths of objects.</p>	<p>Investigations Math Manual</p> <p>On-Core Math Manual</p> <p>Color Tiles</p> <p>Inch rulers/yardsticks/measuring tapes</p> <p>Centimeter rulers/meter sticks</p> <p>Base ten cubes</p> <p>K-5 Math Teaching Resources</p>

Have students use colored pencils/crayons and paper strips to make an inch ruler and have them measure objects using this ruler. Have students measure the length of a book in paper clips, crayons, and inches and then tell them in this lesson they will be measuring with cubes that are about one centimeter in length (base ten unit cubes). Demonstrate how to correctly line up the zero on a ruler with the end of an object.

Have students decide which tool should be used to measure each object.

Guide students to measure lengths of objects in feet & inches/centimeters and meters to explore the inverse relationship between size and the number of units.

Review measuring in inches, explain that length can be measured in inches and feet, and that a 12-inch ruler is equal to 1 foot. Let students measure with a meter stick to see that a meter is equal to 100 cm. Have students measure short lengths in cm and long lengths in meters.

Guide students to estimate lengths of objects by mentally portioning the lengths into inches, estimate lengths of objects in feet (meters), and estimate lengths of objects in centimeters by comparing them to known lengths.

Ask students to name items that are about the length of a 1-inch color tile.

Have students estimate the lengths of objects in feet/meters.

Guide children to measure and then find the difference, in inches/centimeters, in the length of two objects.

Guide children to solve addition and subtraction problems involving the lengths of objects by using the strategy *draw a diagram*.

<http://www.k-5mathteachingresources.com/2nd-grade-measurement-and-data.html>

Unit: 2.3	Representing and Interpreting Data Using a Variety of Graphs	Days : 15
Essential Questions		
<ul style="list-style-type: none"> • How can a line plot be used to show measurement data? • How do you know whether you should estimate down or up to the nearest whole number? • Why is a key important when making or reading a line plot? • How do you use a tally chart to record data? • Why is it important to use a key, title, and labels when making a graph? • How do you make a picture graph, or bar graph to show data? • How does the strategy <i>make a graph</i> help you solve problems? • What are 3 facts you notice about the data? • How many more/less _____? (Various questions about information in the graph.) 		
Content to be Learned		Skills
<ul style="list-style-type: none"> • Measure lengths of several objects to the nearest whole unit to generate measurement data. • Generate data by using repeated measurements of the same object. • Represent the measurements by making a line plot with a horizontal scale marked with whole numbers. • Collect and record data in a tally chart. • Importance of a key, title, and label. • Draw a picture graph/bar graph with single scale unit to represent a data set with up to 4 categories. • Interpret data in charts and graphs to answer questions and solve problems. 		<p>Model with mathematics.</p> <ul style="list-style-type: none"> • Map relationships using such tools as diagrams, two-way tables, and graphs. • Analyze relationships mathematically to draw conclusions. • Routinely interpret results. <p>Use appropriate tools strategically.</p> <ul style="list-style-type: none"> • Consider available tools when solving a mathematical problem. • Select appropriate tools to measure length of objects.

Assessments	Standards
Teacher gathered materials	<p>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.</p> <p>2.MD.10 Draw a picture graph and bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.</p>
Sample Instructional Activities	Resources
<p>Drawing picture graphs and bar graphs with up to 4 categories</p> <p>Use information from graphs to solve simple put-together, take-apart, and compare problems.</p> <p>Make a line plot using a key and horizontal label.</p>	<p>On-Core Math Manual</p> <p>Investigations Manual</p>

Unit: 2.4	Title: Applying Understanding Money to Solve Problems	5 days to intro *ongoing
Essential Questions		
<p>*How do you find the total value of a group of dimes, nickels, and pennies?</p> <p>*What is a strategy that can help you find the value of a group of coins?</p> <p>*How would you represent (amount less than a dollar) in two ways?</p> <p>*When adding or subtracting money, what is your strategy?</p> <p>*How does <i>acting it out</i> help you solve problems about money?</p> <p>*How can you create a word problem using money and represent your answer using appropriate symbols?</p>		
Content to be Learned		Skills
<ul style="list-style-type: none"> • Identify and know the value of pennies, nickels, dimes, quarters, and dollars. (*NAMES OF COINS AND VALUES ARE NOT TAUGHT IN FIRST GRADE) • Identify the value of a collection of coins. • Use \$ and ¢ symbols appropriately. • Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies. • Learn the strategy, order coins, to find the value of a group of coins. • Proper placement of decimal point in dollar amounts • Be able to write the value of coins less than a dollar in 2 ways 		<p>Students will identify and know the value of a penny, dime, nickel, quarter and dollar using OnCore student pages 169 – 177. They will use the \$-dollar and ¢-cent symbols as they find the total value of a collection of coins greater and less than \$1.00. One strategy students will learn is to order coins by value before calculating the total value of the group. They will represent money values in more than one way,</p> <p>Use concrete objects or pictures to help conceptualize and solve a problem.</p> <p>Check answers using a different method and continually ask, “ Does this make sense?”</p>

Assessments	Standards
<p>Teacher gathered materials</p>	<p>2.MD.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. <i>Example: If you have 2 dimes and 3 pennies, how many cents do you have?</i></p>
Sample Instructional Activities	Resources
<p>In lesson 1, teachers will guide students through OnCore Lessons 85 – 87 to identify and know the value of a penny, dime, nickel, quarter and dollar. Teach students the heads and tails of each coin. They will help them in the use of the \$-dollar and ¢-cent symbols as they find the total value of a collection of coins greater and less than \$.100. Teachers will help students to order coins from greatest to least value before finding the total value. They will ask students to represent a value in more than one way in Lessons 88 & 89</p> <p>Teachers will guide students to solve word problems involving dollars, quarters, dimes, nickels, and pennies. They will remind them of the strategy, <i>act it out</i> help solve problems about money. Teachers will use OnCore Lesson 91 and the <i>Money Word Problems</i> from the K-5 Math Resources to encourage the students to persevere and develop their understanding of money.</p> <p>Use concrete objects or pictures to help conceptualize and solve a problem.</p> <p>Games: Collect 25 cents, collect \$1.00, roll a dollar</p>	<p>Oncore math book Coins: pennies, nickels, dimes, quarters</p>

Unit: 3.1	Investigating, Describing and Analyzing Two and Three Dimensional Shapes	Days : 7
Essential Questions		
<ul style="list-style-type: none"> • How would you describe the attributes of this shape? • How would you represent this shape with a given number of sides, angles or faces? • How can you identify this shape? Explain your mathematical thinking. 		
Content to be Learned		Skills
<ul style="list-style-type: none"> • Recognize shapes having specific attributes. • Represents shapes with specific attributes. • Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. 		<p>Model with mathematics.</p> <ul style="list-style-type: none"> • Become familiar with shapes to develop spatial reasoning. • Apply prior knowledge to solve problems pertaining to geometry. <p>Attend to precision.</p> <ul style="list-style-type: none"> • Communicate geometric terms precisely. • Use terminology to help build their foundation and understanding. • Communicate reasoning using clear, formulated explanations.
Assessments		Standards
Teacher gathered materials		<p>2.G.1 Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.* Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. *Sizes are compared directly or visually, not compared by measuring.</p>
Sample Instructional Activities		Resources
<ul style="list-style-type: none"> • Read book Greedy Triangle • Nets for a Cube • Compare Polygons • My Polygon Riddle • Guess My Rule 		<p>On-Core Math Manual Investigations Math Manual</p>

Unit:3.2	Title: Initial understanding of groups and arrays for repeated addition	Days : 8
Essential Questions		
<p>*How do you know if a group of objects has an odd or even number of members?</p> <p>*How are even and odd numbers different?</p> <p>*How can an even number be written as the sum of two equal addends?</p> <p>*How can you write an addition sentence for problems with equal groups?</p> <p>*How do you find the total number of same-size squares that will cover a rectangle?</p> <p>*Can you count the squares in more than one way?</p> <p>*How would you use addition to show the total number of objects in a rectangular array?</p>		
Content to be Learned		Skills
<p>*Determine whether a group of objects(up to 20) has an odd or even number of members</p> <p>*Use an equation to express an even as a number as a sum of two equal addends</p> <p>*Find the total number of objects arranged in rectangular arrays up to five rows and five columns using addition</p> <p>*Write an equation to express repeated addition</p> <p>*Partition a rectangle into rows and columns of same-sized squares and count to find the total number of squares</p> <p>*Use repeated addition to find the total number of objects in an array</p> <p>*Classify numbers up to 20 as even or odd.</p> <p>*Pair objects or count them by 2's to determine if a group of objects is odd or even.</p>		<p>Students will classify numbers up to 20 as odd or even. They will determine whether a group of objects (up to 20) has an odd or even number of members by pairing objects and/or counting them by two's. They will use equations to express an even number as a sum of two equal addends.</p> <p>Students will find the total number of objects arranged in rectangular arrays (up to 5 rows and 5 columns). They will use repeated addition to find the total number of objects in an array and write an equation to express the total as a sum of equal addends.</p>

Assessments	Standards
<p>Teacher gathered materials</p>	<p>2.OA.3 Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2's; write an equation to express an even number as a sum of two equal addends.</p> <p>2.OA.4 Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and 5 columns; write an equation to express the total as a sum of equal addends.</p> <p>2.G.2 Partition a rectangle into rows and columns of the same-size squares and count to find the total number of them.</p>
Sample Instructional Activities	Resources
<p>Teachers will guide students to classify numbers up to 20 as odd or even. They will help them determine whether a group of objects (up to 20) has an odd or even number of members by pairing objects and/or counting them by two's. Teachers will direct students to use an equation to express an even number as a sum of two equal addends. For example, $5 + 5 = 10$. They may utilize the OnCore Lesson 15 & 16, Investigations Unit 8, and the K-5 Math Resources.</p> <p>Teachers will guide students to find the total number of objects arranged in rectangular arrays (up to 5 rows and 5 columns). They will help students to use repeated addition to find the total number of objects in an array and to write an equation to express the total as a sum of equal addends. For example, $5 + 5 + 5 + 5 + 5 = 25$. Teachers may use OnCore lessons 17 & 18 and the K-5 Math Resources.</p>	<p>Oncore math book</p>

Unit: 3.3	Partitioning Shapes into Equal Shares	10 Days
Essential Questions		
<p>*How do you know that each person has equal shares?</p> <ul style="list-style-type: none"> • How could you partition the shape into _____ equal shares? 		
Content to be Learned	Skills	
<p>* Understand that circles and rectangles can be partitioned into two, three, or four equal shares.</p> <ul style="list-style-type: none"> • Recognize that equal shares need not have the same shape, • Describe the shares using the words halves, thirds, half of, a third of, etc. • Describe the whole as two halves, three thirds, or four fourths. 	<ul style="list-style-type: none"> • Partitioning circles and rectangles into two equal shares (parts) and describe the shares using the word halves and the phrase “half of”, three equal shares using the word thirds and the phrase “third of”, and four equal shares using the word fourths and the phrase “fourth of”. • Understanding that the whole can be described as two halves, three thirds, and four fourths depending on how many shares the whole has been partitioned into. • Students will study various visuals to help them understand that equal shares of identical wholes need not have the same shape. 	
Assessments	Standards	
Teacher gathered materials	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.	
Sample Instructional Activities	Resources	
<ul style="list-style-type: none"> • Partition a circle and/or a rectangle into two, three or four equal shares. 	Investigations Math Manual On-Core Math Manual K-5 Math Resources <u><i>Dividing a Rectangle into Equal Parts</i></u> <u><i>Mr. Zed’s Cakes</i></u>	

Unit: 3.4	Operations and Algebraic Thinking	15 Days
Essential Questions		
<ul style="list-style-type: none"> • How can you use drawings, equations, and symbols to represent the following problem? (using two representations) • What strategies did you use to solve these problems? Show your work and explain your thinking. 		
Content to be Learned	Skills	
<p>*Solve one- and two-step word problems involving addition and subtraction within 100 using unknowns in all positions.</p> <ul style="list-style-type: none"> • Add and subtract with 1,000 using concrete models, drawings, and strategies. • Use place value and the properties of operations to explain why addition and subtraction strategies work. • Understand that they add or subtract hundreds to hundreds, tens to tens, and ones to ones. • Understand that in adding and subtracting it is sometimes necessary to compose and decompose numbers. 	<ul style="list-style-type: none"> • Students will activate their previous knowledge of adding two 2-digit numbers to find the sum of three and four 2-digit numbers using strategies based on place value (including the standard algorithm) and properties of operations. They will be reminded that the order or grouping in which you place numbers to add will not affect the sum of the numbers. Students will be asked to explain and defend the way they choose to order or group the numbers they add to help improve their understanding. • Students will solve one and two step word problems involving addition and subtraction within 100 involving different situations and unknowns in all positions. Students will spend time analyzing word problems to determine what operation they will use to solve it. They will break down the problem, restate it, act it out, make a drawing or write and equations for the unknown as a representation of the problem. They will be encouraged to use different strategies, including the bar model (part/part/whole). • Students will add within 1000 using different strategies. These strategies include place value drawings, expanded form, composing and decomposing numbers, and the standard algorithm with and without grouping. They will relate each strategy to a written method, including equations with an unknown. Students will use place value understanding to remember that when adding 3-digit 	

	<p>numbers you add ones to ones, tens to tens, and hundreds to hundreds.</p> <ul style="list-style-type: none"> Students will subtract within 1000 using different strategies. These strategies include making a model/drawing of base 10 blocks, composing or decomposing to form friendly numbers, standard algorithm with or without regrouping, and decompose a multiple of 10 in the minuend before subtracting (AFT Thinking Math Strategy). They will relate each strategy to a written method, including equations with an unknown. Students will understand that when subtracting three digit numbers, one subtracts ones from ones, tens from tens and hundreds from hundreds with place value understanding.
Assessments	Standards
Teacher gathered materials	<p>Represent and solve problems involving addition and subtraction.</p> <p>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 1See Glossary, Table 1.</p> <p>Use place value understanding and properties of operations to add and subtract.</p> <p>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; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.</p> <p>2.NBT.9 Explain why addition and subtraction strategies work, using place value and the properties of operations.3 3 Explanations may be supported by drawings or objects.</p>

Sample Instructional Activities	Resources
<p>“Get to 100” “Collect \$1.00” 3-digit addition split</p>	<p>Investigations Math Manual On-Core Math Manual K-5 Math Resources Addition Word Problems Add to: Change Unknown Problems (to 100) Add to: Start Unknown Problems (to 100) Take From: Change Unknown Problems (to 100) Take From: Start Unknown Problems (to 100) Word Problems (One Step) Word Problems (Two Step) 3-digit Addition Split (Expanded Form) Friendly Numbers</p>

Unit: 4.1	Title: Fluently adding and subtracting within 100	Days : 10
Essential Questions		
<p>What are two different ways to write addition and subtraction problems? What strategies could you use to add these four 2-digit numbers? (e.g. $48 + 32 + 17 + 10 = ?$) What are the sums and differences of these numbers? (fact test) When adding/subtracting why must you add/subtract (hundreds and hundreds, tens and tens, ones and ones)? How can you check your work? What does it mean to compose a ten? When is it necessary to compose tens or hundreds when adding? What does it mean to decompose a ten? When is it necessary to decompose tens or hundreds when subtracting?</p>		
Content to be Learned	Skills	
<ul style="list-style-type: none"> *Fluently add and subtract within 100. *Add and subtract using strategies based on place value, properties of operations, and the relationship between addition and subtraction *Add up to four 2-digit numbers *Use concrete models or drawings and strategies to add and subtract within 1000 *Relate strategies to a written method *Understand that, in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones. *Recognize that when adding and subtracting, it is sometimes necessary to compose or decompose tens or hundreds. 	<p>Students will fluently add and subtract within 100 and explain why addition and subtraction strategies work, using place value and the properties of operations. They will understand why regrouping works and when it is appropriate to use. They will be able to explain their strategies as well as understand the strategies of others. Students will become faster and more confident at knowing their math facts and with mental addition and subtraction, but this is not a requirement for them to be fluent. Being fluent means that, <i>“Regardless of the particular method used, students should be able to explain their method, understand that many exist, and see the usefulness of methods that are efficient, accurate and general.”</i> Students will practice and show their fluency using OnCore, Investigations and K-5 Math Resource Activities that the teachers chooses to utilize.</p> <p>NOTE: CCSS 2.NBT.5 and 2.NBT.6 were combined into one lesson because in order to show fluency the students need to be able to explain their work. The OnCore lessons have been separated by standard but Investigations Unit 8 could be used</p>	

	for both standards simultaneously.
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Assessments	Standards
<p>Teacher gathered materials</p>	<p>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.</p> <p>2.NBT.6 Add up to four two-digit numbers using strategies based on place value and properties of operations</p> <p>2.NBT.9 Explain why addition and subtraction strategies work, using place value and properties of operations *</p> <p>*explanation may be supported by drawings or objects using place value and the properties of operations.</p>
Sample Instructional Activities	Resources
<p>Teachers will guide students to fluently add and subtract within 100 (2.NBT.5) and explain (may be supported by drawings or objects) why addition and subtraction strategies work, using place value and the properties of operations (2.NBT.6). Teachers will help students understand how regrouping works and when it is appropriate to use. They will encourage students to explain their strategy and to understand the strategies of others. It is important that teachers understand that “fluently” does not necessary mean fast and by rote memory. Fluently means: <i>“Regardless of the particular method used, students should be able to explain their method, understand that many exist, and see the usefulness of methods that are efficient, accurate and general.”</i></p>	<p>Oncore math K-5 math resources</p>

Unit: 4.2	Revisit 2.4 Using Higher \$ Amounts	Days : 10
Essential Questions		
<p>*How do you find the total value of a group of dimes, nickels, and pennies?</p> <p>*What is a strategy that can help you find the value of a group of coins?</p> <p>*How would you represent (amounts more than a dollar) in two ways?</p> <p>*When adding or subtracting money, what is your strategy?</p> <p>*How does <i>acting it out</i> help you solve problems about money?</p> <p>*How can you create a word problem using money and represent your answer using appropriate symbols?</p>		
Content to be Learned	Skills	
<ul style="list-style-type: none"> • Identify and know the value of pennies, nickels, dimes, quarters, and dollars. (*NAMES OF COINS AND VALUES ARE NOT TAUGHT IN FIRST GRADE) • Identify the value of a collection of coins. • Use \$ and ¢ symbols appropriately. • Using decimal points appropriately in writing more and less than a dollar. (For example \$0.54 or \$1.54 or .54) • Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies. • Learn the strategy, order coins, to find the value of a group of coins. • Proper placement of decimal point in dollar amounts • Be able to write the value of coins less than a dollar in 2 ways 	<p>Students will identify and know the value of a penny, dime, nickel, quarter and dollar using OnCore student pages 169 – 177. They will use the \$-dollar and ¢-cent symbols as they find the total value of a collection of coins greater and less than \$1.00. One strategy students will learn is to order coins by value before calculating the total value of the group. They will represent money values in more than one way,</p> <p>Use concrete objects or pictures to help conceptualize and solve a problem.</p> <p>Check answers using a different method and continually ask, “ Does this make sense?”</p> <p>Students will regroup appropriately when adding and subtracting amounts greater the \$1.00.</p>	

Assessments	Standards
Teacher gathered materials	<p>2.MD.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. <i>Example: If you have 2 dimes and 3 pennies, how many cents do you have?</i></p>
Sample Instructional Activities	Resources
<p>In lesson 1, teachers will guide students through OnCore Lessons 85 – 87 to identify and know the value of a penny, dime, nickel, quarter and dollar. Teach students the heads and tails of each coin. They will help them in the use of the \$-dollar and ¢-cent symbols as they find the total value of a collection of coins greater and less than \$.100. Teachers will help students to order coins from greatest to least value before finding the total value. They will ask students to represent a value in more than one way in Lessons 88 & 89</p> <p>Teachers will guide students to solve word problems involving dollars, quarters, dimes, nickels, and pennies. They will remind them of the strategy, <i>act it out</i> help solve problems about money. Teachers will use OnCore Lesson 91 and the <i>Money Word Problems</i> from the K-5 Math Resources to encourage the students to persevere and develop their understanding of money.</p> <p>Use concrete objects or pictures to help conceptualize and solve a problem.</p>	<p>Oncore Math Book Coins: pennies, nickels, dimes, quarters Investigation Math Manual</p>