Summit Public Schools **Summit, New Jersey**
Grade Level: Grade 2
Content Area: Math

Second Grade Scope and Sequence

Summary of the Year	**Common Core State Standards Overview**
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.	**OPERATIONS AND ALGEBRAIC THINKING** Represent and solve problems involving addition and subtraction. Add and subtract within 20. Work with equal groups of objects to gain foundations for multiplication. **NUMBER AND OPERATIONS IN BASE TEN** Understand place value. Use place value understanding and properties of operations to add and subtract. **MEASUREMENT AND DATA** Measure and estimate lengths in standard units. Relate addition and subtraction to length. Work with time and money. Represent and interpret data. **GEOMETRY** Reason with shapes and their attributes.

Summit Public Schools Summit, New Jersey
Grade Level: Grade 2
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Year-at-a-Glance **Marking Period 1:** Operations & Algebraic Thinking Number & Operations in Base Ten **Marking Period 2:** Operations & Algebraic Thinking Number & Operations in Base Ten Measurement & Data **Marking Period 3** Measurement & Data Geometry	**COMMON CORE STATE STANDARDS FOR MATHEMATICAL PRACTICE:** 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5.Use appropriate tools strategically. 6.Attend to precision. 7.Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.

Summit Public Schools **Summit, New Jersey**
Grade Level: Grade 2
Content Area: Math

Marking Period	Unit Title/Focus Major Supporting Additional (identified by PARCC Model Content Framework)	Standards
1	Chapter 1- Number Concepts *Approx. number of instructional days: 13*	CCSS.MATH.CONTENT.2.OA.C.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 2s; write an equation to express an even number as a sum of two equal addends. CCSS.MATH.CONTENT.2.NBT.A.2 Count within 1000; skip-count by 5s, 10s, and 100s. CCSS.MATH.CONTENT.2.NBT.A.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
1	Chapter 2- Numbers to 1,000 *Approx. number of instructional days: 15*	CCSS.MATH.CONTENT.2.NBT.A.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: CCSS.MATH.CONTENT.2.NBT.A.1.A 100 can be thought of as a bundle of ten tens — called a "hundred." CCSS.MATH.CONTENT.2.NBT.A.1.B 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). CCSS.MATH.CONTENT.2.NBT.A.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. CCSS.MATH.CONTENT.2.NBT.A.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. CCSS.MATH.CONTENT.2.NBT.B.8 Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.
1	Chapter 3- Basic Facts and Relationships *Approx. number of instructional days: 16*	CCSS.MATH.CONTENT.2.OA.A.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. CCSS.MATH.CONTENT.2.OA.B.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. CCSS.MATH.CONTENT.2.OA.C.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	Chapter 4- 2-Digit Addition *Approx. number of instructional days: 16*	CCSS.MATH.CONTENT.2.OA.A.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. CCSS.MATH.CONTENT.2.NBT.B.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. CCSS.MATH.CONTENT.2.NBT.B.6 Add up to four two-digit numbers using strategies based on place value and properties of operations. CCSS.MATH.CONTENT.2.NBT.B.9

		Explain why addition and subtraction strategies work, using place value and the properties of operations. (Explanations may be supported by drawings or objects.)
2	Chapter 5- 2-Digit Subtraction *Approx. number of instructional days: 15*	CCSS.MATH.CONTENT.2.OA.A.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. CCSS.MATH.CONTENT.2.NBT.B.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	Chapter 6- 3-Digit Addition and Subtraction *Approx. number of instructional days: 14*	CCSS.MATH.CONTENT.2.NBT.B.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. CCSS.MATH.CONTENT.2.NBT.B.9 Explain why addition and subtraction strategies work, using place value and the properties of operations. (Explanations may be supported by drawings or objects.)

2	Chapter 7- Money and Time *Approx. number of instructional days: 15*	CCSS.MATH.CONTENT.2.MD.C.7 Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m. CCSS.MATH.CONTENT.2.MD.C.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?
3	Chapter 8- Length in Customary Units *Approx. number of instructional days: 13*	CCSS.MATH.CONTENT.2.MD.A.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. CCSS.MATH.CONTENT.2.MD.A.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. CCSS.MATH.CONTENT.2.MD.A.3 Estimate lengths using units of inches, feet, centimeters, and meters. CCSS.MATH.CONTENT.2.MD.B.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. CCSS.MATH.CONTENT.2.MD.B.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. CCSS.MATH.CONTENT.2.MD.D.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.

3	Chapter 9- Length in Metric Units *Approx. number of instructional days: 11*	CCSS.MATH.CONTENT.2.MD.A.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. CCSS.MATH.CONTENT.2.MD.A.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. CCSS.MATH.CONTENT.2.MD.A.3 Estimate lengths using units of inches, feet, centimeters, and meters. CCSS.MATH.CONTENT.2.MD.A.4 Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit. CCSS.MATH.CONTENT.2.MD.B.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. CCSS.MATH.CONTENT.2.MD.B.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.
3	Chapter 10- Data *Approx. number of instructional days: 10*	CCSS.MATH.CONTENT.2.MD.D.10 Draw a picture graph and a 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.

3	Chapter 11- Geometry *Approx. number of instructional days: 15*	CCSS.MATH.CONTENT.2.G.A.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.) CCSS.MATH.CONTENT.2.G.A.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them. CCSS.MATH.CONTENT.2.G.A.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.

Updated August 2015

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. They should be infused throughout all mathematics concepts and units.
MP.1 Make sense of problems and persevere in solving them.
MP.2 Reason abstractly and quantitatively.
MP.3 Construct viable arguments and critique the reasoning of others.
MP.4 Model with mathematics
MP.5 Use appropriate tools strategically.
MP.6 Attend to precision
MP.7 Look for and make use of structure.
MP.8 Look for and express regularity in repeated reasoning

Unit Description: Marking Period 1
In the first marking period, 2nd grade mathematics work will focus on the following concepts: addition and subtraction strategies, working with equal groups, and place value to 1,000.

Standard

Summit Public Schools Summit, New Jersey
Grade Level: Grade 2
Content Area: Math

<table>
<tr><td colspan="2">Operations and Algebraic Thinking 2.OA
Number and Operations in Base Ten 2.NBT</td></tr>
<tr><td colspan="2">Big Ideas: Course Objectives / Content Statement(s)
Operations and Algebraic Thinking 2.OA
• Represent and solve problems involving addition and subtraction.
• Add and subtract within 20.
• Work with equal groups of objects to gain foundations for multiplication.
Number and Operations in Base Ten 2.NBT
• Understand place value to 1,000.
• Use place value understanding and properties of operations to add and subtract.</td></tr>
<tr><td>Essential Questions
What provocative questions will foster inquiry, understanding, and transfer of learning?</td><td>Enduring Understandings
What will students understand about the big ideas?</td></tr>
<tr><td>• How is math relevant to me?
• Why are different ways of counting important?
• What are the most efficient ways to count?
• How do units within a system (money) relate to each other?
• How are place value patterns repeated in numbers?</td><td>Students will understand that…
• Numbers can represent quantity, position, location and relationships.
• Number concepts help make sense of the world around us.
• Knowing basic addition and subtraction facts will help build and expand math skills in our everyday lives.
• Problems can be solved using a variety of strategies.</td></tr>
<tr><td>Areas of Focus: Proficiencies (CCSS)</td><td>Examples, Outcomes, Assessments</td></tr>
<tr><td>Students will:
Operations and Algebraic Thinking 2OA
Represent and solve problems involving addition and subtraction.</td><td>Instructional Strategies:
• Counts by 1s, 2s, 5s, 10s, and 100s</td></tr>
</table>

Summit Public Schools Summit, New Jersey
Grade Level: Grade 2
Content Area: Math

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. *(*See Glossary)
B. Add and subtract within 20.
2.OA.2 Fluently add and subtract within 20 using mental strategies. (See standard 1.OA.6 for a list of mental strategies.) By end of Grade 2, know from memory all sums of two one-digit numbers.
C. Work with equal groups of objects to gain foundations for multiplication.
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 2s; write an equation to express an even number as a sum of two equal addends.
C. Work with equal groups of objects to gain foundations for multiplication.
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
	• Reads, writes, and orders whole numbers up to 1,000.
	• Models and identifies place value in a multi-digit number
	• Identifies equivalent names for numbers
	• Recalls addition and subtraction facts to 10.
	• Applies strategies to add and subtract 2 digit numbers
	• Describes relationships between days in a week and hours in a day.
	• Recognizes and counts coins to $1.00
	• Makes exchanges between coins and bill
	• Describes, models, and classifies geometric figures
	• Extends, describes, creates number patterns
	• Identifies patterns in counts and use the patterns to answer questions
	• Reads, writes, and explains expressions and number sentences using symbols +, -, = >,an <
	• Identifies and uses patterns on the number grid
	• Identifies the patterns and rules of various math problems
	• Applies appropriate strategies in problem solving
	• Creates story problems to match a given picture, model, or number sequence
	• Solves calendar reading problems
	• Associates a specific date with the name of the day
	Sample Assessments:
	• Student work
	  • Jem had 20 ten-dollar bills. How many hundred-dollar bills can she trade them for?
	• Exit slips
	  • What number is 1 more than 99?
	  • What number is 1 less than 600?
	  • What number is 10 more than 90?
	  • What number is 10 less than 300?
	  • What number is 100 more than 570?
	  • What number is 100 less than 149?
	• Game record sheets

Number and Operations in Base Ten 2.NBT *D. Understand place value.* 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:
	a. 100 can be thought of as a bundle of ten tens — called a "hundred."
	b. 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).
		• Student self-assessment
		• Writing prompts
		  • Pencils are packed 10 in a box. A classroom carton has 10 boxes.
		  • Jem has 1 carton and 4 boxes. How many pencils does Jem have all together?
		  • Lee needs to pack 370 pencils.How many boxes does Lee need?
		  • If Lee puts the boxes in cartons, how many cartons can he completely fill?
		  • Ms. Kato needs 10 pencils for each of her 26 students. If she can only buy boxes, how many boxes does she need?
		  • She finds out that it is cheaper to buy pencils in cartons. How many cartons should she buy? How many additional boxes will she need?
		• Math journals/Interactive Student Notebookscher observation
		• Beginning, Middle, End-of-Year assessments
		• Progress check written assessment
		• Class checklists

2.NBT.2	Count within 1000; skip-count by 5s, 10s, and 100s.	Interdisciplinary Connections: • Read and write math word problems involving addition and subtraction, money, time, or fractional parts of a whole • Read aloud books on place value: A Place for Zero by Angeline Spraragna Lopresti and Phyllis Hornung; One the Ball: Learning to Identify the Place Values of Ones and Tens (Math for the Real World: Early Emergent) by Autumn Leigh; math Fables: Lessons that Count by Greg Tang
2.NBT.3	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	
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.	
E.	*Use place value understanding and properties of operations to add and subtract.*	
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.	
		Technology Integration • PBS Arthur Media Literacy Activities www.pbs.org/parents/arthur/lesson/medialiteracy/index.html Media Literacy Integration • PBS Arthur Media Literacy Activities www.pbs.org/parents/arthur/lesson/medialiteracy/index.html

	Global Perspectives • Investigate money around the world • Investigate fact games around the world • Fundraising ideas 21st Century Skills: Creativity and Innovation • Create a new game to memorize facts • Create a shopping list and budget for a party Critical Thinking and Problem Solving • Create a new game to memorize facts • Create a shopping list and budget for a party Communication and Collaboration • Fundraising plan Information Literacy Media Literacy • PBS Arthur Media Literacy Activities www.pbs.org/parents/arthur/lesson/medialiteracy/index.html Life and Career Skills • What jobs use these skills? • How do your parents use these skills? 21st Century Themes (as applies to content area): Financial, Economic, Business, and Entrepreneurial Literacy

	Civic Literacy Health Literacy • Investigate the numbers/patterns that are important to our bodies

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The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. They should be infused throughout all mathematics concepts and units.
MP.1 Make sense of problems and persevere in solving them.
MP.2 Reason abstractly and quantitatively.
MP.3 Construct viable arguments and critique the reasoning of others.
MP.4 Model with mathematics
MP.5 Use appropriate tools strategically.
MP.6 Attend to precision
MP.7 Look for and make use of structure.
MP.8 Look for and express regularity in repeated reasoning

Unit Description: Marking Period 2
In the second marking period, 2nd grade mathematics work will focus on the following concepts: addition and subtraction of two-digit numbers, addition and subtraction of three-digit numbers, telling/writing time to the nearest 5 minutes, and counting money.

Standard Operations and Algebraic Thinking 2.OA Number and Operations in Base Ten 2.NBT Measurement and Data 2.MD
Big Ideas: *Course Objectives / Content Statement(s)* Operations and Algebraic Thinking 2.OA • *Represent and solve problems involving addition and subtraction.* • *Add and subtract within 20.* • *Work with equal groups of objects to gain foundations for multiplication.* Number and Operations in Base Ten 2.NBT • *Understand place value.* • *Use place value understanding and properties of operations to add and subtract numbers within 1,000.* Measurement and Data 2.MD • *Work with time and money.*

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<table>
<tr><th>Essential Questions
What provocative questions will foster inquiry, understanding, and transfer of learning?</th><th>Enduring Understandings
What will students understand about the big ideas?</th></tr>
<tr><td>• What information and strategies would you use to solve a multi-step word problem?
• How does understanding place value help you solve double digit addition and subtraction problems?
• How can I use what I know about tens and ones to add and subtract two-digit numbers?</td><td>Students will understand that…
• Understanding place value and number patterns can help solve problems
• Place value can be used to decompose numbers to find sums and differences</td></tr>
<tr><th>Areas of Focus: Proficiencies (CCSS)</th><th>Examples, Outcomes, Assessments</th></tr>
<tr><td>Students will:

Operations and Algebraic Thinking 2.OA
A. Represent and solve problems involving addition and subtraction.
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. (See Glossary)

Number and Operations in Base Ten 2.NBT
2.NBT.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.</td><td>Instructional Strategies:
• Identify the value of digits in multi-digit numbers
• Use strategies to mentally add and subtract
• Describe and solve comparison number stories
• Find the sum of two multi-digit numbers
• Solve multi-digit addition and subtraction problems
• Create equal sized groupings
• Use strategies to add and subtract two- and three-digit numbers

Sample Assessments:
• Student work
  • Result Unknown: There are 29 students on the playground. Then 18 more students showed up. How many students are there now? (29+18 = __)
  • Change Unknown: There are 29 students on the playground. Some more students show up. There are now 47 students. How many students came? (29+ __ = 47)
  • Start Unknown: There are some students on the playground. Then 18 more students came. There are now 47 students.</td></tr>
</table>

2.NBT.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.
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
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. (Explanations may be supported by drawings or objects.)
	How many students were on the playground at the beginning? (__ + 18 = 47)
	• Exit slips
	  • If you have 2 dimes and 3 pennies, how many cents do you have?
	• Game record sheets
	• Student self-assessment
	• Writing prompts
	  • In the number 687, what does the 6 represent? (600 or 6 hundreds) The 8? (80 or 8 tens) The 7? (7 ones)
	  • What are some possible combinations of coins (pennies, nickels, dimes, and quarters) that equal 37 cents?
	• Math journals/Interactive Student Notebooks
	  • Is 8 an even number? Prove your answer.
	• Record sheets
	• Teacher observation
	  • What are the next 3 numbers after 498? (499, 500, 501.) When you count back from 201, what are the first 3 numbers that you say? (200, 199, 198.)
	• Beginning, Middle, End-of-Year assessments
	• Progress check written assessment
	• Class checklists
	Interdisciplinary Connections
	• Create a class store to buy and sell items.
	• Survey classmates and adults about their favorite foods, graph and evaluate the data.
	• Read aloud books on place value: A Place for Zero by Angeline Spraragna Lopresti and Phyllis Hornung; One the Ball: Learning to Identify the Place Values of Ones and Tens (Math for the Real World: Early Emergent) by Autumn Leigh; math Fables: Lessons that Count by Greg Tang
	
	Technology Integration
	• http://nlvm.usu.edu/en/nav/category_g_1_t_1.html

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?	

	Media Literacy Integration • Find items for the class store in catalogs. Global Perspectives • Research money in different countries. 21st Century Skills: Creativity and Innovation Critical Thinking and Problem Solving Communication and Collaboration Information Literacy Media Literacy Life and Career Skills • What jobs use these skills? • How do your parents use these skills? 21st Century Themes (as applies to content area) Financial, Economic, Business, and Entrepreneurial Literacy Civic Literacy Health Literacy

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MP.5 Use appropriate tools strategically.
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MP.8 Look for and express regularity in repeated reasoning

Unit Description: Marking Period 3
In the third marking period, 2nd grade mathematics work will focus on the following concepts: reasoning with shapes and their attributes, representing and interpreting data, measuring and estimating length, and relating addition and subtraction to length.

Standard Measurement and Data 2.MD Geometry 2.G
Big Ideas: *Course Objectives / Content Statement(s)* Measurement and Data 2.MD • *Measure and estimate lengths in standard units.* • *Relate addition and subtraction to length.* • *Represent and interpret data.* • *Reason with shapes and their attributes.* Geometry 2.G • *Reason with shapes and their attributes.*

Summit Public Schools Summit, New Jersey
Grade Level: Grade 2
Content Area: Math

Essential Questions *What provocative questions will foster inquiry, understanding, and transfer of learning?*	**Enduring Understandings** *What will students understand about the big ideas?*
• What math patterns help me count, add, and subtract? • How do I use fractions in real life? • Why are standard units important to understand and use?	Students will understand that… • Mathematical patterns reflect that place value is based on ten • Fractions represent equal parts of a whole • Different fractions can name the same part of a whole. • Standard units provide accuracy.
Areas of Focus: Proficiencies (CCSS)	**Examples, Outcomes, Assessments**

Students will:
 	
Measurement and Data 2.MD
F. Measure and estimate lengths in standard units.
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
	Instructional Strategies:
	• Count up and back by 2s, 5s, and 10s
	• Identify patterns in skip counting
	• Solve addition and subtraction patterns with 3 numbers
	• Find and record patterns for doubling and halving
	• Collect and record data
	• Measure to the nearest inch
	• Compare fractional parts
	• Identify and write equivalent fractions
	• Find and compare linear measurements
	
	Sample Assessments:
	• Student work
	• Exit slips
	  • Look at your ruler to see how long one inch is. Now, estimate the length of this paper in inches.
	  • Determine the difference in length between two objects.
	• Game record sheets
	• Student self-assessment
	• Writing prompts
	  • In P.E. class Kate jumped 14 inches. Mary jumped 23 inches. How much farther did

difference in terms of a standard length unit.
G. Relate addition and subtraction to length.
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.
 	
H. Work with time and money.
2.MD.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately.
2.NBT.9 Explain why addition and subtraction strategies work, using place value and the properties of operations. (Explanations may be supported by drawings or objects.)
 	
I. Represent and interpret data.
2.MD.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and
	Mary jump than Kate? Write an equation and then solve the problem.
	• Math journals/Interactive Student Notebooks
	• Record sheets
	• Teacher observation
	  • Divide each rectangle into fourths a different way.
	  • Measure objects in your desk to the nearest inch, display data collected on a line plot. How many objects measured 2 inches? 3 inches? Which length had the most number of objects? How do you know?
	• Beginning, Middle, End-of-Year assessments
	• Progress check written assessment
	• Class checklists
	
	Interdisciplinary Connections
	• Research how numbers and patterns play a role in favorite extra-curricular activities (such as sports, dance, etc.)
	• Investigate and record physical fitness (such as long jump)
	• Create a book to teach others about fractions
	• Read aloud books about fractions: The Doorbell Rang by Pat Hutchins; My Half Day by Doris Fisher; Full House: An Invitation to Fractions by Dayle Ann Dodds; Fraction Action by Loreen Leddy; Inchworm and A Half by Elinor J. Pinczes
	
	Technology Integration
	• http://www.sciencenewsforkids.org/category/mathtech/mathematics/
	• Create new fraction activities on SMART Notebook
	
	Media Literacy Integration
	• Read articles and highlight the connections they have to math - http://www.sciencenewsforkids.org/category/mathtech/mathematics/
	• Write an article about why it's important not to be afraid of math
	
	Global Perspectives

compare problems (See Glossary) using information presented in a bar graph. Geometry 2.G *J. Reason with shapes and their attributes.* 2.G.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them. 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.	• Research the adult to child ratio in other countries and compare the fractions. 21st Century Skills: Creativity and Innovation Critical Thinking and Problem Solving • Communication and Collaboration Information Literacy Media Literacy Life and Career Skills 21st Century Themes (as applies to content area): Financial, Economic, Business, and Entrepreneurial Literacy Civic Literacy Health Literacy

Summit Public Schools Summit, New Jersey
Grade Level: Grade 2
Content Area: Math

Grade 2 - Math Enrichment

Egg Carton Math • Topic 5
Create a place value chart out of an egg carton to help your classmates understand thousands, hundreds, tens and ones.
Even Odds Topic 5
Brainstorm ten things that are always an even number such as a dozen, six packs of juice, etc. Then brainstorm ten things that are always an odd number such as the number of stripes on the United States flag, days in a week, etc. Based on the number of letters, make a list of even and odd words (don't forget student's names). What makes an "odd" month? How many times each day is the big hand on an odd number?
Sums Topic 6
Choose a phone number from the phone book that meets your goal or students may choose their own home phone number. Use mental math and other strategies (doubles, make tens) to estimate whether the sum will be greater than or less than 20 (or 25, 30 or some other number) and if the sum will be odd or even. Use connecting cubes to represent the numbers.
Amounts Alphabet • Topics 13, 14 & 15
Students can create an alphabet book using amounts with the each initial letter being a letter of the alphabet. Amounts may follow a theme, such as food: a Cup of carrots, a Dozen donuts, Eight eggs, Four frankfurters, a Gallon of Gatorade, etc.

Concept or Chapter	Resources for Enrichment
First Day Activity: 2.G.1,2,3. Students make different shapes with a pipe cleaner or piece of string. Measure the length of a gummy worm. Stretch as much as possible without breaking and measure again. Find the difference.	http://www.k-5mathteachingresources.com/support-files/when-a-line-bends.pdf When a Line Bends...A Shape Begins, Rhonda Gowler Greene. http://www.k-5mathteachingresources.com/support-files/gummy-worm-stretch.pdf Gummy Worm Stretch!
2.OA.B2, 2.NBT.5, 2.NBT.9 Students complete the scrambled addition table using properties of operations and the relationship between addition and subtraction.	Addition Mix Up, Getting Smarter Everyday, Book A, p.73. (attached)

Totality is a game for building fluency in addition as well as game strategy.	Totality, nrich.maths.org/1216/note
2.MD.1,2,3,4,7 Students play a game to build fluency with telling time. Students participate in a series of measurement "events". Read or listen to a story about measuring with non-standard units.	http://nrich.maths.org/6071 Stop the Clock! https://www.georgiastandards.org/Georgia-Standards/Frameworks/2nd-Math-Unit-3.pdf (See: Measurement Olympics) http://www.education.com/games/interactive-stories/math/ Muggo's Raft
Create a picture dictionary for 5 common fractions.	Basic Fractions,Differentiating Instruction with Menus, Westphal, p.72-4 (attach picture rubric)
Each fishbowl has two kinds of fish. Draw a solution and share with your group.	Two Fish Bowls, Family Math for Young Children, p.78-9. (attach)

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Concept or Chapter	Resources for Support
Number Sense and Place Value	
Chapter 1: Number Concepts	Number Ninja: odd or even http://www.abcya.com/number_ninja_odd_even.htm Number Grid Fireworks: http://www.abcya.com/100_number_grid.htm Base Ten Fun: http://www.abcya.com/base_ten_fun.htm http://www.k-5mathteachingresources.com/support-files/even-odd-scoop.pdf http://www.k-5mathteachingresources.com/support-files/even-odd-song.pdf
Chapter 2: Numbers to 1,000	Base Ten Bingo: http://www.abcya.com/base_ten_bingo.htm Trade to 100: http://www.abcya.com/math_match.htm http://www.k-5mathteachingresources.com/support-files/number-writing-barrier-game.pdf
Addition and Subtraction	
Chapter 3: Basic Facts and Relationships	Complements of 10 song: https://www.youtube.com/watch?v=6bQKiMm-IEU Fact Family Houses: http://lifeofahomeschoolmom.com/2015/06/free-fact-family-math-worksheets/ Math Match: http://www.abcya.com/math_match.htm
Chapter 4: 2-Digit Addition	Two Digit Addition Showdown: queenofthefirstgradejungle.blogspot.com http://www.k-5mathteachingresources.com/support-files/close-to-100.pdf http://www.k-5mathteachingresources.com/support-files/base-10-bag-addition.pdf
Chapter 5: 2-Digit Subtraction	Double Digit Subtraction Game: http://homeschool.rebeccareid.com/2014/09/30/double-digit-subtraction-card-game/

	Subtraction Poem: http://sdempsey.weebly.com/parenteducators-blog/subtraction-poem http://www.k-5mathteachingresources.com/support-files/close-to-zero-ver.1.pdf
Chapter 6: 3-Digit Addition and Subtraction	Drag and Drop Math: http://mrnussbaum.com/drag-and-drop-math/ Take it Away: Mailbox Independent Practice p. 59 http://www.k-5mathteachingresources.com/support-files/3-digit-subtraction-split.pdf http://www.k-5mathteachingresources.com/support-files/3-digit-addition-split.pd
Measurement and Data	
Chapter 7: Money and Time	Kaboom Money game: http://secondgradestyle.blogspot.com/2011/12/money-money-money.html Time Travel: http://www.abcya.com/telling_time.htm Number Patterns: http://www.abcya.com/number_patterns.htm Dolphin Feed: http://www.abcya.com/money_counting.htm
Chapter 8: Length in Customary Units	Inches Are A Cinch: http://firstgradewow.blogspot.com/search/label/measurement Measurement ideas: http://www.primaryjunction.net/2013/04/second-grade-common-core-measurement.html?utm_source=feedburner&utm_medium=email&utm_campaign=Feed:+PrimaryJunction+(Primary+Junction) http://www.k-5mathteachingresources.com/support-files/measuring-strips.pdf
Chapter 9: Length in Metric Units	Customary and Metric Flip Book: http://melissa-wade.blogspot.com/2015/04/metric-vs-customary-flipbook.html

	http://www.k-5mathteachingresources.com/support-files/estimating-centimeter-measures.pdf
Chapter 10: Data	Fuzz Bugs Graphing: http://www.abcya.com/fuzz_bugs_graphing.htm On The Letter: Mailbox Independent Practice p. 35/81 http://www.k-5mathteachingresources.com/support-files/measurement-line-plot.pdf http://www.k-5mathteachingresources.com/support-files/button-bar-graph.pdf
Geometry and Fractions	
Chapter 11: Geometry and Fraction Concepts	Virtual Manipulatives: abcya.com/fraction_decimals_percents Shapes Construction: http://www.abcya.com/shapes_geometry_game.htm http://www.k-5mathteachingresources.com/support-files/comparing-polygons.pdf http://www.k-5mathteachingresources.com/support-files/mr-zeds-cakes.pdf