1st Grade Mathematics – Scope and Sequence – MSD of Pike Township

Purpose Statement

The purpose of this scope and sequence document is to ensure that MSD of Pike Township has a viable and guaranteed Mathematics curriculum. It is meant to provide the foundational skills, strategies, and concepts necessary for our students to leave Pike Township college and career ready. Please remember that this scope and sequence is based on the Indiana Academic Standards and the typical progress of students. Use your professional judgment when addressing the individual needs of your students. If you need to shorten or lengthen a unit, then do so based on mastery of standards, evidence from your classroom assessments and professional observations. Always consider the students' need and interest as well as social studies and science content area topics to guide your units of study. Collaborate with your instructional coach and school librarian to plan and implement the units of study, mini-lesson ideas, and instructional resources.

Components Included in the Scope and Sequence

Mathematics Content

As you work with your students, please remember the following:

- *Students are expected to **apply** the math they previously learned as they progress through the year and to the next level.*
- *Math content builds on previous lessons and years, but students learn in many different ways and take many different paths to learn concepts. Provide students with many opportunities throughout your day to tackle and master math content in their world (i.e. calendar work or community circle).*
- *The workshop model for Reading and Writing is applicable to Mathematics as well. Use your knowledge of creating mini-lessons, allowing for independent and collaborative work time (problem solving), small group instruction, conferring, etc. to guide your math instruction.*
- *All students are mathematicians. Find ways to allow our students to make true connections with math content.*
- *Math instruction should incorporate reading and writing daily.*

Process Standards for Mathematics

As you work with your students, please remember the following:

- *The Process Standards for Mathematics are the "how" when delivering mathematics instruction.*
- *The Process Standards for Mathematics rely on students communicating with each other about mathematics in order to learn mathematics.*
- *The **Process Standards for Mathematics** are expected student behaviors.*
  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.***

Number Work

As you work with your students, please remember the following:

- Number work is a crucial foundational piece for all mathematicians to develop a fluid understanding for future concepts.
- Number work builds each of the following skills within number sense: number meaning, number relationships, number magnitude, operations involving numbers, and referents for numbers and quantities.
  - Mathematicians who develop good number sense through number work are more likely to be successful and confident in the following activities: mental calculation; computational estimation; judging the relative magnitude of numbers; recognizing part-whole relationships and place value concepts; and problem solving. (https://nrich.maths.org/2477)
- Fluency expectations:
  - ***Fluently Add and Subtract within 20.***
  - ***Count to at least 120 by ones, fives, and tens from any given number.***

Each Component Includes:

Essential Goals	Priority Standards	Strategies/Skills	Academic Vocabulary	Instructional Resources	Scaffolding Support
These goals define the necessary habits, skills, and dispositions we want students to know and be able to do when the unit is completed.	The Indiana Academic Standards listed represent the priority standards for the unit. Other standards may be taught explicitly or implicitly.	The strategy and skill focus gives guidance for mini-lesson topics and ideas. It also gives ideas for teaching strategies you might rely upon for instruction. The goal is for students to gain understanding of these skills/strategies by the end of the unit.	Academic vocabulary includes the words that are needed to understand the content. You will also teach other vocabulary throughout the rest of your day.	Professional and mentor text ideas are suggested in this section. Additionally, this is where you will find your connection to the Go Math resources. Ask your school librarian and/or instructional coach for assistance in this area also!	Ideas for scaffolding support for striving mathematicians, English learners and Exceptional Learners are provided. Please use your available resources to differentiate for students. Ask your building resource teachers for assistance if needed.

	Quarter 1 Intro to Number Sense (Introducing/Naming)	Quarter 2 Practicing Number Sense (Relationship)	Quarter 3 Using Number Sense (Understanding)	Quarter 4 Extending Number Sense (Application)
1.NS.1	• Begin to count to at least 50 by ones, fives, and tens from any given number. • Read and write numerals. • Represent a number of objects with a written numeral.	• Count to at least 100 by ones, fives, and tens from any given number. • Read and write numerals. • Represent a number of objects with a written numeral.	• Count to at least 120 by ones, fives, and tens from any given number. • Read and write numerals. • Represent a number of objects with a written numeral.	• Count to at least 120 by ones, fives, and tens from any given number. • Read and write numerals. • Represent a number of objects with a written numeral.
1.NS.2	• Begin to understand that 10 can be thought of as a group of ten ones — called a “ten." • Begin to understand that the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. • Begin to understand that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).	• Understand that 10 can be thought of as a group of ten ones — called a “ten." • Understand that the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. • Understand that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).	• Begin to understand that 10 can be thought of as a group of ten ones — called a “ten." • Understand that the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. • Understand that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).	• Begin to understand that 10 can be thought of as a group of ten ones — called a “ten." • Understand that the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. • Understand that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
1.NS.3	• Begin to match the ordinal numbers first, second, third, etc., with an ordered set up to 10 items.	• Match the ordinal numbers first, second, third, etc., with an ordered set up to 10 items.	• Match the ordinal numbers first, second, third, etc., with an ordered set up to 10 items.	• Match the ordinal numbers first, second, third, etc., with an ordered set up to 10 items.
1.NS.4			• Begin to use place value understanding to compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.	• Use place value understanding to compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.
1.NS.5	• Begin to find mentally 10 more or 10 less than a given two-digit number without having to count, and explain the thinking process used to get the answer.	• Find mentally 10 more or 10 less than a given two-digit number without having to count, and explain the thinking process used to get the answer.	• Find mentally 10 more or 10 less than a given two-digit number without having to count, and explain the thinking process used to get the answer.	• Find mentally 10 more or 10 less than a given two-digit number without having to count, and explain the thinking process used to get the answer.
1.NS.6	• Begin to show equivalent forms of whole numbers as groups of tens and ones. • Begin to understand that the individual digits of a two-digit number represent amounts of tens and ones.	• Practice showing equivalent forms of whole numbers as groups of tens and ones. • Understand that the individual digits of a two-digit number represent amounts of tens and ones.	• Show equivalent forms of whole numbers as groups of tens and ones. • Understand that the individual digits of a two-digit number represent amounts of tens and ones.	• Practice showing equivalent forms of whole numbers as groups of tens and ones. • Understand that the individual digits of a two-digit number represent amounts of tens and ones.

	Quarter 1 Intro to Computation and Algebraic Thinking (Introducing/Naming)	Quarter 2 Practicing Computation and Algebraic Thinking (Relationship)	Quarter 3 Using Computation and Algebraic Thinking (Understanding)	Quarter 4 Extending Computation and Algebraic Thinking (Application)
1.CA.1	• Use strategies for addition such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).	• Begin to demonstrate fluency with addition facts and the corresponding subtraction facts within 20. • Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). • Understand the role of 0 in addition and subtraction.	• Demonstrate fluency with addition facts and the corresponding subtraction facts within 20. • Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). • Understand the role of 0 in addition and subtraction.	• Demonstrate fluency with addition facts and the corresponding subtraction facts within 20. • Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). • Understand the role of 0 in addition and subtraction.
1.CA.2	• Solve real-world problems involving addition and subtraction within 20 in situations of adding to, taking from, putting together, taking apart, and comparing • Begin to include situations with unknowns in all parts of the addition or subtraction problem (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).	• Solve real-world problems involving addition and subtraction within 20 in situations of adding to, taking from, putting together, taking apart, and comparing • Continue including situations with unknowns in all parts of the addition or subtraction problem (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).	• Solve real-world problems involving addition and subtraction within 20 in situations of adding to, taking from, putting together, taking apart, and comparing • Include situations with unknowns in all parts of the addition or subtraction problem (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).	• Solve real-world problems involving addition and subtraction within 20 in situations of adding to, taking from, putting together, taking apart, and comparing • Include situations with unknowns in all parts of the addition or subtraction problem (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).
1.CA.3		• Begin to create real-world problems to represent a given equation involving addition and subtraction within 20.	• Practice creating real-world problems to represent a given equation involving addition and subtraction within 20.	• Create real-world problems to represent a given equation involving addition and subtraction within 20.
1.CA.4		• Begin to solve real-world problems that call for addition of three whole numbers whose sum is within 20 (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).	• Practice solving real-world problems that call for addition of three whole numbers whose sum is within 20 (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).	• Solve real-world problems that call for addition of three whole numbers whose sum is within 20 (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).
1.CA.5	• Add within 20, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; describe the strategy and explain the reasoning used. • Understand that in adding two-digit numbers, one adds tens and tens, ones and ones, and that sometimes it is necessary to compose a ten.	• Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; describe the strategy and explain the reasoning used. • Understand that in adding two-digit numbers, one adds tens and tens, ones and ones, and that sometimes it is necessary to compose a ten.	• Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; describe the strategy and explain the reasoning used. • Understand that in adding two-digit numbers, one adds tens and tens, ones and ones, and that sometimes it is necessary to compose a ten.	• Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; describe the strategy and explain the reasoning used. • Understand that in adding two-digit numbers, one adds tens and tens, ones and ones, and that sometimes it is necessary to compose a ten.
1.CA.6		• Begin to understand the meaning of the equal sign • Begin to determine if equations involving addition and subtraction are true or false (e.g., Which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2).	• Understand the meaning of the equal sign. • Determine if equations involving addition and subtraction are true or false (e.g., Which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2).	• Understand the meaning of the equal sign. • Determine if equations involving addition and subtraction are true or false (e.g., Which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2).

1.CA.7	• Create, extend, and give an appropriate rule for number patterns using addition within 20.	• Create, extend, and give an appropriate rule for number patterns using addition within 100.	• Create, extend, and give an appropriate rule for number patterns using addition within 100.	• Create, extend, and give an appropriate rule for number patterns using addition within 100.

	Quarter 1 **Intro to Geometry** **(Introducing/Naming)**	**Quarter 2** **Practicing Geometry** **(Relationship)**	**Quarter 3** **Using Geometry** **(Understanding)**	**Quarter 4** **Extending Geometry** **(Application)**
1.G.1	• Use pattern blocks to introduce basic two dimensional shapes.	• Use pattern blocks to review basic two dimensional shapes.	• Use pattern blocks to review basic two dimensional shapes.	• Identify, classify, and sort two-dimensional and three-dimensional objects by shape, size, roundness and other attributes. • Describe how two-dimensional shapes make up the faces of three-dimensional objects.
1.G.2				• Distinguish between defining attributes of two- and three-dimensional shapes (e.g., triangles are closed and three-sided) versus non-defining attributes. • Create and draw two-dimensional shapes with defining attributes.
1.G.3				• Use two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape. • Compose new shapes from the composite shape. [In grade 1, students do not need to learn formal names such as "right rectangular prism."]
1.G.4				• Partition circles and rectangles into two and four equal parts. • Describe the parts using the words halves, fourths, and quarters; and use the phrases half of, fourth of, and quarter of. • Describe the whole as two of, or four of, the parts. • Understand for partitioning circles and rectangles into two and four equal parts that decomposing into equal parts creates smaller parts.

	Quarter 1 Intro to Measurement (Introducing/Naming)	Quarter 2 Practicing Measurement (Relationship)	Quarter 3 Using Measurement (Understanding)	Quarter 4 Extending Measurement (Application)
1.M.1				• Use direct comparison or a nonstandard unit to compare and order objects according to length, area, capacity, weight, and temperature.
1.M.2				• Tell and write time to the nearest half-hour and relate time to events (before/after, shorter/longer) using analog clocks. Understand how to read hours and minutes using digital clocks.
1.M.3	• Identify pennies, nickels, and dimes. • Identify the value of a collection of like coins.	• Identify the value of a collection of like coins • Identify the value of a collection of two types of coins.	• Identify the value of a collection of like coins • Identify the value of a collection of two types of coins.	• Identify the value of a collection of pennies, nickels, and dimes.

	Quarter 1 Intro to Data Analysis (Introducing/Naming)	Quarter 2 Practicing Data Analysis (Relationship)	Quarter 3 Using Data Analysis (Understanding)	Quarter 4 Extending Data Analysis (Application)
1.DA.1		• Begin to organize and interpret data with up to three choices (What is your favorite fruit? apples, bananas, oranges); • Begin to ask and answer questions about the total number of data points, how many in each choice, and how many more or less in one choice compared to another.	• Practices organizing and interpreting data with up to three choices (What is your favorite fruit? apples, bananas, oranges); • Practice asking and answering questions about the total number of data points, how many in each choice, and how many more or less in one choice compared to another.	• Organize and interpret data with up to three choices (What is your favorite fruit? apples, bananas, oranges); • Ask and answer questions about the total number of data points, how many in each choice, and how many more or less in one choice compared to another.

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Quarter 1 Weeks 1 – 4	Essential Goals	Priority Standards	Strategies/Skills	Academic Vocabulary	Possible Instructional Resources	Differentiation
Unit 1: Introducing your Math Block and Building Foundations **Understanding the Value of 10.**	• Mathematicians write and talk about their thinking. • Mathematicians show their work. • Mathematicians ask questions of themselves, others and the world around them. • Mathematicians find math ideas in their world. • Mathematicians understand that numbers can be manipulated and understood in a way that makes sense to them. • Mathematicians understand the importance of the number ten in the number system. • Mathematicians find patterns based on the number ten. • Mathematicians make groups of 10 from ten ones.	1.NS.1 1.NS.2 1.NS.3 1.NS.5 1.NS.6 1.G.1 1.M.3	• Introduce procedures and routines. • Help students to see they are mathematicians. • Get students writing and talking about math. • Reinforce there are multiple ways to find solutions to problems. • Count on from any number by ones. • Match ordinal numbers with an ordered set up to 10 items. • Introduce and describe pattern blocks and other manipulatives. • Skip count by ten. • Understand that ten can be thought of as a group of ten ones called a "ten" • Understand that numbers 11 to 19 are composed of a ten and ___ ones (i.e. 15 is composed of a ten and five ones). • Begin to notice patterns when finding 10 more or 10 less. • Introduce penny, nickel and dime	eighth explain fifth first fourth manipulatives mathematician ninth order procedures routines second seventh sixth strategies tenth third	**"First 20 Days"** resources/examples/ideas on P: Drive **Weeks of Inspirational Math** https://www.youcubed.org/week-inspirational-math/ **Math and Literature K-1 by Marilyn Burns & Stephanie Sheffield** **Math Reads: Making Math the Story** Daily Numbers (strategies for displaying these numbers) Where do you see numbers and why are they important? **Learning Math in the Primary Grades (Madison MSD)** https://math.madison.k12.wi.us/files/math/LMPGcomplete.pdf **Mentor Text(s)** Ten Black Dots (Donald Crews) Ten Little Monkeys (Eileen Cristelow) Ten, Nine, Eight (Molly Bang) Ten on a Sled (Kim Norman) 1,2,3 to the Zoo (Eric Carle) One of Each (Mary Anne Hoberman) One (Kathryn Otoshi) Count and See (Tana Hoban) Let's Count (Tana Hoban) 123 NYC: A Counting Book of New York City (Joanne Dugan)	**Spiral Review:** K.NS.3, K.NS.4, K.NS.11 **Prerequisite Skills:** • Represent numbers 1 – 4 • Count 0 – 10 objects and write the number counted. **Scaffolding Support (EL; SPED; Striving Learners):** • Go Math: differentiation materials • Open ended problems with multiple entry points • Written instructions • Small group instruction • Graphic Organizers • Manipulatives • Encourage multiple ways to solve problems • Provide models of finished products • Provide picture support • Ask all students to show their strategies while explaining • Send home games to practice specific skills
Process Standards for Mathematics	• Mathematicians progress from concrete to pictorial to more abstract reasoning. • Mathematicians strategically choose tools to solve problems. • Mathematicians look closely to discern a pattern or structure for the base-ten number system.	PS. 2 PS. 5 PS. 7	• Make connections and find patterns between different forms of numbers (standard form, expanded form, word form, decomposed, etc.). • Use number lines, fact families, place value charts and other tools to make sense of the structure of the number system. Explain how the tool helped to make connections.			
Number Work	• Mathematicians gain understanding with number meaning, number relationships, number magnitude, operations involving numbers, and referents for numbers and quantities.	K.NS.1 K.NS.2 K.NS.6 K.NS.11	• Count to 100 by ones and tens. • Recognize number sets from 1 – 10 in pattered arrangements and tell how many without counting (subitizing) • Recognize number words from 1 – 10 • Show equivalent forms of whole numbers from 10 – 20 as groups of tens and ones using objects or drawings			

1.NS.1: Count to at least 120 by ones, fives, and tens from any given number. In this range, read and write numerals and represent a number of objects with a written numeral.
1.NS.2: Understand that 10 can be thought of as a group of ten ones — called a "ten." Understand that the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. Understand that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
1.NS.3: Match the ordinal numbers first, second, third, etc., with an ordered set up to 10 items.
1.G.1: Identify objects as two-dimensional or three-dimensional. Classify and sort two-dimensional and three-dimensional objects by shape, size, roundness and other attributes. Describe how two-dimensional shapes make up the faces of three-dimensional objects..
1.M.3: Identify the value of a penny, nickel, dime and a collection of pennies, nickels, and dimes.

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Quarter 1 Weeks 5 – 9	Essential Goals	Priority Standards	Strategies/Skills	Academic Vocabulary	Possible Instructional Resources	Differentiation
Unit 2: **Number Concepts**	• Mathematicians find patterns based on the number ten. • Mathematicians use multiple strategies to add and subtract numbers within 20. • Mathematicians solve problems involving addition and subtraction and explain their reasoning • Mathematicians make groups of 10 from ten ones. • Mathematicians use like coins to make ten or twenty.	1.NS.3 1.CA.1 1.CA.2 1.CA.5 Additional focus: 1.NS.1 1.NS.2 1.NS.5 1.CA.7 1.M.3	• Skip count by five and ten. • Understand that ten can be thought of as a group of ten ones called a "ten". • Understand that numbers 11 to 19 are composed of a ten and ___ ones (i.e. 15 is composed of a ten and five ones). • Match ordinal numbers (first, second, third, etc.) with an ordered set up to 10 items. • Begin to notice patterns when finding 10 more or 10 less. • Add and subtract numbers within 20, using multiple strategies. • Understand the role of 0 in addition and subtraction. • Solve real world problems involving addition and subtraction within 10. • Introduce problems that have unknowns in all parts of the addition or subtraction problem to make ten or twenty. • Create and extend number patterns using addition of ten. • Introduce penny, nickel and dime. • Make ten or twenty with like coins.	add add to addend difference eighth explain fewer fifth first fourth minus more ninth order ordinal numbers place value put together second seventh sixth strategies subtract compare subtraction sentence sum take apart take from teen numbers ten tenth third	**Go Math:** Chapters 1 & 2 IN Success Lessons: 1.0a **Math Stations** Shake the Beans Memory with Making Ten Bears in a Cave Hundreds Chart Cut Up **Good Questions for Math Teaching** Place Value p. 33 – 34 **Learning Math in the Primary Grades (Madison MSD)** https://math.madison.k12.wi.us/files/math/LMPGcomplete.pdf **Everyday Mathematics Teacher's Guide to Games** **Math and Literature K-1 by Marilyn Burns & Stephanie Sheffield** **Math Reads: Making Math the Story** **Mastering the Basic Math Facts in Addition and Subtraction** **Mentor Text(s)** Ten Black Dots (Donald Crews) Ten Little Monkeys (Eileen Cristelow) Ten, Nine, Eight (Molly Bang) Ten on a Sled (Kim Norman) 1,2,3 to the Zoo (Eric Carle) One of Each (Mary Anne Hoberman) One (Kathryn Otoshi)	**Spiral Review:** K.NS.3, K.NS.4, K.NS.11, 1.NS.2, 1.NS.6 **Prerequisite Skills:** • Represent numbers 1 – 4 • Count 0 – 10 objects and write the number counted. • Use pictures to subtract **Scaffolding Support (EL; SPED; Striving Learners):** • Go Math: differentiation materials • Open ended problems with multiple entry points • Written instructions • Small group instruction • Graphic Organizers • Manipulatives • Encourage multiple ways to solve problems • Provide models of finished products • Provide picture support • Ask all students to show their strategies while explaining • Send home games to practice specific skills
Process Standards for Mathematics	• Mathematicians make sense of problems and persevere in solving them. • Mathematicians use estimation to decide if answers are reasonable. • Mathematicians look for patterns to uncover the relationship between addition and subtraction.	PS.1 PS.3 PS.7	• Provide contextual problems and time to solve real problems that involve adding and subtracting whole numbers. • Explore multiple strategies for adding and subtracting numbers to help make sense of different strategies and contexts. • Write and evaluate addition and subtraction equations for contextual problems, relating the solution(s) back to the original context.			
Number Work	• Mathematicians gain understanding with number meaning, number relationships, number magnitude, operations involving numbers, and referents for numbers and quantities.	1.NS.1 1.NS.5 1.NS.6	• Count by fives and tens • Recognize number sets from 1 – 20 in pattered arrangements and tell how many without counting (subitizing) • Mentally find 10 more than a given 2-digit number and explain the reasoning • Show equivalent forms of whole numbers			

1.NS.1: Count to at least 120 by ones, fives, and tens from any given number. In this range, read and write numerals and represent a number of objects with a written numeral.
1.NS.2: Understand that 10 can be thought of as a group of ten ones — called a "ten." Understand that the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. Understand that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
1.NS.3: Match the ordinal numbers first, second, third, etc., with an ordered set up to 10 items.
1.NS.5: Find mentally 10 more or 10 less than a given two-digit number without having to count, and explain the thinking process used to get the answer.
1.CA.1: Demonstrate fluency with addition facts and the corresponding subtraction facts within 20. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). Understand the role of 0 in addition and subtraction.1.CA.2: Solve real-world problems involving addition and subtraction within 20 in situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all parts of the addition or subtraction problem (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).
1.CA.5: Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; describe the strategy and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones, and that sometimes it is necessary to compose a ten.
1.CA.7: Create, extend, and give an appropriate rule for number patterns using addition within 100.
1.M.3: Identify the value of a penny, nickel, dime and a collection of pennies, nickels, and dimes.

1st Grade Mathematics – Scope and Sequence – MSD of Pike Township

Quarter 2 Weeks 10 – 14	Essential Goals	Priority Standards	Strategies/Skills	Academic Vocabulary	Possible Instructional Resources	Differentiation
Unit 3: Addition and Subtraction	• Mathematicians understand that there are multiple strategies for adding and subtracting numbers. • Mathematicians represent and solve problems involving addition and subtraction and explain their reasoning. • Mathematicians organize, represent, and interpret data to solve problems.	1.CA.1 1.CA.2 1.CA.3 1.CA.4 1.CA.6 Additional focus: 1.NS.2 1.DA.1 1.CA.7 1.M.3	• Add and subtract numbers within 20, using multiple strategies. • Solve real world problems involving addition and subtraction within 20. • Introduce problems that have unknowns in all parts of the addition or subtraction problem. • Use shapes as manipulatives for representing addition and subtraction. • Use addition to find the value of two different types of coins. • Create a real-world addition problem related to coins. • Create a real world problem to represent an addition or subtraction equation. • Solve addition problems involving up to three whole numbers. • Understand the meaning of the equal sign (it does not always mean the answer comes next). • Create and extend and explain number patterns using addition within 100. • Organize and interpret data with up to three choices. • Ask and answer questions about the number of data points, how many in each choice.	add addends addition category count back count on data difference dimes doubles equal sign equivalent explain graph justify make ten nickels pennies place value reason related facts strategies subtract subtraction sum take away ten frame word problems	**Go Math:** Chapters 3, 4, & 5 IN Success Lessons: 5.1a **Questions to Consider:** • How many in each category? • Which is more/less? How do you know? • Why is skip counting important? **Good Questions for Math Teaching (K-6)** Operations p. 40 – 43 **Learning Math in the Primary Grades (Madison MSD)** https://math.madison.k12.wi.us/files/math/LMPGcomplete.pdf **Everyday Mathematics Teacher's Guide to Games** **Math and Literature K-1 by Marilyn Burns & Stephanie Sheffield** **Math Reads: Making Math the Story** **Mastering the Basic Math Facts in Addition and Subtraction** **Mentor Text(s)** Leomonade for Sale (Stuart Murphy) The Great Graph Contest (Loreen Leedy) Graphs (Bonnie Badder) Carnival Coins, How will we Count our Money? By Donna Loughran The Coin Counting Book by Rozanne Williams The Penny Pot by Stuart Murphy	**Spiral Review:** 1.M.3, 1.NS.2, 1.NS.6 **Prerequisite Skills:** • Model addition and subtraction with objects and symbols • Understand and use the commutative property of addition • Understand the role of 0 in addition and subtraction **Scaffolding Support (EL; SPED; Striving Learners):** • Go Math: differentiation materials • Open ended problems with multiple entry points • Written instructions • Small group instruction • Graphic Organizers • Manipulatives • Encourage multiple ways to solve problems • Provide models of finished products • Provide picture support • Ask all students to show their strategies while explaining • Send home games to practice specific skills
Process Standards for Mathematics	• Mathematicians make sense of problems and persevere in solving them. • Mathematicians use estimation to decide if answers are reasonable. • Mathematicians look for patterns to uncover the relationship between addition and subtraction.	PS.1 PS.3 PS.7	• Provide contextual problems and time to solve real problems that involve adding and subtracting whole numbers. • Explore multiple strategies for adding and subtracting numbers to help make sense of different strategies and contexts. • Write and evaluate addition and subtraction equations for contextual problems, relating the solution(s) back to the original context.			
Number Work	• Mathematicians gain understanding with number meaning, number relationships, number magnitude, operations involving numbers, and referents for numbers and quantities.	1.NS.1 1.NS.5 1.NS.6	• Count by ones, fives and tens • Recognize number sets from 1 – 20 in pattered arrangements and tell how many without counting (subitizing) • Mentally find 10 more or 10 less than a given 2-digit number and explain the reasoning • Show equivalent forms of whole numbers			

1.CA.1: Demonstrate fluency with addition facts and the corresponding subtraction facts within 20. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). Understand the role of 0 in addition and subtraction.
1.CA.2: Solve real-world problems involving addition and subtraction within 20 in situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all parts of the addition or subtraction problem (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).
1.CA.3: Create a real-world problem to represent a given equation involving addition and subtraction within 20.
1.CA.4: Solve real-world problems that call for addition of three whole numbers whose sum is within 20 (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).
1.CA.6: Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false (e.g., Which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2).
1.CA.7: Create, extend, and give an appropriate rule for number patterns using addition within 100.
1.NS.2: Understand that 10 can be thought of as a group of ten ones — called a "ten." Understand that the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. Understand that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
1.M.3: Identify the value of a penny, nickel, dime and a collection of pennies, nickels, and dimes.
1.DA.1: Organize and interpret data with up to three choices (What is your favorite fruit? apples, bananas, oranges); ask and answer questions about the total number of data points, how many in each choice, and how many more or less in one choice compared to another.

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Quarter 2 Weeks 15 – 18	Essential Goals	Priority Standards	Strategies/Skills	Academic Vocabulary	Possible Instructional Resources	Differentiation
Unit 4: Measurement and Data	• Mathematicians know the value of pennies, nickels and dimes. • Mathematicians count by ones (pennies), fives (nickels) and tens (dimes) up to 100. • Mathematicians precisely communicate about the roles of the different parts of a clock. • Mathematicians use clocks in their everyday life. • Mathematicians relate time and money to skip counting • Mathematicians represent and interpret data. • Mathematicians understand express the length of an object as a whole number of non-standard length units.	1.NS.1 1.M.1 1.M.2 1.M.3 1.CA.3 1.CA.4 1.CA.5 1.DA.1	• Use skip counting to help with time and money. • Tell and write time to the nearest half-hour on analog clocks. • Find the value of a collection of coins using pennies, nickels and/or dimes. • Create a real-world problem based on coins to represent an addition or subtraction equation. • Use direct comparison to order objects by length, area, capacity, weight and temperature. • Use a nonstandard unit to compare and order objects by length, area, capacity, weight and temperature. • Use geometric figures and measurement data for data analysis. • Organize and interpret data with up to three choices • Ask and answer questions about data, including: total number of data points, how many in each choice, and how many more or less in one choice compared to another.	after analog clock area bar graph before capacity cent digital clock dime eleven fewer fewest geometric graph half hour half past heaviest hour hand least lightest long longer longest minute minute hand more most nickel nine penny picture graph reason short shorter shortest tally chart tally graph temperature ten thermometer twelve	**Go Math:** Chapters 9 &10 Additional IN lessons: 9.5a, 9.5b, 9.5c, 9.5d, 9.5e, 9.5f, 9.5g, 9.9a, 9.9b, 9.9c Questions to Consider: • How do you know? • How does skip counting help you with telling time or counting money? **Good Questions for Math Teaching (K-6)** Money p. 20 – 22 Time p. 61 – 63 **Learning Math in the Primary Grades (Madison MSD)** https://math.madison.k12.wi.us/files/math/LMPGcomplete.pdf **Everyday Mathematics Teacher's Guide to Games** **Math and Literature K-1 by Marilyn Burns & Stephanie Sheffield** **Math Reads: Making Math the Story** **Mastering the Basic Math Facts in Addition and Subtraction** **Mentor Text(s)** Bats Around the Clock by: Kathi Appelt It's About Time by: Stuart Murphy The Grouchy Ladybug by: Eric Carle What Time is it Mr. Crocodile by: Judy Sierra	**Spiral Review:** 1.CA.1, 1.CA.2, 1.M.3 **Prerequisite Skills:** • Compare objects to determine which is bigger or smaller • Compare lengths to determine which is longer or shorter • Write numbers 1 – 10 in order • Understand the terms "more" and "fewer" • Draw equal groups **Scaffolding Support (EL; SPED; Striving Learners):** • Go Math: differentiation materials • Open ended problems with multiple entry points • Written instructions • Small group instruction • Graphic Organizers • Manipulatives • Encourage multiple ways to solve problems • Provide models of finished products • Provide picture support • Ask all students to show their strategies while explaining • Send home games to practice specific skills
Process Standards for Mathematics	• Mathematicians create and use representations to organize, record, and communicate mathematical ideas. • Mathematicians use clocks (analog and digital) to assist in solving problems. • Mathematicians use structure of a clock to assist in skip counting. • Mathematicians find shortcuts to reading time from an analog clock. • Mathematicians use their knowledge of time to determine elapsed time. • Mathematicians precisely label money.	PS. 4 PS. 5 PS. 6 PS. 8	• Create and use data displays to organize and record n categorical data in meaningful ways. • Allow students to choose (and explain the reasoning behind the choice) tools, such as paper clocks, number lines, play money, real money, drawings, etc. to help them solve problems involving money and time. • Use precise language when discussing and explaining concepts in time and money. • Look for patterns and make generalizations about relationships on analog clocks. • Look for patterns and make generalizations about relationships between different forms of money.			
Number Work	• Mathematicians gain understanding with number meaning, number relationships, number magnitude, operations involving numbers, and referents for numbers and quantities.	1.NS.5 1.CA.1 1.CA.7	• Mentally find 10 more or 10 less than a given 2-digit number up to 90 and explain the though process used to get answer. • Use strategies such as counting on, making ten, decomposing a number, creating equivalent but known sums or using the relationship between addition and subtraction to fluently add and subtract numbers within 20. • Create, extend and give an appropriate rule for number patterns within 100.			

1.NS.1: Count to at least 120 by ones, fives, and tens from any given number. In this range, read and write numerals and represent a number of objects with a written numeral.
1.M.2: Tell and write time to the nearest half-hour and relate time to events (before/after, shorter/longer) using analog clocks. Understand how to read hours and minutes using digital clocks.
1.M.3: Identify the value of a penny, nickel, dime and a collection of pennies, nickels, and dimes.
1.CA.3: Create a real-world problem to represent a given equation involving addition and subtraction within 20.
1.CA.4: Solve real-world problems that call for addition of three whole numbers whose sum is within 20 (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).
1.CA.5: Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; describe the strategy and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones, and that sometimes it is necessary to compose a ten.
1.DA.1: Organize and interpret data with up to three choices; ask and answer questions about the total number of data points, how many in each choice, and how many more or less in one choice compared to another.

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Quarter 3 Weeks 19 – 23	Essential Goals	Priority Standards	Strategies/Skills	Academic Vocabulary	Possible Instructional Resources	Differentiation
Unit 5: Geometric Figures	• Mathematicians reason with shapes and their attributes. • Mathematicians recognize the differences between 2-D shapes and 3-D objects. • Mathematicians categorize objects based on attributes. • Mathematicians compare and order objects based on measurement attributes. ****2-D Shapes: rectangles, squares, trapezoids, triangles, half-circles, quarter circles.** ****3-D Shapes: Cubes, rectangular prisms, circular cones, cylinders**	1.G.1 1.G.2 1.G.3 1.G.4 1.M.1	• Identify, classify and sort two- and three-dimensional objects by shape, size, roundedness and other attributes. • Describe how two-dimensional shapes make up the faces of three-dimensional shapes. • Distinguish between defining and non-defining attributes of shapes. • Create and draw two-dimensional shapes with defining attributes. • Use shapes to create composite shapes. • Compose shapes from composite shapes • Partition circles and rectangles into two and four equal parts. • Understand how the decomposing circles and rectangles into equal parts creates smaller parts.	2-d shapes 3-d objects attributes categorize circle compose cone cube curbed surface cylinder decompose equal shares explain faces flat surface fourth of fourths half of halves hexagon part quarter of quarters reason rectangle rectangular prism shapes sides sphere square triangle unequal shares vertices whole	**Go Math:** Chapters 11 & 12 **Questions to Consider:** • How do you know? • What shape can you make from _____? • Where have you seen this shape? **Good Questions for Math Teaching (K-6)** Two-Dimensional Shapes p. 77 – 79 Three-Dimensional Shapes p. 84 – 85 Data p. 97 – 98 **Learning Math in the Primary Grades (Madison MSD)** https://math.madison.k12.wi.us/files/math/LMPGcomplete.pdf **Everyday Mathematics Teacher's Guide to Games** **Math and Literature K-1 by Marilyn Burns & Stephanie Sheffield** **Math Reads: Making Math the Story** **Mastering the Basic Math Facts in Addition and Subtraction** **Mentor Text(s)** So Many Circles, So Many Squares (Tana Hoban) If You Were a Polygon (Michael Dahl) The Greedy Triangle (Marilyn Burns) Shapes, Shapes, Shapes (Tana Hoban) A Cloak for a Dreamer (Aileen Friedman)	**Spiral Review:** 1.CA.1, 1.CA.2, 1.CA.6 **Prerequisite Skills:** • Distinguish between things that are alike and things that are different • Sort objects by size • Identify two and three-dimensional shapes **Scaffolding Support (EL; SPED; Striving Learners):** • Go Math: differentiation materials • Open ended problems with multiple entry points • Written instructions • Small group instruction • Graphic Organizers • Manipulatives • Encourage multiple ways to solve problems • Provide models of finished products • Provide picture support • Ask all students to show their strategies while explaining • Send home games to practice specific skills
Process Standards for Mathematics	• Mathematicians construct viable arguments and critique the reasoning of others. • Mathematicians use appropriate tools strategically. • Mathematicians use clear definitions when discussing and reasoning about geometric figures.	PS. 1 PS. 3 PS. 6	• Choose multiples strategies, manipulatives, and concrete models to solve problems. Explain why a tool was chosen. • Use precise vocabulary to describe and classify geometric figures. • Justify claims using mathematical arguments. • Politely defend or reject others' claims, using mathematical arguments.			
Number Work	• Mathematicians gain understanding with number meaning, number relationships, number magnitude, operations involving numbers, and referents for numbers and quantities.	1.NS.5 1.CA.1 1.CA.7	• Mentally find 10 more or 10 less than a given 2-digit number up to 90 and explain the though process used to get answer. • Use strategies such as counting on, making ten, decomposing a number, creating equivalent but known sums or using the relationship between addition and subtraction to fluently add and subtract numbers within 20. • Create, extend and give appropriate rule for number patterns within 100.			

1.G.1: Identify, classify and sort two-dimensional and three-dimensional objects by shape, size, roundness and other attributes. Describe how two-dimensional shapes make up the faces of three-dimensional objects.
1.G.2: Distinguish between defining attributes of two- and three-dimensional shapes (e.g., triangles are closed and three-sided) versus nondefining attributes. Create and draw two-dimensional shapes with defining attributes.
1.G.3: Use two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. [In grade 1, students do not need to learn formal names such as "right rectangular prism."]
1.G.4: Partition circles and rectangles into two and four equal parts; describe the parts using the words halves, fourths, and quarters; and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of, the parts. Understand for partitioning circles and rectangles into two and four equal parts that decomposing into equal parts creates smaller parts.
1.M.1: Use direct comparison or a nonstandard unit to compare and order objects according to length, area, capacity, weight, and temperature.

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Quarter 3 Weeks 24 – 27	Essential Goals	Priority Standards	Strategies/Skills	Academic Vocabulary	Possible Instructional Resources	Differentiation
Unit 6: Numbers Larger than 20	• Mathematicians extend the counting sequence starting at any number. • Mathematicians read, write and represent quantities to 99. • Mathematicians see patterns in number sequences.	1.NS.1 1.NS.2 1.NS.4 1.NS.5 1.NS.6 1.CA.7	• Count to at least 120 by ones, fives and tens. • Represent a number of objects with a written numeral • Understand that multiples of ten refers to sets of ten and 0 ones. (i.e. 20 is 2 tens) • Compare two digit numbers based on the meanings of tens and ones. • Use comparison symbols. • Find mentally 10 more or 10 less of a given two-digit number. • Show equivalent forms of numbers as groups of tens and ones. • Understand that the digits of a two-digit number represent amounts of tens and ones. • Create and extend and explain number patterns using addition within 100.	digit eight equal to (=) explain fewer five four greater than (>) hundreds less than (<) more nine number one ones place value same seven six strategies ten tens three two two-digit	**Go Math:** Chapters 6 &7 Additional IN lessons: 6.1a, 6.2a, 6.2b Questions to Consider: • Where do we see numbers in the world? • Why is counting important? • What kinds of things do we count? **Good Questions for Math Teaching (K-6)** Place Value p. 33 – 36 **Learning Math in the Primary Grades (Madison MSD)** https://math.madison.k12.wi.us/files/math/LMPGcomplete.pdf **Everyday Mathematics Teacher's Guide to Games** **Math and Literature K-1 by Marilyn Burns & Stephanie Sheffield** **Math Reads: Making Math the Story** **Mastering the Basic Math Facts in Addition and Subtraction** **Mentor Text(s)** 100 Hungry Ants (Bonnie MacKain) Lets Count to One Hundred (Masayuki Sebe) City by Numbers (Steven Johnson) Fish Eyes (Lois Ehlert) Chicka, Chicka 1,2,3 (Bill Martin Jr.)	**Spiral Review:** 1.DA.1, 1.M.3 **Prerequisite Skills:** • Make groups of ten • Count groups of objects up to 20 • Understand the terms "more" and "fewer" • Draw equal groups **Scaffolding Support (EL; SPED; Striving Learners):** • Go Math: differentiation materials • Open ended problems with multiple entry points • Written instructions • Small group instruction • Graphic Organizers • Manipulatives • Encourage multiple ways to solve problems • Provide models of finished products • Provide picture support • Ask all students to show their strategies while explaining • Send home games to practice specific skills
Process Standards for Mathematics	• Mathematicians progress from concrete to pictorial to more abstract reasoning. • Mathematicians strategically choose tools to solve problems. • Mathematicians look closely to discern a pattern or structure for the base-ten number system.	PS. 2 PS. 5 PS. 7	• Compose and decompose numbers, in order to gain a better understanding of the number system, relative size of numbers, and place value. • Make connections and find patterns between different forms of numbers (standard form, expanded form, word form, decomposed, etc.). • Use number lines, fact families, place value charts and other tools to make sense of the structure of the number system. Explain how the tool helped to make connections.			
Number Work	• Mathematicians gain understanding with number meaning, number relationships, number magnitude, operations involving numbers, and referents for numbers and quantities.	1.NS.1 1.NS.4 1.NS.6 1.CA.1 1.G.1	• Count to 120 by ones, fives and tens • Use different strategies to compose and decompose numbers within 20. • Compare two 2-digit numbers based on meanings of the tens and ones digits (begin using comparison symbols >, < and =) • Show equivalent forms of whole numbers • Sort two-dimensional and three-dimensional objects by shape, size, roundness and other attributes.			

1.NS.1: Count to at least 120 by ones, fives, and tens from any given number. In this range, read and write numerals and represent a number of objects with a written numeral.
1.NS.2: Understand that 10 can be thought of as a group of ten ones — called a "ten." Understand that the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. Understand that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
1.NS.4: Use place value understanding to compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.
1.NS.5: Find mentally 10 more or 10 less than a given two-digit number without having to count, and explain the thinking process used to get the answer.
1.NS.6: Show equivalent forms of whole numbers as groups of tens and ones, and understand that the individual digits of a two-digit number represent amounts of tens and ones.

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Quarter 4 Weeks 28 – 32	Essential Goals	Priority Standards	Strategies/Skills	Academic Vocabulary	Possible Instructional Resources	Differentiation
Unit 7: Real World Applications with Numbers Larger than 20	• Mathematicians mentally add 10 to a two-digit number. • Mathematicians see and discuss patterns in number sequences. • Mathematicians represent and solve problems involving addition and subtraction. • Mathematicians add and subtract within 20. • Mathematicians understand the meaning of the equal sign by working with addition and subtraction equations with unknowns in all positions.	1.CA.1 1.CA.4 1.CA.5 1.CA.7	• Demonstrate fluency with addition and corresponding subtraction facts within 20. • Solve addition problems with up to 3 whole numbers within 20. • Add a two-digit number with a one-digit number. • Add a two-digit number with a multiple of ten. • Understand how place value helps with addition. • Understand how to compose a ten when adding two numbers. • Create, extend and give an appropriate rule for number patterns using addition within 100.	add addend difference equation number pattern place value problem rule solve subtract sum symbol ten whole numbers	**Go Math:** Chapter 8 Questions to Consider: • How do people use addition and subtraction to solve problems in our school/homes/world? • Are there any problems in our room or our school that we could solve using math? Learning Math in the Primary Grades (Madison MSD) https://math.madison.k12.wi.us/files/math/LMPGcomplete.pdf Everyday Mathematics Teacher's Guide to Games Math and Literature K-1 by Marilyn Burns & Stephanie Sheffield Math Reads: Making Math the Story Mastering the Basic Math Facts in Addition and Subtraction **Mentor Text(s)** Knots on a Counting Rope (Martin and Archambault) Math-terpieces (Greg Tang) Mrs. Brown Went to Town (Wong) Trouble with Trolls (Jan Brett) The Doorbell Rang (Pat Hutchins) Math Curse (Jon Scieszak) Math for all Seasons (Greg Tang)	**Spiral Review:** 1.NS.2, 1.NS.6, 1.G.4 **Prerequisite Skills:** • Use a hundreds chart to count and explore patterns • Explore addition and subtraction problems, using a variety of manipulatives **Scaffolding Support (EL; SPED; Striving Learners):** • Go Math: differentiation materials • Open ended problems with multiple entry points • Written instructions • Small group instruction • Graphic Organizers • Manipulatives • Encourage multiple ways to solve problems • Provide models of finished products • Provide picture support • Ask all students to show their strategies while explaining • Send home games to practice specific skills
Process Standards for Mathematics	• Mathematicians progress from concrete to pictorial to more abstract reasoning. • Mathematicians strategically choose tools to solve problems. • Mathematicians look closely to discern a pattern or structure for the base-ten number system.	PS. 2 PS. 5 PS. 7	• Compose and decompose numbers, in order to gain a better understanding of the number system, relative size of numbers, and place value. • Make connections and find patterns between different forms of numbers (standard form, expanded form, word form, decomposed, etc.). • Use number lines, fact families, place value charts and other tools to make sense of the structure of the number system. Explain how the tool helped to make connections.			
Number Work	• Mathematicians gain understanding with number meaning, number relationships, number magnitude, operations involving numbers, and referents for numbers and quantities.	1.NS.1 1.NS.4 1.NS.6 1.CA.1 1.G.1	• Count to at least 120 by ones, fives and tens • Use different strategies to compose and decompose numbers • Compare two 2-digit numbers based on meanings of the tens and ones digits (begin using comparison symbols >, < and =) • Show equivalent forms of whole numbers up to 100 • Sort two-dimensional and three-dimensional objects by shape, size, roundness and other attributes.			

1.CA.1: Demonstrate fluency with addition facts and the corresponding subtraction facts within 20. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). Understand the role of 0 in addition and subtraction.
1.CA.4: Solve real-world problems that call for addition of three whole numbers whose sum is within 20 (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).
1.CA.5: Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; describe the strategy and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones, and that sometimes it is necessary to compose a ten.
1.CA.7: Create, extend, and give an appropriate rule for number patterns using addition within 100.

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Quarter 4 Weeks 33 – 36	Essential Goals	Priority Standards	Strategies/Skills	Academic Vocabulary	Instructional Resources	Differentiation
Math Content: **Unit 8:** **Reinforce and Extend Mathematical Understandings**	• Mathematicians practice critical grade level skills, in a variety of formats, to prepare them for more complex mathematical understandings. • Mathematicians make sense of a variety of problems and persevere in solving them. • Mathematicians reason abstractly and quantitatively to solve problems. • Mathematicians construct viable arguments and critique the reasoning of others. • Mathematicians apply math skills and understandings to solve real-world problems. • Mathematicians use a variety of tools to aid them in solving mathematical and real-world problems. • Mathematicians use structures and patterns to solve problems efficiently.	1.NS.2 1.NS.6 1.CA.1 1.CA.2 1.CA.6 1.G.2 1.G.4 1.M.2 1.M.3 1.DA.1	• Use pre and post assessments to determine reinforcement or extension of skills and understandings. • Use multiple representations to solve problems. • Connect mathematics to students' daily lives. • Use correct mathematical vocabulary. • Use accurate labels, symbols, and calculations. • Work in teams to solve problems and justify solutions. • Select an appropriate tool to solve a problem and explain why the tool makes sense to use. • Explain whether or not a solution or process is reasonable for the problem situation.	abstract reasoning argument construct critique efficient mathematical models persevere precision proficient quantitative reasoning reasonable reasoning repeated reasoning strategically structure	**Go Math:** Feel free to pull ideas from: IN Success Supplement – STEM Activities End of Year Review Projects Unit Projects Getting Ready for 2nd grade **Illustrative Mathematics Tasks:** http://www.illustrativemathematics.org **Learning Math in the Primary Grades (Madison MSD)** https://math.madison.k12.wi.us/files/math/LMPGcomplete.pdf **Everyday Mathematics Teacher's Guide to Games** **Making Sense: Teaching and Learning Mathematics with Understanding** **Good Questions for Math Teaching**	**Scaffolding Support (EL; SPED; Striving Learners):** • Go Math: differentiation materials • Open ended problems with multiple entry points • Written instructions • Small group instruction • Graphic Organizers • Manipulatives • Concrete models • Encourage multiple ways to solve problems • Models of finished products • Picture Support • Ask all students to show their strategies while explaining • Games to practice specific skills at home

1.NS.2: Understand that 10 can be thought of as a group of ten ones — called a "ten." Understand that the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. Understand that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
1.NS.6: Show equivalent forms of whole numbers as groups of tens and ones, and understand that the individual digits of a two-digit number represent amounts of tens and ones.
1.CA.1: Demonstrate fluency with addition facts and the corresponding subtraction facts within 20. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).
1.CA.2: Solve real-world problems involving addition and subtraction within 20 in situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all parts of the addition or subtraction problem (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).
1.CA.6: Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false (e.g., Which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2).
1.G.2: Distinguish between defining attributes of two- and three-dimensional shapes (e.g., triangles are closed and three-sided) versus non-defining attributes. Create and draw two-dimensional shapes with defining attributes.
1.G.4: Partition circles and rectangles into two and four equal parts; describe the parts using the words halves, fourths, and quarters; and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of, the parts. Understand for partitioning circles and rectangles into two and four equal parts that decomposing into equal parts creates smaller parts.
1.M.2: Tell and write time to the nearest half-hour and relate time to events (before/after, shorter/longer) using analog clocks. Understand how to read hours and minutes using digital clocks.
1.M.3: Identify the value of a penny, nickel, dime and a collection of pennies, nickels, and dimes.
1.DA.1: Organize and interpret data with up to three choices; ask and answer questions about the total number of data points, how many in each choice, and how many more or less in one choice compared to another.

Process Standards for Mathematics

The Process Standards demonstrate the ways in which students should develop conceptual understanding of mathematical content, and the ways in which students should synthesize and apply mathematical skills.	
PS.1: Make sense of problems and persevere in solving them.	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway, rather than simply jumping into a solution attempt. They consider analogous problems and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" and "Is my answer reasonable?" They understand the approaches of others to solving complex problems and identify correspondences between different approaches. Mathematically proficient students understand how mathematical ideas interconnect and build on one another to produce a coherent whole.
PS.2: Reason abstractly and quantitatively.	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.
PS.3: Construct viable arguments and critique the reasoning of others.	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They analyze situations by breaking them into cases and recognize and use counterexamples. They organize their mathematical thinking, justify their conclusions and communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. They justify whether a given statement is true always, sometimes, or never. Mathematically proficient students participate and collaborate in a mathematics community. They listen to or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.
PS.4: Model with mathematics.	Mathematically proficient students apply the mathematics they know to solve problems arising in everyday life, society, and the workplace using a variety of appropriate strategies. They create and use a variety of representations to solve problems and to organize and communicate mathematical ideas. Mathematically proficient students apply what they know and are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.
PS.5: Use appropriate tools strategically.	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Mathematically proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. Mathematically proficient students identify relevant external mathematical resources, such as digital content, and use them to pose or solve problems. They use technological tools to explore and deepen their understanding of concepts and to support the development of learning mathematics. They use technology to contribute to concept development, simulation, representation, reasoning, communication and problem solving.
PS.6: Attend to precision.	Mathematically proficient students communicate precisely to others. They use clear definitions, including correct mathematical language, in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They express solutions clearly and logically by using the appropriate mathematical terms and notation. They specify units of measure and label axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently and check the validity of their results in the context of the problem. They express numerical answers with a degree of precision appropriate for the problem context.
PS.7: Look for and make use of structure.	Mathematically proficient students look closely to discern a pattern or structure. They step back for an overview and shift perspective. They recognize and use properties of operations and equality. They organize and classify geometric shapes based on their attributes. They see expressions, equations, and geometric figures as single objects or as being composed of several objects.
PS.8: Look for and express regularity in repeated reasoning.	Mathematically proficient students notice if calculations are repeated and look for general methods and shortcuts. They notice regularity in mathematical problems and their work to create a rule or formula. Mathematically proficient students maintain oversight of the process, while attending to the details as they solve a problem. They continually evaluate the reasonableness of their intermediate results.

NUMBER SENSE	
1.NS.1	Count to at least 120 by ones, fives, and tens from any given number. In this range, read and write numerals and represent a number of objects with a written numeral.
1.NS.2	Understand that 10 can be thought of as a group of ten ones — called a “ten." Understand that the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. Understand that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
1.NS.3	Match the ordinal numbers first, second, third, etc., with an ordered set up to 10 items.
1.NS.4	Use place value understanding to compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.
1.NS.5	Find mentally ten more or ten less than a given two-digit number without having to count, and explain the thinking process used to get the answer.
1.NS.6	Show equivalent forms of whole numbers as groups of tens and ones, and understand that the individual digits of a two-digit number represent amounts of tens and ones.

COMPUTATION AND ALGEBRAIC THINKING	
1.CA.1	Demonstrate fluency with addition facts and the corresponding subtraction facts within 20. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a 10 (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). Understand the role of 0 in addition and subtraction.
1.CA.2	Solve real-world problems involving addition and subtraction within 20 in situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all parts of the addition or subtraction problem (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).
1.CA.3	Create a real-world problem to represent a given equation involving addition and subtraction within 20.
1.CA.4	Solve real-world problems that call for addition of three whole numbers whose sum is within 20 (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).
1.CA.5	Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; describe the strategy

	and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones, and that sometimes it is necessary to compose a ten.
1.CA.6	Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false (e.g., Which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2).
1.CA.7	Create, extend, and give an appropriate rule for number patterns using addition within 100.

GEOMETRY	
1.G.1	Identify objects as two-dimensional or three-dimensional. Classify and sort two-dimensional and three-dimensional objects by shape, size, roundness and other attributes. Describe how two-dimensional shapes make up the faces of three-dimensional objects.
1.G.2	Distinguish between defining attributes of two- and three-dimensional shapes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size). Create and draw two-dimensional shapes with defining attributes.
1.G.3	Use two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. [In grade 1, students do not need to learn formal names such as "right rectangular prism."]
1.G.4	Partition circles and rectangles into two and four equal parts; describe the parts using the words halves, fourths, and quarters; and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of, the parts. Understand for partitioning circles and rectangles into two and four equal parts that decomposing into equal parts creates smaller parts.

MEASUREMENT	
1.M.1	Use direct comparison or a nonstandard unit to compare and order objects according to length, area, capacity, weight, and temperature.
1.M.2	Tell and write time to the nearest half-hour and relate time to events (before/after, shorter/longer) using analog clocks. Understand how to read hours and minutes using digital clocks.
1.M.3	Identify the value of a penny, nickel, dime, and a collection of pennies, nickels, and dimes.

Number Sense		
Kindergarten	**Grade 1**	**Grade 2**
K.NS.1: Count to at least 100 by ones and tens and count on by one from any number.	1.NS.1: Count to at least 120 by ones, fives, and tens from any given number. In this range, read and write numerals and represent a number of objects with a written numeral.	2.NS.1: Count by ones, twos, fives, tens, and hundreds up to at least 1,000 from any given number.
	1.NS.3: Match the ordinal numbers first, second, third, etc., with an ordered set up to 10 items.	2.NS.4: Match the ordinal numbers first, second, third, etc., with an ordered set up to 30 items.
K.NS.2: Write whole numbers from 0 to 20 and recognize number words from 0 to 10. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).		2.NS.2: Read and write whole numbers up to 1,000. Use words, models, standard form and expanded form to represent and show equivalent forms of whole numbers up to 1,000.
K.NS.3: Find the number that is one more than or one less than any whole number up to 20.	1.NS.5: Find mentally 10 more or 10 less than a given two-digit the number without having to count, and explain the thinking process used to get the answer.	
K.NS.4: Say the number names in standard order when counting objects, pairing each object with one and only one number name and each number name with one and only one object. Understand that the last number name said describes the number of objects counted and that the number of objects is the same regardless of their arrangement or the order in which they were counted.		
K.NS.5: Count up to 20 objects arranged in a line, a rectangular array, or a circle. Count up to 10 objects in a scattered configuration. Count out the number of objects, given a number from 1 to 20.		
K.NS.6: Recognize sets of 1 to 10 objects in patterned arrangements and tell how many without counting.		
K.NS.7: 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).		2.NS.3: Plot and compare whole numbers up to 1,000 on a number line.
K.NS.8: Compare the values of two numbers from 1 to 20 presented as written numerals.	1.NS.4: Use place value understanding to compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.	
K.NS.9: Use correctly the words for comparison, including: one and many; none, some and all; more and less; most and least; and equal to, more than and less than.		2.NS.7: Use place value understanding to compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
K.NS.10: Separate sets of ten or fewer objects into equal groups.		2.NS.5: Determine whether a group of objects (up to 20) has an odd or even number of members (e.g., by placing that number of objects in two groups of the same size and recognizing that for even numbers no object will be left over and for odd numbers one object will be left over, or by pairing objects or counting them by 2s).
K.NS.11: Develop initial understandings of place value and the base 10 number system by showing equivalent forms of whole numbers from 10 to 20 as groups of tens and ones using objects and drawings.	1.NS.2: Understand that 10 can be thought of as a group of ten ones — called a "ten." Understand that the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. Understand that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).	2.NS.6: 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 that 100 can be thought of as a group of ten tens — called a "hundred." Understand that 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).
	1.NS.6: Show equivalent forms of whole numbers as groups of tens and ones, and understand that the individual digits of a two-digit number represent amounts of tens and ones.	

K-2 Math Standards Vertical Alignment (2014 Language)

Computation and Algebraic Thinking		
Kindergarten	**Grade 1**	**Grade 2**
K.CA.1: Use objects, drawings, mental images, sounds, etc., to represent addition and subtraction within 10.	**1.CA.1:** Demonstrate fluency with addition facts and the corresponding subtraction facts within 20. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). Understand the role of 0 in addition and subtraction.	**2.CA.1:** Add and subtract fluently within 100.
	1.CA.5: Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; describe the strategy and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones, and that sometimes it is necessary to compose a ten.	**2.CA.4:** Add and subtract within 1000, using models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; describe the strategy and explain the reasoning used. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones, and that sometimes it is necessary to compose or decompose tens or hundreds.
K.CA.2: Solve real-world problems that involve addition and subtraction within 10 (e.g., by using objects or drawings to represent the problem).	**1.CA.2:** Solve real-world problems involving addition and subtraction within 20 in situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all parts of the addition or subtraction problem (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).	**2.CA.2:** Solve real-world problems involving addition and subtraction within 100 in situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all parts of the addition or subtraction problem (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem). Use estimation to decide whether answers are reasonable in addition problems.
	1.CA.4: Solve real-world problems that call for addition of three whole numbers whose sum is within 20 (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).	**2.CA.3:** Solve real-world problems involving addition and subtraction within 100 in situations 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).
	1.CA.3: Create a real-world problem to represent a given equation involving addition and subtraction within 20.	
K.CA.3: Use objects, drawings, etc., to decompose numbers less than or equal to 10 into pairs in more than one way, and record each decomposition with a drawing or an equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). [In Kindergarten, students should see equations and be encouraged to trace them, however, writing equations is not required.]	**1.CA.6:** Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false (e.g., Which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2).	**2.CA.5:** 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 groups.
K.CA.4: Find the number that makes 10 when added to the given number for any number from 1 to 9 (e.g., by using objects or drawings), and record the answer with a drawing or an equation.		**2.CA.6**: Show that the order in which two numbers are added (commutative property) and how the numbers are grouped in addition (associative property) will not change the sum. These properties can be used to show that numbers can be added in any order.
K.CA.5: Create, extend, and give an appropriate rule for simple repeating and growing patterns with numbers and shapes.	**1.CA.7**: Create, extend, and give an appropriate rule for number patterns using addition within 100.	**2.CA.7:** Create, extend, and give an appropriate rule for number patterns using addition and subtraction within 1000.

<table>
<tr><th colspan="3">Geometry</th></tr>
<tr><th>Kindergarten</th><th>Grade 1</th><th>Grade 2</th></tr>
<tr><td>K.G.1: Describe the positions of objects and geometric shapes in space using the terms inside, outside, between, above, below, near, far, under, over, up, down, behind, in front of, next to, to the left of and to the right of.</td><td colspan="2"></td></tr>
<tr><td rowspan="2">K.G.2: 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).</td><td>1.G.1: Identify objects as two-dimensional or three-dimensional. Classify and sort two-dimensional and three-dimensional objects by shape, size, roundness and other attributes. Describe how two-dimensional shapes make up the faces of three-dimensional objects.</td><td rowspan="2">2.G.1: Identify, describe, and classify two- and three-dimensional shapes (triangle, square, rectangle, cube, right rectangular prism) according to the number and shape of faces and the number of sides and/or vertices. Draw two-dimensional shapes.</td></tr>
<tr><td>1.G.2: Distinguish between defining attributes of two- and three-dimensional shapes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size). Create and draw two-dimensional shapes with defining attributes.</td></tr>
<tr><td>K.G.3: Model shapes in the world by composing shapes from objects (e.g., sticks and clay balls) and drawing shapes.</td><td rowspan="2">1.G.3: Use two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. [In grade 1, students do not need to learn formal names such as "right rectangular prism."]</td><td>2.G.2: Create squares, rectangles, triangles, cubes, and right rectangular prisms using appropriate materials.</td></tr>
<tr><td>K.G.4: Compose simple geometric shapes to form larger shapes (e.g., create a rectangle composed of two triangles).</td><td>2.G.3: Investigate and predict the result of composing and decomposing two- and three-dimensional shapes.</td></tr>
<tr><td rowspan="2"></td><td rowspan="2">1.G.4: Partition circles and rectangles into two and four equal parts; describe the parts using the words halves, fourths, and quarters; and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of, the parts. Understand for partitioning circles and rectangles into two and four equal parts that decomposing into equal parts creates smaller parts.</td><td>2.G.4: Partition a rectangle into rows and columns of same-size (unit) squares and count to find the total number of same-size squares.</td></tr>
<tr><td>2.G.5: Partition circles and rectangles into two, three, or four equal parts; 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 parts of identical wholes need not have the same shape.</td></tr>
</table>

Measurement		
Kindergarten	**Grade 1**	**Grade 2**
K.M.1: Make direct comparisons of the length, capacity, weight, and temperature of objects, and recognize which object is shorter, longer, taller, lighter, heavier, warmer, cooler, or holds more.	**1.M.1**: Use direct comparison or a nonstandard unit to compare and order objects according to length, area, capacity, weight, and temperature.	**2.M.1:** Describe the relationships among inch, foot, and yard. Describe the relationship between centimeter and meter.
		2.M.2: Estimate and measure the length of an object by selecting and using appropriate tools, such as rulers, yardsticks, meter sticks, and measuring tapes to the nearest inch, foot, yard, centimeter and meter.
		2.M.3: Understand that the length of an object does not change regardless of the units used. 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.M.4: Estimate and measure volume (capacity) using cups and pints.
K.M.2: Understand concepts of time, including: morning, afternoon, evening, today, yesterday, tomorrow, day, week, month, and year. Understand that clocks and calendars are tools that measure time.	**1.M.2**: Tell and write time to the nearest half-hour and relate time to events (before/after, shorter/longer) using analog clocks. Understand how to read hours and minutes using digital clocks.	**2.M.5:** Tell and write time to the nearest five minutes from analog clocks, using a.m. and p.m. Solve real-world problems involving addition and subtraction of time intervals on the hour or half hour.
		2.M.6: Describe relationships of time, including: seconds in a minute; minutes in an hour; hours in a day; days in a week; and days, weeks, and months in a year.
	1.M.3: Find the value of a collection of pennies, nickels, and dimes.	**2.M.7:** Find the value of a collection of pennies, nickels, dimes, quarters and dollars.

Data Analysis		
Kindergarten	**Grade 1**	**Grade 2**
K.DA.1: Identify, sort, and classify objects by size, number, and other attributes. Identify objects that do not belong to a particular group and explain the reasoning used.	1.DA.1: Organize and interpret data with up to three choices (What is your favorite fruit? apples, bananas, oranges); ask and answer questions about the total number of data points, how many in each choice, and how many more or less in one choice compared to another.	2.DA.1: Draw a picture graph (with single-unit scale) and a bar graph (with single-unit scale) to represent a data set with up to four choices (What is your favorite color? red, blue, yellow, green). Solve simple put-together, take-apart, and compare problems using information presented in the graphs.