2nd Grade Mathematics Scope & Sequence

Unit	Standard(s)/Outcome(s)/Topic(s)	Essential/Guiding Questions
Unit 1: Operational Fluency (Sept./Oct.)	**2.OA.1:** (adapted) Use addition and subtraction within (20) to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. **2.OA.2:** Fluently add and subtract within 20 using mental strategies By end of Grade 2, know from memory all sums of two one-digit numbers. **2.OA.3:** Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends. **2.MD.6:** Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ... **2.MD.7:** Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m **2.MD.10:** Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems	• How can numbers be combined and separated? • How are addition and subtraction related? • What drawings and equations can be used to solve this problem and why? • How do you know your answer makes sense? • How can you prove your answer is correct? • How can we represent an unknown number? • How can you collect and organize data? • What can you tell from the data on the graph?

	using information presented in a bar graph.	
Unit	**Standard(s)/Outcome(s)/Topic(s)**	**Essential/Guiding Questions**
Unit 2: Operations and Algebraic Thinking Part 1 (Oct.-Jan.)	**2.OA.1:** Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. **2.OA.2:** Fluently add and subtract within 20 using mental strategies By end of Grade 2, know from memory all sums of two one-digit numbers. **2.NBT.2** Count within 1000; skip-count by 5s, 10s... Model skip counting on a number line. **2.NBT.5:** Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. **2.NBT.6:** Add up to four two-digit numbers using strategies based on place value and properties of operations. **2.NBT.9:** Explain why addition and subtraction strategies work, using place value and the properties of operations. **2.MD.6:** ...and represent whole-number sums and differences within 100 on a number line diagram. Note: Students should have opportunities to work with both horizontal and vertical number lines. *Given a two digit number, determine the two	● How can numbers be combined and separated to solve equations? ● How can we use place value to add and subtract? ● How can properties of operations help us add and subtract? ● What strategies can be used to solve this problem? Why? ● How do you know your answer makes sense? ● How can you prove your answer is correct? ● How can we represent an unknown number? ● How can you collect and organize data? ● What can you tell from the data on the graph?

	groups of ten the number is between. **2.MD.8**: Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have? **2.MD.10**: Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.	
Unit	**Standard(s)/Outcome(s)/Topic(s)**	**Essential/Guiding Questions**
Unit 3: Operations & Algebraic Thinking Part 2 (Jan.-Mar.)	**2.OA.1**: Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. **2.OA.2**: Fluently add and subtract within 20 using mental strategies By end of Grade 2, know from memory all sums of two one-digit numbers. **2.NBT.1**: Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: 100 can be thought of as a bundle of ten tens – called a "hundred." The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven,	• How can numbers be represented? • How can numbers be compared and ordered? • How can numbers be combined and separated? • How does place value help determine the value of numbers? • How can problems and answers be represented in a variety of ways? • How can money amounts be represented and

	eight, or nine hundreds (and 0 tens and 0 ones). 2.NBT.3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. **2.NBT.2**: Count within 1000; skip-count by 5s, 10s, and 100s. Clarification: multiplies of 5, 10 and 100 lays foundation for multiplication. **2.NBT.4**: Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons. **2.NBT.7**: Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds. **2.NBT.8**: Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900. Given a three digit number, determine the two groups of hundreds the number is between. **2.MD.8**: Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do	counted? ● How do you know your answer makes sense?

	you have?	
Unit	**Standard(s)/Outcome(s)/Topic(s)**	**Essential/Guiding Questions**
Unit 4: Measurement (Mar.-Apr.)	**2.OA.2**: Fluently add and subtract within 20 using mental strategies By end of Grade 2, know from memory all sums of two one-digit numbers. **2.MD.1**: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. **2.MD.2**: Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen. **2.MD.3**: Estimate lengths using units of inches, feet, centimeters, and meters. **2.MD.4**: Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit. **2.MD.5**: Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem. *Given the dimensions of a polygon, determine the perimeter. **2.MD.6:** Represent whole numbers as lengths from 0 on a number line diagram with equally	• How does what we measure determine how we measure? • How can estimation show that a measurement is reasonable? • How can we describe the relationship between two different units used to measure the same object? • What drawings and equations can be used to solve this problem and why? • How do you know your answer makes sense? • How can measurement data be organized? What do we know from the data? • Why do we tell time? • How do we tell time?

	spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram. **2.MD.9**: Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.	
Unit	**Standard(s)/Outcome(s)/Topic(s)**	**Essential/Guiding Questions**
Unit 5: Geometry and Partitioning (May/June)	**2.OA.2**: Fluently add and subtract within 20 using mental strategies By end of Grade 2, know from memory all sums of two one-digit numbers. **2.G.1**: Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. **2.G.3** Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	• What attributes can be used to identify geometric figures? • How can objects be created, combined, and partitioned? • How can equal shares of a circle or rectangle be described? • How can equal shares of the same shape be represented differently?
Unit	**Standard(s)/Outcome(s)/Topic(s)**	**Essential/Guiding Questions**
Unit 6:	**Prerequisite for 3.OA.1:** Find products of whole	• How does a number

Exploring Multiplication (June)	numbers up to 10 X 10 by using manipulatives and/or drawings to model equal groups. Find the total number of objects by using repeated addition and/or skip-counting and connect to the multiplication equation. (e.g., 2 x 5 as the total number of objects in 2 groups of 5, counting 5,10 and 5 + 5 = 10 (doubles fact) **2.OA.4** Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends. Connect rectangular arrays and repeated addition to a multiplication equation; explore the commutative property of multiplication as it relates to columns and rows or equal groups. **2.NBT.2**: Count within 1000; skip-count by (2s), 5s, and 10s. **2.NBT.2 Application:** Fluently multiply to find the products of equations with one factor being a 2, 5, or 10 using an efficient strategy (skip counting, using doubles, commutative property) Supports 3.OA.7	represent a group or unit? ● How can multiplication be represented? ● How do patterns make math facts predictable? ● What strategies can we use to find the total number of equal parts or objects? ● How can we use mathematical properties to find and justify solutions to problems?