Second Grade End of Year Expectations
NUMERACY

By the end of the year students meeting grade level expectation will be able to:

Standards for Mathematical Practice	
Makes sense of problems and perseveres in solving them	Examine problems (tasks), making sense of the meaning of the task and find an entry point or a way to start the task. Develop a foundation for problem solving strategies and become independently proficient on using those strategies to solve new tasks. Rely on concrete manipulatives and pictorial representations while solving tasks unless the CCSS refers to the word fluently, which denotes mental mathematics as well as procedures. Demonstrate perseverance while solving tasks; that is, if student reaches a point in which they are stuck, they can reexamine the task in a different way and continue to solve the task. Complete tasks by asking the question, "Does my answer make sense?".
Discusses and critiques own and other's reasoning, representations and strategies	Accurately use definitions and previously established solutions to construct viable arguments about mathematics. Discuss problem solving strategies and constructively critiques the strategies and reasoning of classmates. *For example, while solving 74 + 18 – 37, students may use a variety of strategies, and after working on the task, can discuss and critique others' reasoning and strategies, citing similarities and differences between strategies.*
Attends to precision in communication, calculations and measurements	Precisely communication, calculate, and measure.. Clearly communicate, using grade-level appropriate vocabulary accurately as well as giving precise explanations and reasoning regarding the process of finding solutions. *For example, while measuring objects iteratively (repetitively), students check to make sure that there are no gaps or overlaps.* During tasks involving number sense, checks work to ensure the accuracy and reasonableness of solutions.

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Operations and Algebraic Thinking	
Represents and solves word problems involving addition and subtraction	Solve one-step and two-step addition and subtraction problems for various situations. Model thinking using concrete materials and representations in order to determine a strategy for solving a problem. Connect and write equations that represent the work they have shown with concrete materials or pictures. Determine the unknown in all positions (start unknown, change unknown, result unknown).
Adds and subtracts within 20	Use a variety of efficient strategies based on properties and patterns of multiplication to learn facts*. Demonstrate flexibility, efficiency and accuracy with sums to 20. **Drilling of facts comes after students have had many experiences building conceptual understanding through modeling and development of reasoning strategies.*
Works with equal groups of objects to gain foundations for multiplication	Identify a number as either even or odd by determining if it can be broken into two parts, with the same number in each part, or by pairing objects and seeing "leftovers" (odd) or not (even). Identify if numbers greater than 20 are even or odd, by generalizing rules (e.g. an even number can be represented as a doubles fact, 16 = 8 + 8 so it is even). Determine the total number of objects in an array of up to 5 rows and 5 columns by counting, skip counting and repeated addition strategies. Given the dimensions of an array (e.g. 3 rows and 2 columns), construct the array, determine the number of objects in the array and explain who they arrived at the number. Connect understanding of how skip counting connects to repeated addition and how these strategies connect to the idea of making groups*. **This standard is an informal introduction to multiplication, using repeated addition to understand how to find the total number of objects in equal groups.*

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Numbers in Base Ten	
Understands place value (of three-digit numbers)	Count within 1000 by 1s, 5s and 10s,, frontward and backward, starting at any number. Describe place value patterns when counting (e.g. *when I count forward from 342, the hundreds and tens place stays the same while the ones place increases by 1 with each count*). Read, write and say numbers within 1,000. Identify how the number shows the number of hundreds, tens and ones. Read and write numbers represented in expanded form. Understand the relationship between the ones, tens hundreds and thousands places, by grouping and bundling ones, tens and hundreds (e.g. 2*00 is 2 bundles of 10 tens*). Compare two 3-digit numbers using words, numbers and symbols, justifying through place value reasoning (e.g. *I know that 245 > 242 because they both have 2 hundreds and 4 tens, but five ones is more than 2 ones).*
Applies place value understandings and properties of operations to add and subtract	Model addition and subtraction strategies using concrete materials, then representations, and lastly equations and numerals. Add and subtract up to three-digit numbers by applying various strategies based on number sense, mental mathematics, decomposing numbers, place value reasoning and the relationship between addition and subtraction. Explain strategy based on place value, strategies and number sense. Mentally add or subtract 10 or 100 from a given three-digit number 100-900 and explain reasoning using place value understanding and patterns. Use estimation strategies to determine if solutions are reasonable.
Measurement and Data	
Measures and estimates lengths in standard units	Use rulers, yardsticks, meter sticks, measuring tapes to measure items and be able to select an appropriate measuring tools given a situation. Measure objects with two different units and describe how the units relate to each other and the size of the unit chosen (e.g. *a larger unit such as a yard, can be subdivided into equivalent units of feet and inches*). Develop benchmarks item lengths, and use these benchmarks to make an accurate estimate before measuring.

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Measurement and Data (continued)	
Relates addition and subtraction to length	Solve word problems by applying learned addition and subtraction skills to the concept of length. Write equations for measurement word problems using symbols for the unknown values and calculate the sum and differences represented in the equations. Model and represent addition and subtraction situations by creating, marking equal spaces and labeling a number line.
Works with time and money	Tell and write time to the nearest 5 minutes on analog and digital clocks. Identify coin values and use symbol notations $ and ¢ accurately. Add and subtract with coins. Solve word problems involving dollars and cents.
Represents and interprets data	Measure objects and create a line plot to display the data. Pose questions, create categories, collect data and represent the date in picture or bar graphs. Analyze and interpret the results to summarize the data, and make conclusions, comparisons and generalizations. Solve simple word problems about data.
Geometry	
Reasons with shapes and attributes	Identify shapes such as triangles, quadrilaterals, pentagons, hexagons and cubes. Describe similarities and differences between two-dimensional and three-dimensional shapes. Draw shapes with specified attributes such as a given number of angles or faces. Partition rectangles into rows and columns of same-sized squares. Partition rectangles and circles into halves, thirds and fourths and use language to describe the size of each piece (e.g. *one fourth)* and the whole (e.g. *four fourths*). Understand that equal shares may be different shapes within the same whole.