2nd Grade Mathematics

Mathematical Practices	Numbers and Operations in Base Ten	Operations and Algebraic Thinking	Measurement and Data	Geometry
Make sense of problems and persevere in solving them. Reason abstractly and quantitatively. Construct viable arguments and critique the reasoning of others. Model with mathematics. Use appropriate tools strategically. Attend to precision. Look for and make use of structure. Look for and express regularity in repeated reasoning.	**Number Sense:** Demonstrate knowledge of one-to-one correspondence. Apply number patterns (even and odd). Recognize and extend a pattern or number sequence. Round numbers to the nearest 10 or 100. **Understand place value:** Apply place value concepts to the ten-thousands place. Understand 100 can be thought of as a bundle of ten tens, etc. Understand the numbers 100, 200, etc., refer to	**Represent and solve problems involving addition and subtraction:** 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. Complete the process for multi-digit addition and subtraction with and without regrouping (regrouping twice in same problem). **Add and subtract within 20:**	**Measure and estimate lengths in standard units:** Measure the length of an object by selecting and using appropriate tools. Measure the length of an object twice, describe how the two measurements relate to the size of the unit chosen. Estimate lengths using units of inches, feet, centimeters, and meters, then compare the estimate with the actual answer. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard	**Reason with shapes and their attributes:** Recognize and draw shapes having specified attributes (angles, faces, etc.) Recognize and draw two-dimensional shapes, including triangles, quadrilaterals (squares, rectangles, rhombuses, parallelograms, kites, trapezoids), pentagons, hexagons, and octagons. Recognize and draw three-dimensional shapes, including spheres, cubes, cones, pyramids, and rectangular prisms. Draw points, line segments, and lines. Recognize parallel and not parallel lines. Identify reflections about a line (turn, flip, slide). Understand symmetry by recognizing and drawing lines of symmetry in shapes and objects found in nature. Determine the perimeter of a shape.

Use a calculator to do basic operations.	one, two, etc., hundreds. Count within 1000; skip-count by 2s, 3s, 5s, 10s, 25s and 100s. Read and write numbers to 10,000 using base-ten numerals, number names, and expanded form. Compare numbers to the ten-thousands place using >, =, and < symbols. **Use place value understanding and properties of operations to add and subtract:** Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. Add and subtract within 10,000, using concrete models or drawings and strategies based on place	Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums and differences to 18 with speed and accuracy. Show the inverse relationship between addition and subtraction (fact families). Demonstrate knowledge of doubles facts (1-10). **Work with equal groups of objects to gain foundations for multiplication and division:** Determine whether a group of objects has an odd or even number of members,	length unit. **Relate addition and subtraction to length:** Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points. **Measure and estimate weight in standard units:** Measure the weight of an object using standard units. **Measure and estimate capacity in standard units:** Understand and use capacity for liquid measurements.	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them, using the word "area." Identify and draw fractions by partitioning shapes into equal shares, describing the shares as halves, thirds, half of, a third of, etc.

	value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Mentally add or subtract 10 or 100 to a given number between 100 and 900. Explain why addition and subtraction strategies work.	Use addition to find the total number of objects arranged in rectangular arrays with up to 9 rows and up to 9 columns; write an equation (repeated addition and multiplication sentence). Demonstrate the concept of division through the use of repeated subtraction and equal sharing.	**Measure and estimate temperature in standard units:** Draw and interpret the temperature on thermometers (varying scales). **Probability:** Create fair and unfair mathematical situations. **Work with time and money:** Create and read calendars. Tell and write time from analog and digital clocks to the hour, half-hour, quarter-hour, and in five-minute intervals. Also, work with time to the minute, using a.m. and p.m. Complete word	

			problems involving elapsed time. Use the proper terminology when telling time. Identify coins by their name and value. Count change using a collection of coins and bills. Make change by counting up, using mental math, or subtraction with and without regrouping. Solve word problems involving money. **Represent and interpret data:** Draw and interpret tally marks. Generate measurement data by measuring lengths of several objects to the	

			nearest whole unit or half 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.	
			Draw a picture graph (pictograph), a bar graph, and a pie graph to represent a data set and solve comparison problems using information presented in a graph.	

2nd Grade Math Vocabulary:

Operations & Algebraic Thinking: sort, alike, expanded form, match, unknown, size, different, similar

Number & Operations in Base Ten - Comparison: small, greatest, near, after, more than, smallest, equal, compare, whole number, integer

Number & Operations in Base Ten - Counting: count forward, number line, sequence, skip-counting, odd, pattern, numeral, even

Number & Operations in Base Ten - Grouping: group, regroup, estimate, rule, pattern, fact family, length, classification

Number & Operations in Base Ten - Numbers: hundred, one, zero, number line, ten, odd, even, sequence

Number & Operations in Base Ten - Operations: sum, addition, subtraction, difference, number sentence, minus, plus, solve, numeral, operation

Number & Operations in Base Ten - Place Value: tens, hundreds, fourths, halves, half, double, ones, thirds, digit, part

Calendar: date, day, week, calendar, month, event, leap year, season

Fractions: equivalent, whole, equal parts, ones, tens, one-third, one-fourth, fraction, integer

Length: foot, temperature, thermometer, longest, centimeter, inch, meter, yard, length, degree, mile

Money: coin, dollar, money, dime, nickel, quarter, penny, half-dollar, cent, currency

Showing Data: symbol, table, bar graph, interpret, pie chart , tally, picture graph, data

Statistics: estimate, survey, predict, unlikely, likely, equal, outcome, equally likely, impossible, certain

Time: time, second, minute hand, hour, elapsed time, quarter-hour, minute, hour hand, half-hour, second hand

Weight/Volume: gram, balance, cup, quart, pint, gallon, pound, kilogram, liter, size, ounce

Classification: reflect, set, slide, rotate, measure, turn, angle, column

Description: right, rectangular, perimeter, distance, circular, corner, below, beside, above, left

Prisms: cube, cone, prism, cylinder, face, line of symmetry, dimensions, sphere, three-dimensional

Shapes: pentagon, shape, sides, square, triangle, trapezoid, circle, rectangle, symmetry, polygon, parallelogram, plane shapes, hexagon, octagon, two-dimensional, line of symmetry, intersect, geometry, quadrilateral, parallel