

Second Grade Mathematics

Topics (Date)	Content and Skills	Vocabulary - to be taught in Chinese
Number – Counting & Operations (September)	<p>Numbers 1-1000</p> <ul style="list-style-type: none"> • Review numbers up to 1000 • Identify various ways to represent numerical value, including use of expanded forms of numbers • Compare the value of numbers using terms and symbols for "greater than" and "less than" • Identify numerical value of various representations of quantities using bundling and place value charts • Identify odd and even numbers • Estimate objects in a set up to 1000 <p>Number Bonds</p> <ul style="list-style-type: none"> • Identify whole and parts in number bonds and pictorial representations • Recognize the function and relationship of numbers in a number bond 	Greater Than Less Than Smallest Greatest Whole Part Ones Tens Hundreds Number bonds
Number – Operations (October)	<p>Addition and Subtraction</p> <ul style="list-style-type: none"> • Demonstrate the understanding of the meaning of addition and subtraction through accurate computation of addition and subtraction problems that do not require regrouping • Add and subtract single, double, and triple digits with no regrouping • Apply place value concepts and numeration to counting, ordering, and grouping for numbers up to 1000 • Describe inverse relationship between addition and subtraction (using number bonds) • Use a variety of graphic organizers (number bonds, place value chart) to complete double and triple digit addition and subtraction problems with double and triple digits • Count using whole numbers and by 2's, 5's, 10's, 100's • Create and solve number bonds using addition and subtraction. • Create addition and subtraction stories and sentences based on pictures. • Apply problem solving strategies to solve word problems related to addition and subtraction • Estimate values for addition and subtraction • Compare estimation with calculated answer 	Add Subtract Number story Number Sentence Addition Sentence Subtraction Sentence Value Place Value

Number – Base Ten & Operations (November)	<p>Addition and Subtraction</p> <ul style="list-style-type: none"> • Solve double and triple digit addition with regrouping problems using a place value chart to guide understanding of the process of regrouping • Solve double and triple digit subtraction with regrouping problems using place value chart to guide understanding of the process of regrouping • Solve addition and subtraction with regrouping problems • Analyze and solve word problems related to addition and subtraction <p>Addition and Subtraction</p> <ul style="list-style-type: none"> • Identify whole and part to complete addition and subtraction problems mentally • Count up and down to nearest 10 in order to complete mental math problems 	Regroup Bundle Unbundle Whole Part Mental Math
Number – Operations (December)	<p>Word Problems</p> <ul style="list-style-type: none"> • Analyze the data in a word problem to determine where it fits in the bar model • Create and label bars with numbers, whole, and part for addition and subtraction in order to solve word problems 	Bar model
Number – Operations (January- February)	<p>Multiplication</p> <ul style="list-style-type: none"> • Understand multiplication to be repeated addition of equal groups • Apply this knowledge to solve multiplication problems • Make and interpret multiplication stories • Make connections and relate division to repeated subtraction, or separating a group (whole) into parts • Multiply numbers with products up to 40 using pictorial cues <p>Division</p> <ul style="list-style-type: none"> • Understand that division is repeated, equal subtraction into groups and apply this knowledge to solve division problems successfully • Make and interpret division stories • Divide groups of 40 or less accurately through pictures and numbers. <p>Multiplication and Division by 2 and 3</p> <ul style="list-style-type: none"> • Count forward and backwards by 2s and 3s and apply to memorize the 2 and 3 times tables • Apply concepts of multiplication to solve word problems using the bar method • Solve multiplication and division problems of 2 and 3 	Multiplication Multiply Division Divide

	<ul style="list-style-type: none"> • Describe the inverse relationship between multiplication and division • Demonstrate mastery of 2 and 3 times tables <p>Multiplication and Division by 4, 5 and 10</p> <ul style="list-style-type: none"> • Solve multiplication and division problems of 4, 5, 10 • Describe the inverse relationship between multiplication and division • Solve word problems related to multiplication and division. • Demonstrate mastery of 4, 5, 10 times tables 	
<p>Number – Fractions (March)</p>	<p>Fractions</p> <ul style="list-style-type: none"> • Use diagrams, drawings or models to show fractions as part of a whole • Identify, draw, and write out halves (1/2) and quarters (1/4) • Read and write fractions • Compare fractions using greater than >, less than <, equal to = • Solve word problems relating to fractions <p>Probability</p> <ul style="list-style-type: none"> • Determine whether a spinner is fair or unfair • State and explain the likelihood of an event using the terms certain, likely, unlikely, or impossible 	<p>Fraction Half (1/2) Quarter (1/4) One third (1/3)</p> <p>Fair Unfair Possible</p>
<p>Measurement (November- December)</p>	<p>Length</p> <ul style="list-style-type: none"> • Estimate and measure the length of objects using meters and centimeters as units of measurement • Identify and use the correct tools and units to measure various lengths (meter stick, ruler, tape measure) • Select the proper units of measurement when asked to measure various objects/distances • Memorize unit conversion of 1 m = 100 cm • Solve word problems related to length <p>Length</p> <ul style="list-style-type: none"> • Estimate and measure the length of objects using yards, feet, and inches as a unit of measurement • Estimate and measure distance using yards and feet as units of measurement • Select the proper units of measurement when asked to measure the length, width, or height 	<p>Meter, m Centimeter, cm Length Height Distance Measure Meter Stick Metric System Long(er) Short(er)</p> <p>Yard, yd Foot, Feet, ft Inch, in English Measuring System</p>

	<p>of various objects (yd vs ft vs in)</p> <ul style="list-style-type: none"> • Memorize unit conversions (1 ft is equal to 12 in. and 1 yd is equal to 3 ft.) • Solve word problems related to length • Compare and Contrast Metric and English Measuring Systems <p>Weight</p> <ul style="list-style-type: none"> • Select proper units of measurement to use to weight objects (kg vs. g, lbs. vs. oz.) • Compare the relative weight of objects • Solve word problems related to weight. <p>Temperature</p> <ul style="list-style-type: none"> • Read a thermometer • Identify a thermometer as an instrument to measure temperature • Identify different units for measuring temperature (Fahrenheit and Celsius) 	<p>Metric System Yard Stick</p> <p>Weight Kilogram, kg Heavier, Heaviest Lighter, Lightest Gram, g Pound, lb. Ounce, oz.</p> <p>Fahrenheit Celsius</p>
(April)	<p>Capacity</p> <ul style="list-style-type: none"> • Compare the capacities of various containers and identify which holds more and which holds less • Identify different units of measurement for capacity • Identify how much is a liter, cup, pint, quart and gallon. • Write, read, and identify the abbreviations for liter (l), cup (c), pint (pt), quart (qt), and gallon (gal). • Complete conversions for different units of measurements for capacity. 	<p>Capacity Liter Cup Pint Quart Gallon</p>
Money (March)	<p>Money</p> <ul style="list-style-type: none"> • Recognize and attribute value to the US currency \$1,\$5, \$10, \$20, \$100 bills, and pennies, nickels, dimes, and quarters • Count money using various combinations of bills and coins • Add and subtract money to create totals or make change • Write out amounts of money using dollar and cent signs • Solve word problems relating to money 	<p>Dollar Cent Bill Penny Nickel Dime Quarter Price and Cost Change</p>
Time (April)	<p>Time</p> <ul style="list-style-type: none"> • Tell time on a clock using "___ minutes to ___" and " ___ minutes past ___". 	<p>Time Half past</p>

	<ul style="list-style-type: none"> • Identify hour, minute, and second increments throughout a day • Identify time intervals between two periods of time • Solve word problems relating to time. 	Quarter to Quarter past Second Minute Hour
Data (May)	Graphs <ul style="list-style-type: none"> • Read and interpret data on different types of graphs (picture graph, bar graph) • Use data collected from graphs to solve problems and answer questions about the graph • Gather information and organize it into a graph 	Picture Graph Bar Graph
Geometry (May)	Geometry <ul style="list-style-type: none"> • Name and Identify 3 dimensional shapes • Identify flat and curved faces on various 3-D shapes • Sort and group shapes based on shared characteristics • Make new shapes with shapes using paper cuttings and tangrams • Identify what comes next in a pattern using shapes. • Create patterns with shapes. • Identify and draw lines of symmetry in geometric figures • Identify symmetry in nature • Predict how shapes can be changed by combining or dividing them 	Shape Circle Triangle Rectangle Square Cube Rectangular Prism Pattern Side and Corner Face (of a shape) Flat face Curved face Straight line Curved line Symmetry
(June)	Area <ul style="list-style-type: none"> • Identify square units • Make various shapes with square units and identify the shapes that have the same area • Identify the area of figures by counting the total square units in the figure • Solve word problems related to area. Perimeter <ul style="list-style-type: none"> • Identify the perimeter of different shapes 	Vertex/ vertices Edge Unit Square unit Perimeter Area
(June)	Review	