

Jemez Valley Public Schools
2nd GRADE MATHEMATICS • CONTENT MAP

Quadrant I	Quadrant II	Quadrant III	Quadrant IV
Strand 1: Number and Operations			
Standard: Students will understand numerical concepts and mathematical operations			
<p>Understand the relationship between numbers, quantities, and place value in whole numbers up to 1,000 and develop flexible ways of thinking about numbers by: (a) using multiple models to explore place value and the base-ten number system, (b) representing whole numbers and using them in flexible ways including decomposing and recombining numbers and seeing their relationships (e.g., 3 is one less than 4, one more than 2, two less than 5), (c) identifying whether a set of objects has an odd or even number of elements.</p> <p>Apply counting skills and number sense through meaningful activities by; (a) counting and recognizing “how many” in sets of objects up to 1,000, (b) counting forward and backward from given numbers to 1,000.</p> <p>Use addition combinations (addends through 10) and related subtraction combinations and develop strategies for computing based on number sense (e.g., 25 + 37: take 3 from 25 and use it to turn 37 into 40; then add 40 + 22 to get 62).</p> <p>Understand the relationship between numbers, quantities, and place value in whole numbers up to 1,000 and develop flexible ways of thinking about numbers by: (d) comparing and ordering numbers using a variety of terms (e.g., tens, less than, odd numbers), and (e) applying strategies for computation utilizing an understanding of place value (e.g., 48 + 25 would be 40 + 20 is 60, 8 + 5 is 13, 60 + 13 is 73).</p> <p>Apply counting skills and number sense through meaningful activities by; (c) connecting number words and numerals to the quantities they represent using physical models and other representations (e.g., 23 can be twenty-three 1’s , one 10 and thirteen 1’s, or two 10’s and three 1’s).</p>	<p>Apply strategies for computation utilizing an understanding of place value (e.g., 48 + 25 would be 40 + 20 is 60, 8 + 5 is 13, 60 + 13 is 73). (year long).</p> <p>Find the sum of two whole numbers up to three digits long.</p> <p>Use and explain strategies for addition and subtraction of multi-digit whole numbers (year long).</p> <p>Skip-count by 2, 5, and 10 to develop multiplicative reasoning and notational representations (e.g., 5, 10, 15, 20; 4 x 5 = 20; four groups of 5 equals 20).</p> <p>Understand and use the inverse relationships between addition and subtraction to solve problems and check solutions (28 + 31 = 59, therefore 59 - 31 = 28).</p> <p>Understand and use the inverse relationships between addition and subtraction to solve problems and check solutions (28 + 31 = 59, therefore, 59 - 31 = 28).</p> <p>Model and solve problems representing adding and subtracting amounts of money using dollars and coins.</p>	<p>Represent whole numbers and use them in flexible ways including decomposing and recombining numbers and see their relationships (e.g., 3 is one less than 4, one more than 2, two less than 5).</p> <p>Model how many parts make a whole, using equal fractional parts (e.g., 1/2, 1/3, 1/4, and 1/6) as equal parts of a whole).</p> <p>Select and use a variety of appropriate strategies methods to compute (e.g., objects, mental computation, estimation, paper and pencil). (year long).</p> <p>Find the difference of two whole numbers up to three digits long.</p>	<p>Identify and describe situations that require multiplication and division and develop strategies to solve problems for repeated joining of groups and partitioning into equal subgroups or share (e.g., repeated addition and subtraction, counting by multiples, equal sharing).</p>
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Strand 2: Algebra			
Standard II: Students will understand algebraic concepts and applications.			
<p>Recognize, reproduce, describe, extend, and create repeating and growing patterns, and translate from one representation to another (year long).</p> <p>Use objects, words, and symbols to explain the</p>	<p>Explain the concept of equal (e.g., quantities on both sides of equation are the same) by using objects or giving examples.</p>	<p>Solve addition and subtraction problems by using data from simple charts, picture graphs, and number sentences (year long).</p>	

<p>concept of addition.</p> <p>Use mathematical language to describe a variety of representations and mathematical ideas and situations (year long).</p> <p>Model situations of addition and subtraction of whole numbers using objects, pictures, and symbols (year long).</p> <p>Skip-count using calculators or a hundreds chart to identify, describe, predict, and make generalizations about number patterns to differentiate rote counting versus the meaning of the numbers (year long).</p>	<p>Relate everyday problem situations to number sentences involving addition and subtraction (e.g., 25 students are going to the store. Five students can ride in a car. How many cars will be needed?).</p>	<p>Describe quantitative change (e.g., a student growing two inches in one year, water heating up to a boil).</p> <p>Construct and solve open number sentences that have variables. (e.g., $20 = _ + 6$ $10 = _ + 7$).</p> <p>Solve problems related to trading (e.g., coin trading, measurement trading).</p>	
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Strand 3: Geometry			
Standard: Students will understand geometric concepts and applications.			
<p>Identify and describe the attributes of common figures in a plane and common objects in space by: (a) sorting, describing, and analyzing plane and solid geometric shapes (e.g., circle, triangle, square, rectangle, sphere, pyramid, cube, rectangular prism) based on various attributes (e.g., faces, edges, and corners).</p> <p>Identify and describe the attributes of common figures in a plane and common objects in space by; (b) putting shapes together and taking them apart to form other shapes (e.g., two congruent right triangles can be arranged to form a rectangle).</p> <p>Make and draw rectangular arrays of squares.</p> <p>Use systematic thinking to solve geometric puzzles (e.g., pentominoes).</p> <p>Recognize geometric shapes and structures in the environment and specify their location.</p> <p>Describe geometric shapes and structures from different perspectives (year long).</p> <p>Identify and describe the attributes of common figures in a plane and common objects in space by: (c) exploring lines of symmetry in two-dimensional shapes.</p>		<p>Demonstrate relationships of different attributes with concrete materials (e.g., change one attribute of a shape while preserving others such as increasing number of sides while perimeter stays the same).</p> <p>Select and use visualization skills to create mental images of geometric shapes.</p>	<p>Find and name locations with simple relationships like “near to” and apply ideas about relative position.</p> <p>Use maps to locate points and navigate through mazes or maps.</p> <p>Describe, name, and interpret direction in navigating space and apply ideas about direction and distance (year long).</p> <p>Visualize, justify, and create paths using landmarks, space, shapes, and descriptive language</p>

Use materials to investigate rotational and line symmetry and create shapes that have symmetry (year long).			
Relate geometric ideas to numbers (e.g., seeing rows in an array as a model of repeated addition). (year long).			
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Strand 4: Measurement			
Standard: Students will understand measurement systems and applications.			
Identify and use time intervals (e.g., hours, days, weeks, months) (year long).		Find and represent the value of a collection of coins and dollars up to \$5.00, using appropriate notation.	Identify a unit of measure (e.g., nearest inch) and repeat that unit comparing it to the item being measured.
Tell time to the nearest quarter-hour. Select and use appropriate measurement tools (e.g., ruler, yardstick, meter stick).			Estimate measurements and develop precision in measuring objects.
Use direct comparison to compare and order objects according to length, mass, and area (year long).			Develop an understanding that different measuring tools will yield different numerical measurements of the same object (e.g., ruler, yardstick, meter stick, paper clip). (year long).
Measure and compare common objects using standard and non-standard units of length (year long).			Develop common referents to make comparisons and estimates of length, volume, weight, area, and time (year long).
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Strand 5: Data Analysis and Probability			
Standard: Students will understand how to formulate questions, analyze data, and determine probabilities.			
Pose questions about students' selves and their surroundings and gather data by interviewing, surveying, and making observations to answer the questions posed.	Describe and interpret data by drawing conclusions and making conjectures based on the data collected. (year long).		
Represent data by using concrete objects, pictures, tables, numbers, tallies, and graphs (e.g., pictographs) (year long).	Display data in a variety of formats.		
Collect numerical data systematically (year long).	Recognize appropriate conclusions generated from the data collected		
	Identify patterns and explain the relationships of the units in the pattern (e.g., the number of ears on one dog, two dogs, etc., or linear numerical patterns).		
	Recognize inappropriate descriptions of the data set		

