

Jemez Valley Public Schools
THIRD 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>Exhibit an understanding of the place-value structure of the base-ten number system by (a) reading, modeling, writing, and interpreting whole numbers up to 10,000, and (b) comparing and ordering numbers up to 1,000 and (c) recognizing the position of a given number in the base-ten number system and its relationship to benchmark numbers such as 10, 50, 100, 500 (year long).</p> <p>Use whole numbers by using a variety of contexts and models.(year long).</p> <p>Identify some representations for some numbers and generate them by decomposing and recombining numbers (year long)</p> <p>Find the sum or difference of two whole numbers between 0 and 10,000.</p> <p>Select and use operations to solve problems.</p> <p>Demonstrate reasonable estimation strategies for measurement, computation, and problem solving.</p>	<p>Identify the relationship among commonly encountered factors and multiples (factor pairs of 12, multiples of 12).</p> <p>Use a variety of models to show an understanding of multiplication and division of whole numbers</p> <p>Solve simple multiplication and division problems Identify and use the relationship between multiplication and division to solve problems.</p> <p>Identify how the number of groups and the number of items in each group equals a product.</p> <p>Demonstrate the effects of multiplying and dividing on whole numbers.</p> <p>Use strategies to become fluent with the multiplication pairs up to 10 X 10.</p> <p>Compute with basic number combinations (e.g. multiplication pairs up to 10 x 10 and their division counterparts).</p> <p>Choose computational methods based on understanding the base ten number system, properties of multiplication and division, and number relationships Select and use operations (e.g., addition, multiplication, subtraction, division) to solve problems.</p>	<p>Use visual models and other strategies to recognize and generate equivalents of commonly used fractions and mixed numbers (halves, thirds, fourths, sixths, eighths, tenths)</p> <p>Demonstrate an understanding of fractions as parts of wholes, parts of collections or sets, and as locations on a number line.</p> <p>Use common fractions for measuring and money (using fractions and decimals as representations of the same concept such as $\frac{1}{2}$ of a dollar = \$.50)</p>	<p>Exhibit an understanding of the place-value structure of the base-ten number system by reading, modeling, writing, and interpreting whole numbers up to 100,000; compare and order the numbers: (a) recognize equivalent representations for the same number and generate them by decomposing and combining numbers (e.g., $853 = 8 \times 100 + 5 \times 10 + 3$; $853 = 85 \times 10 + 3$; $853 = 900 - 50 + 3$), (b) identify the numbers less than 0 by extending the number line and using negative numbers through familiar applications (e.g., temperature, money). (Introduction 4th grade)</p> <p>Extend the uses of whole numbers to the addition and subtraction of simple decimals (positive numbers to two places). (Introduction 4th grade)</p> <p>Identify and use relationships between multiplication and division (e.g. division is the inverse of multiplication) to solve problems (Reinforce)</p> <p>Use a variety of strategies (e.g., rounding and regrouping) to estimate the results of whole number computations and judge the reasonableness of the answers. (Introduction 4th grade)</p>

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Strand 2: Algebra			
Standard II: Students will understand algebraic concepts and applications.			
<p>Represent relationships of quantities in the form of mathematical expressions, equations, or inequalities (year long).</p> <p>Solve problems involving numeric equations. (year long)</p> <p>Select appropriate operational and relational symbols to make an expression true (year long)</p> <p>Determine the value of variables in missing part problems (year long)</p> <p>Recognize and use the commutative and associative properties of addition and multiplication (year long)</p> <p>Explore the ways that commutative, distributive, identity, and zero properties are useful in computing with numbers. (year long)</p> <p>Model problem situations with objects and use representation such as pictures, graphs, tables, and equations to draw conclusions. (year long)</p> <p>Describe relationships of quantities in the form of mathematical expressions, equations, or inequalities. (year long)</p>	<p>Use models of feet and inches to express simple unit conversions in symbolic form (e.g., 36 inches = ___ feet X 12) that develop conceptual understanding versus procedural skills.</p> <p>Recognize and use the commutative property of multiplication</p> <p>Create describe and extend numeric and geometric patterns including multiplication patterns.</p> <p>Recognize and use the commutative property of multiplication</p>	<p>Select appropriate operational and relational symbols to make an expression true (e.g., "if 4 ___ 3 = 12, what operational symbol goes in the box")</p> <p>Demonstrate how change in one variable can relate to change in a second variable (e.g., input-output machines, data tables).</p> <p>Represent simple functional relationships by (a) solving simple problems involving a functional relationship between two quantities, and (b) extending and recognizing a linear pattern by its rules.</p> <p>Solve problems using proportional relationships including unit pricing (e.g., four apples cost 80 cents; therefore, one apple costs 20 cents)</p>	<p>Represent relationships of quantities in the form of mathematical expressions, equations, or inequalities. (Reinforce)</p> <p>Express mathematical relationships using equations. (Introduction 4th grade)</p> <p>Select appropriate operational and relational symbols to make an expression true (e.g., "if 4 ___ 3 = 12, what operational symbol goes in the box?") (Reinforce).</p>
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Strand 3: Geometry			
Standard: Students will understand geometric concepts and applications.			
	<p>Use geometric model to solve problems in other areas of mathematics (e.g., using arrays as models of multiplication or area).</p>	<p>Use geometric models to solve problems in other areas of mathematics (e.g., using arrays as models of multiplication or area).</p> <p>Describe and compare the attributes of plane and solid geometric figures to show relationships and solve problems by (a) identifying, describing, and classifying polygons, (b) identifying lines of symmetry in two-dimensional shapes, (c) exploring attributes of quadrilaterals, (d) identifying right angles, and (e) identifying, describing, and classifying common three-dimensional geometric objects.</p>	

		<p>Identify and build 3D objects from 2D representations of that object. Identify and describe lines of symmetry in two-dimensional and 3D shapes.</p> <p>Describe location and movement using common language and geometric vocabulary</p> <p>Predict and describe the results of sliding, flipping, and turning two-dimensional shapes.</p> <p>Visualize, build, and draw geometric shapes.</p> <p>Create and describe mental images of objects, patterns and paths.</p> <p>Recognize geometric shapes and structures</p> <p>Explore geometric ideas and relationships as they apply to other disciplines and to problems that arise in the classroom or in everyday life.</p> <p>Use ordered pairs to graph, locate specific points, create path, and measure distances within a coordinate grid system. Use a two-dimensional grid system (e.g., a map) to locate positions representing actual places.</p>	
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Strand 4: Measurement			
Standard: Students will understand measurement systems and applications.			
Identify and use time intervals (hours, days, weeks, months, years).	<p>Select and use appropriate measurement tools</p> <p>Identify properties (e.g., length, area, weight, volume) and select the appropriate type of unit for measuring each property.</p> <p>Use appropriate standard units and tools to estimate, measure, and solve problems (e.g., length, area, weight)</p> <p>Demonstrate understanding that measurements are approximations, investigate differences in units and their</p>	<p>Recognize a 90-degree angle and use it as a strategy to estimate the size of other angles.</p> <p>Identify time to the nearest minute (elapsed time) and relate it to everyday events.</p> <p>Choose and use the appropriate units and measurement tools to quantify the properties of objects (e.g., length [ruler], width [ruler], or mass [balance scale]). Identify properties (e.g., length, area, weight, volume) and select the appropriate type of unit for measuring each property.</p> <p>Demonstrate understanding that measurements are approximations, investigate differences in units and their</p>	

	<p>effect on precision, and consider the degree of accuracy for different situations.</p> <p>Estimate measurements.</p> <p>Find the area of rectangles using appropriate tools (e.g. grid paper, tiles)</p> <p>Demonstrate understanding of the need for measuring with units and become familiar with standard units in the U.S. customary system.</p>	<p>effect on precision, and consider the degree of accuracy for different situations.</p>	
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Strand 5: Data Analysis and Probability			
Standard: Students will understand how to formulate questions, analyze data, and determine probabilities.			
<p><i>Represent data using table and graphs</i></p> <p>Collect and organize data using observations, measurements, surveys, or experiments (year long).</p> <p>Represent data using tables and graphs (e.g., line plots, bar graphs, and line graphs). (year long)</p> <p>Apply and explain the uses of sampling techniques for gathering data.</p> <p>Analyze data displayed in a variety of formats to make reasonable inferences and predictions, answer questions, and make decisions. (year long)</p>			<p>Conduct simple experiments by determining the number of possible outcomes and make simple predictions (a) identify whether events are certain, likely, unlikely, or impossible (b) record the outcomes for a simple event and keep track of repetitions (c) summarize and record the results in a clear and organized way (d) use the results to predict future events</p> <p>Discuss the degree of likelihood of events and use terminology such as “certain”, “likely”, “unlikely”.</p> <p>Predict the outcomes of simple experiments (e.g., coin tossing) and test the predictions using concrete objects (e.g., coins, counter, number cubes, spinners)</p> <p>Record the probability of a specific outcome for a simple probability situation (e.g., probability is 3 out of 7 for choosing a black ball; 3/7)</p>