

# Bellevue School District

## Kindergarten - Eighth Grade Math Standards Continuum

<u>Kindergarten</u>	<u>First Grade</u>	<u>Second Grade</u>	<u>Third Grade</u>	<u>Fourth Grade</u>
<ul style="list-style-type: none"> <li> Count objects through 30 and use numbers to express quantity.</li> <li> Use number notation and place value up to 25.</li> <li> Compare numbers up to 30 and sets of up to 10 objects.</li> <li> Understand addition as putting together and subtraction as breaking apart for totals equal to or less than 10.</li> <li> Compose and decompose numbers 2 through 10.</li> <li> Compare the length, weight and capacity of objects.</li> <li> Recognize and use words that represent periods of time.</li> <li> Create, explore and describe shapes.</li> <li> Identify, sort and classify objects.</li> <li> Create, describe and extend simple patterns.</li> </ul>	<ul style="list-style-type: none"> <li> Understand and use number notation and place value up to 100.</li> <li> Compare numbers up to 100 and arrange them in numerical order.</li> <li> Understand how to add, subtract, compose and decompose numbers up to 100.</li> <li> Measure length, weight, capacity and time.</li> <li> Count, add and subtract money up to \$100.00.</li> <li> Make picture graphs of measurements and use them to pose and solve problems.</li> <li> Recognize, describe, draw and manipulate two-dimensional figures.</li> <li> Recognize and extend simple patterns.</li> </ul>	<ul style="list-style-type: none"> <li> Understand and use number notation and place value up to 1000.</li> <li> Know how to locate numbers on the number line.</li> <li> Understand how to add and subtract numbers up to 1000 and solve related word problems.</li> <li> Multiply small whole numbers by repeated addition and understand division as the inverse of multiplication.</li> <li> Understand and use unit fractions.</li> <li> Add, subtract, compare and estimate measurements.</li> <li> Understand how to tell time.</li> <li> Understand how to count, add and subtract money.</li> <li> Represent measurements by means of bar graphs.</li> <li> Recognize, classify and transform geometric figures in two and three dimensions.</li> <li> Make, identify and extend patterns.</li> </ul>	<ul style="list-style-type: none"> <li> Understand how to read, write, add and subtract numbers up to 10,000.</li> <li> Understand how to multiply and divide with simple numbers.</li> <li> Solve contextual, experiential, and word problems requiring more than one arithmetic operation.</li> <li> Understand and use fractions.</li> <li> Understand what it means to add and subtract fractions with equal denominators.</li> <li> Understand and use the idea of equivalent fractions.</li> <li> Recognize why measurements need units, and know how to use common units.</li> <li> Recognize basic elements of geometric figures and use them to describe shapes.</li> <li> Identify and draw perpendicular, parallel, and non-parallel lines and planes.</li> <li> Explore and identify familiar two- and three-dimensional shapes.</li> <li> Make and test conjectures about whole number arithmetic.</li> </ul>	<ul style="list-style-type: none"> <li> Understand how to read, write, add and subtract numbers up to 1,000,000.</li> <li> Understand the need to approximate or estimate and know how to do it.</li> <li> Understand and identify small prime and composite numbers.</li> <li> Understand how to multiply small multi-digit numbers and to divide by a single digit.</li> <li> Solve multi-step problems using whole numbers and combinations of the four arithmetic operations.</li> <li> Understand equivalent fractions.</li> <li> Understand how to add and subtract fractions and use these skills to solve problems.</li> <li> Understand and use decimal numbers with up to two decimal places.</li> <li> Understand how to measure perimeter, area and volume and how to solve problems using these concepts.</li> <li> Record, arrange, present and interpret data using tables and bar graphs.</li> <li> Know and use the definitions of angle, polygon and circle.</li> <li> Use properties of arithmetic to solve simple problems.</li> <li> Evaluate simple expressions.</li> </ul>

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<u>Fifth Grade</u>	<u>Sixth Grade</u>	<u>Seventh Grade</u>	<u>Eighth Grade</u>	<u>Key</u>
<p> Understand and use the relation between prime and composite numbers.</p> <p> Understand and use division of whole numbers.</p> <p> Understand how to add and subtract fractions.</p> <p> Understand what it means to multiply fractions and know how to do it.</p> <p> Be able to explain and use the interpretation of a fraction as division.</p> <p> Understand how to multiply terminating decimals by whole numbers.</p> <p> Understand and use ratios and percentages.</p> <p> Solve multi-step problems using multi-digit positive numbers, fractions and decimals.</p> <p> Convert measurements of length, weight, area, volume and time within a single system.</p> <p> Understand, derive and use the formula for the area of a triangle.</p> <p> Know how to find the area of a polygon by decomposing it into triangles.</p> <p> Find, interpret and use the average (mean) of a set of data.</p> <p> Understand how to measure angles in degrees and solve problems involving angles.</p> <p> Understand how to interpret and plot points on the coordinate plane.</p>	<p> Demonstrate thorough understanding of negative numbers.</p> <p> Understand division of positive fractions and mixed numbers, and use division to solve a variety of problems.</p> <p> Understand the notation and calculation of positive whole number powers.</p> <p> Calculate with and solve problems using rational numbers and percentages.</p> <p> Understand the meaning of probability and how it is expressed and used.</p> <p> Understand and use basic properties of triangles and quadrilaterals.</p> <p> Know basic definitions and facts about angles, lines and triangles in two dimensions and use these facts to solve problems.</p> <p> Understand and use the definition of congruence for simple polygons.</p> <p> Know and use the definitions and basic properties of rotations, reflections and translations in the plane.</p> <p> Understand and make use of different kinds of symmetry in the plane.</p> <p> Translate verbal expressions into algebraic expressions and use these expressions to solve problems.</p>	<p> Know how to interpret and convert to and from the decimal forms of rational numbers.</p> <p> Add, subtract, multiply and divide rational numbers and use these skills to solve mathematical, everyday and word problems.</p> <p> Understand and use the properties and structure of the real number line.</p> <p> Know how to collect, organize and analyze both single variable and two-variable data.</p> <p> Know how to do basic constructions using a straightedge and compass.</p> <p> Demonstrate thorough knowledge of similarity of triangles, including definitions, criteria and applications.</p> <p> Demonstrate understanding of similarity of other two-dimensional figures.</p> <p> Demonstrate thorough understanding of slope -- what it means, how to calculate it, and how to use it in problems.</p> <p> Use the arithmetic properties of numbers to simplify expressions and solve equations.</p> <p> Know what is meant by the graph of an equation.</p> <p> Understand fully the properties of linear functions <math>y = kx + b</math> and use these properties in a variety of applications.</p> <p> Recognize that many functions, including inverse relationships, are not linear.</p>	<p> Understand the definition of irrational numbers and know some examples.</p> <p> Understand and use derived quantities and indirect measurements.</p> <p> Demonstrate thorough mastery of ratios, rates and percentages.</p> <p> Understand probability and relative frequency and use these concepts to solve problems.</p> <p> Demonstrate thorough understanding of the Pythagorean theorem.</p> <p> Demonstrate thorough understanding of the area and circumference of a circle.</p> <p> Solve problems involving perimeter, area, volume and surface area.</p> <p> Understand properties of scaling, dilation and representation of three-dimensional objects in two dimensions.</p> <p> Understand and solve problems involving simultaneous linear equations or inequalities in two variables.</p> <p> Be able to use the mathematical notation for an arbitrary function.</p> <p> Know, understand and use common nonlinear functions, identities and equations.</p>	<p> Number and Operations</p> <p> Measurement and Data</p> <p> Geometry</p> <p> Algebraic Thinking</p>