

### K-5 Common Core Mathematics Continuum

We created this document as a brief overview of the Common Core State Standards in Mathematics. It is important to understand that this is a very brief overview and the standards have a much more detailed description. Please see the links below to have a better understanding of the standards by grade.

Strand	K	1	2	3	4	5
<b>Counting &amp; Cardinality</b>	<ul style="list-style-type: none"> <li>-Know number names and the count sequence.</li> <li>Count to 100 by 1's and 10's.</li> <li>-Count to tell the number of objects</li> <li>-Compare numbers</li> <li>-Write numbers 0-20</li> </ul>					
<b>Operations &amp; Algebraic Thinking</b>	<ul style="list-style-type: none"> <li>-Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</li> <li>-Add and subtract within 10 using objects or drawings.</li> <li><b>-Fluently</b> add and subtract within 5.</li> </ul>	<ul style="list-style-type: none"> <li>-Represent and solve problems involving addition and subtraction within 20.</li> <li>-Understand and apply properties of operations and the relationship between addition and subtraction.</li> <li>-Add and subtract within 20.</li> <li>- Work with addition and subtraction equations.</li> <li><b>-Fluently</b> add and subtract within 10.</li> </ul>	<ul style="list-style-type: none"> <li>-Represent and solve problems involving addition and subtraction within 100.</li> <li>-Work with equal groups of objects to gain foundation with multiplication.</li> <li><b>-Fluently</b> add and subtract within 20 using mental strategies.</li> </ul>	<ul style="list-style-type: none"> <li>-Represent and solve problems involving multiplication and division.</li> <li>-Understand properties of multiplication and the relationship between multiplication and division.</li> <li>-Multiply and divide within 100.</li> <li>-Solve problems involving the four operations, and identify and explain patterns in arithmetic.</li> </ul>	<ul style="list-style-type: none"> <li>-Use the four operations with whole numbers to solve problems.</li> <li>-Gain familiarity with factors and multiples for the whole number range 1-100.</li> <li>-Generate and analyze patterns.</li> </ul>	<ul style="list-style-type: none"> <li>-Write and interpret numerical expressions using parenthesis, brackets or braces.</li> <li>-Analyze patterns and relationships. For example, looking at coordinate pairs and the relationship to the graph.</li> </ul>

<p><b>Number &amp; Operations in Base Ten</b></p>	<p>-Work with numbers 11-19 to gain foundations for place value.</p>	<p>-Extend the counting sequence up to 120 starting at any counting number less than 120. -Understand place value with two-digit numbers. -Use place value understanding and properties of operations to add and subtract within 100.</p>	<p>-Count within 1000; skip count by 5's, 10's and 100's. -Understand place value with two and three-digit numbers. -Use place value understanding and properties of operations to <b>fluently</b> add and subtract within 100. -Add and subtract within 1000.</p>	<p>-Use place value understanding and properties of operations to perform multi-digit arithmetic. <b>-Fluently</b> add and subtract within 1000.</p>	<p>-Generalize place value understanding for multi-digit whole numbers. -Use place value understanding and properties of operations to perform multi-digit arithmetic (addition, subtraction, multiplication and division). <b>-Fluently</b> add and subtract multi-digit whole numbers using the <b>standard algorithm</b>.</p>	<p>-Understand the place value system and how the power of ten affects the value of a number in its place. -Read, write and compare, and round decimals to thousandths. -Perform operations with multi-digit whole numbers and with decimals to hundredths.</p>
<p><b>Strand</b></p>	<p><b>K</b></p>	<p><b>1</b></p>	<p><b>2</b></p>	<p><b>3</b></p>	<p><b>4</b></p>	<p><b>5</b></p>

<p><b>Number and Operations-Fractions</b></p>				<ul style="list-style-type: none"> <li>-Develop understanding of fractions as numbers.</li> <li>-Explain equivalence of fractions.</li> </ul>	<ul style="list-style-type: none"> <li>-Extend understanding of fraction equivalence and ordering.</li> <li>-Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.</li> <li>-Solve problems involving addition and subtraction of fractions with like denominators.</li> <li>-Solve problems involving multiplication of a fraction by a whole number.</li> <li>-Understand decimal notation for fractions, and compare decimal fractions.</li> </ul>	<ul style="list-style-type: none"> <li>-Use equivalent fractions as a strategy to add and subtract fractions solving raw number and word problems.</li> <li>-Use benchmark fractions to estimate and assess reasonableness.</li> <li>-Apply and extend previous understandings of multiplication and division of fractions.</li> <li>-Interpret multiplication as scaling.</li> </ul>
---	--	--	--	---	---	---

<p><b>Measurement &amp; Data</b></p>	<ul style="list-style-type: none"> <li>-Describe and compare measurable attributes.</li> <li>-Classify objects and count the number of objects in each category</li> </ul>	<ul style="list-style-type: none"> <li>-Measure lengths indirectly and by iterating length units.</li> <li>-Tell and write time.</li> <li>-Represent and interpret data.</li> </ul>	<ul style="list-style-type: none"> <li>-Measure and estimate lengths in standard units.</li> <li>-Relate addition and subtraction to length.</li> <li>-Work with time and money.</li> <li>-Represent and interpret data.</li> </ul>	<ul style="list-style-type: none"> <li>-Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.</li> <li>-Represent and interpret data.</li> <li>-Geometric measurement: understand concepts of area and relate area to multiplication and to addition.</li> <li>-Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.</li> </ul>	<ul style="list-style-type: none"> <li>-Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit including <i>km, m, cm, kg, g, lb., oz., l, ml, hr, min. sec.</i></li> <li>-Apply the area and perimeter formulas for rectangles.</li> <li>-Represent and interpret data.</li> <li>-Geometric measurement: understand concepts of angle and measure angles.</li> </ul>	<ul style="list-style-type: none"> <li>-Convert like measurement units within a given measurement system.</li> <li>-Represent and interpret data using a line plot with fractions of a unit.</li> <li>-Understand concepts of volume and relate volume to the operations of multiplication and addition.</li> </ul>
<p><b>Strand</b></p>	<p><b>K</b></p>	<p><b>1</b></p>	<p><b>2</b></p>	<p><b>3</b></p>	<p><b>4</b></p>	<p><b>5</b></p>
<p><b>Geometry</b></p>	<ul style="list-style-type: none"> <li>-Identify and describe shapes.</li> <li>-Analyze, compare, create, and compose shapes.</li> </ul>	<ul style="list-style-type: none"> <li>-Reason with shapes and their attributes (rectangles, squares, trapezoids, circles, cubes, rectangular prisms, cones and cylinders).</li> </ul>	<ul style="list-style-type: none"> <li>-Reason with shapes and their attributes (triangles, quadrilaterals, pentagons, hexagons and cubes).</li> </ul>	<ul style="list-style-type: none"> <li>-Reason with shapes and their attributes.</li> </ul>	<ul style="list-style-type: none"> <li>-Draw and identify lines and angles (points, lines, line segments, rays, angles, perpendicular and parallel lines), and classify shapes by properties of their lines and angles.</li> </ul>	<ul style="list-style-type: none"> <li>-Graph points on the coordinate plane to solve real-world and mathematical problems.</li> <li>-Classify two-dimensional figures into categories based on their properties.</li> </ul>

**Links to helpful Common Core sites:**

<http://www.corestandards.org/>

<http://ime.math.arizona.edu/progressions/>

<https://www.engageny.org/parent-guides-to-the-common-core-standards>

<http://www.ncesd.org/Page/1034>

**6-8 Common Core Mathematics Continuum**

We created this document as a brief overview of the Common Core State Standards in Mathematics. It is important to understand that this is a very brief overview and the standards have a much more detailed description. Please see the links below to have a better understanding of the standards by grade.

Strand	6	7	8
--------	---	---	---

<b>Ratios &amp; Proportional Relationships</b>	-Understand ratio concepts and use ration reasoning to solve problems.	-Analyze proportional relationships and use them to solve real-world and mathematical problems.	-Know that there are numbers that are not rational and approximate them by rational numbers.
<b>The Number System</b>	-Apply and extend previous understandings of multiplication and division to divide fractions by fractions. -Compute fluently with multi-digit numbers and find common factors and multiples. -Apply and extend pervious understandings of numbers to the system of rational numbers.	-Apply and extend previous understandings of operations with fractions.	
<b>Expressions &amp; Equations</b>	-Apply and extend previous understandings of arithmetic to algebraic expressions. -Reason about and solve one variable equations and inequalities -Represent and analyze quantitative relationships between dependent and independent variables.	-Use properties of operations to generate equivalent expressions. -Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	-Expressions and equations work with radical and integer exponents. -Understand the connections between proportional relationships, line and linear equations. -Analyze and solve linear equations and pairs of simultaneous linear equations.
<b>Geometry</b>	-Solve real-world and mathematical problems involving area, surface area and volume.	-Draw, construct and describe geometrical figures and describe the relationships between them. -Solve real-life and mathematical problems involving angle measure, area, surface area and volume.	-Understand congruence and similarity using physical models, transparencies or geometry software. -Understand and apply the Pythagorean Theorem. -Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.
<b>Statistics &amp; Probability</b>	-Develop understanding of statistical variability. -Summarize and describe distributions.	-Use random sampling to draw inferences about a population. -Draw informal comparative inferences about two populations. -Investigate chance processes and develop and, use and evaluate probability models.	-Investigate patterns or associates in bivariate data.
<b>Functions</b>			-Define, evaluate and compare functions. -Use functions to model relationships between quantities.

Links to helpful Common Core sites:

<http://www.corestandards.org/>

<http://ime.math.arizona.edu/progressions/>

<https://www.engageny.org/parent-guides-to-the-common-core-standards>

<http://www.ncesd.org/Page/1034>