

Table 3.2:
CCSS Content Domains and Clusters by Grade, With Emphasis on Grades 6–8

Grades K–4	Grade 5	Grade 6	Grade 7	Grade 8	High School
<p>Number and Operations in Base Ten</p> <p>Understand the place value system.</p> <p>Perform operations with multidigit whole numbers and with decimals to hundredths.</p> <p>Critical area: Extending division to two-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations</p>	<p>The Number System</p> <p>Apply and extend previous understandings of multiplication and division to divide fractions by fractions.</p> <p>Compute fluently with multidigit numbers and find common factors and multiples.</p> <p>Apply and extend previous understandings of numbers to the system of rational numbers.</p> <p>Critical area: Completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers</p>	<p>The Number System</p> <p>Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.</p> <p>Critical area: Developing understanding of operations with rational numbers and working with expressions and linear equations</p>	<p>The Number System</p> <p>Know that there are numbers that are not rational, and approximate them by rational numbers.</p>	<p>Number and Quantity</p>	<p>Modeling</p>

<p>Grades K-4</p> <p>Number and Operations—Fractions (Grades 3-5 only)</p>	<p>Grade 5</p> <p>Number and Operations—Fractions</p> <p>Use equivalent fractions as a strategy to add and subtract fractions.</p> <p>Apply and extend previous understandings of multiplication and division to multiply and divide fractions.</p> <p>Critical area: Developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers, and whole numbers divided by unit fractions)</p>	<p>Grade 6</p> <p>Ratios and Proportional Relationships</p> <p>Understand ratio concepts and use ratio reasoning to solve problems.</p> <p>Critical area: Connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems</p>	<p>Grade 7</p> <p>Ratios and Proportional Relationships</p> <p>Analyze proportional relationships and use them to solve real-world and mathematical problems.</p> <p>Critical area: Developing understanding of and applying proportional relationships</p>	<p>Grade 8</p> <p>Functions</p> <p>Define, evaluate, and compare functions.</p> <p>Use functions to model relationships between quantities.</p> <p>Critical area: Grasping the concept of a function and using functions to describe quantitative relationships</p>	<p>High School</p> <p>Functions</p> <p>Modeling</p>
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Grades K–4	Grade 5	Grade 6	Grade 7	Grade 8	High School
<p>Operations and Algebraic Thinking Counting and Cardinality (Kindergarten only)</p>	<p>Operations and Algebraic Thinking Write and interpret numerical expressions. Analyze patterns and relationships.</p>	<p>Expressions and Equations 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. Critical area: Writing, interpreting, and using expressions and equations</p>	<p>Expressions and Equations Use properties of operations to generate equivalent expressions. Solve real-life and mathematical problems using numerical and algebraic expressions and equations. Critical area: See the Number System</p>	<p>Expressions and Equations Work with radicals and integer exponents. Understand the connections between proportional relationships, lines, and linear equations. Analyze and solve linear equations and pairs of simultaneous linear equations. Critical area: Formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations</p>	<p>Algebra</p>
					<p>Modeling</p>

<p>Grades K–4</p> <p>Geometry</p>				<p>High School</p> <p>Geometry</p>
<p>Grade 5</p> <p>Geometry</p>	<p>Graph points on the coordinate plane to solve real-world and mathematical problems.</p> <p>Classify two-dimensional figures into categories based on their properties.</p>			
<p>Grade 6</p> <p>Geometry</p>	<p>Solve real-world and mathematical problems involving area, surface area, and volume.</p>			
<p>Grade 7</p> <p>Geometry</p>	<p>Draw, construct, and describe geometrical figures and describe the relationships between them.</p> <p>Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.</p> <p>Critical area: Solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume</p>			
<p>Grade 8</p> <p>Geometry</p>	<p>Understand congruence and similarity using physical models, transparencies, or geometry software.</p> <p>Understand and apply the Pythagorean theorem.</p> <p>Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.</p> <p>Critical area: Analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean theorem.</p>			
<p>High School</p> <p>Modeling</p>				

<p>Grades K–4 Measurement and Data</p>	<p>Grade 5 Measurement and Data</p> <p>Convert like measurement units within a given measurement system. Represent and interpret data. Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition. Critical area: Developing understanding of volume</p>	<p>Grade 6 Statistics and Probability</p> <p>Develop understanding of statistical variability. Summarize and describe distributions. Critical area: Developing understanding of statistical thinking</p>	<p>Grade 7 Statistics and Probability</p> <p>Use random sampling to draw inferences about a population. Draw informal comparative inferences about two populations. Investigate chance processes and develop, use, and evaluate probability models. Critical area: Drawing inferences about populations based on samples</p>	<p>Grade 8 Statistics and Probability</p> <p>Investigate patterns of association in bivariate data. Critical area: See Expressions and Equations</p>	<p>High School Statistics and Probability</p> <p>Modeling</p>
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