

Overview of the Common Core State Standards Mathematics Grades 6-8

	Grade 6	Grade 7	Grade 8
Ratios and proportional Relationships	<ul style="list-style-type: none"> Understand ratio concepts and use ratio reasoning to solve problems. 	<ul style="list-style-type: none"> Analyze proportional relationships and use them to solve real-world and mathematical problems. 	
The Number System	<ul style="list-style-type: none"> 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 previous understandings of numbers to the system of rational numbers. 	<ul style="list-style-type: none"> Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. 	<ul style="list-style-type: none"> Know that there are numbers that are not rational, and approximate them by rational numbers.
Expressions and Equations	<ul style="list-style-type: none"> Apply and extend previous understanding of arithmetic to algebraic expressions. Reason about and solve one-variable equations and inequalities Represent and analyze quantitative relationships between dependent and independent variables. 	<ul style="list-style-type: none"> Use properties of operations to generate equivalent expressions. Solve real-life and mathematical problems using numerical and algebraic expressions and equations. 	<ul style="list-style-type: none"> 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.
Functions			<ul style="list-style-type: none"> Define, evaluate, and compare functions. Use functions to model relationships between quantities.
Geometry	<ul style="list-style-type: none"> Solve real-world and mathematical problems involving area, surface area, and volume. 	<ul style="list-style-type: none"> Draw, construct and describe geometrical figures and describe the relationships between them. Solve real-life and mathematical problems involving angle measure, area, and surface area, and volume. 	<ul style="list-style-type: none"> 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.
Statistics and Probability	<ul style="list-style-type: none"> Develop understanding of statistical variability. Summarize and describe distributions. 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Investigate patterns of association in bivariate data.