CCSS Mathematics K-8 Overview	KINDERGARTEN	FIRST GRADE	SECOND GRADE	THIRD GRADE
Counting & Cardinality	• Know number names and the count sequence. • Count to tell the number of objects. • Compare numbers.			
Number & Operations in Base 10	• Work with numbers 11–19 to gain foundations for place value.	• Extend the counting sequence. • Understand place value. • Use place value understanding and properties of operations to add and subtract.	• Understand place value. • Use place value understanding and properties of operations to add and subtract.	• Use place value understanding and properties of operations to perform multi-digit arithmetic.
Number & Operations - Fractions				• Develop understanding of fractions as numbers.
Number Systems				
Operations & Algebraic Thinking	• Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.	• Represent and solve problems involving addition and subtraction. • Understand and apply properties of operations and the relationship between addition and subtraction. • Add and subtract within 20. • Work with addition and subtraction equations.	• Represent and solve problems involving addition and subtraction. • Add and subtract within 20. • Work with equal groups of objects to gain foundations for multiplication.	• Represent and solve problems involving multiplication and division. • Understand properties of multiplication and the relationship between multiplication and division. • Multiply and divide within 100. • Solve problems involving the four operations, and identify and explain patterns in arithmetic.

Expressions and Equations				
Ratio & Proportional Reasoning				
Functions				
Measurement & Data	• Describe and compare measurable attributes. • Classify objects and count the number of objects in categories.	• Measure lengths indirectly and by iterating length units. • Tell and write time. • Represent and interpret data.	• Measure and estimate lengths in standard units. • Relate addition and subtraction to length. • Work with time and money. • Represent and interpret data.	• Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects. • Represent and interpret data. • Geometric measurement: understand concepts of area and relate area to multiplication and to addition. • Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
Statistics & Probability				
Geometry	• Identify and describe shapes. • Analyze, compare, create, and compose shapes.	• Reason with shapes and their attributes.	• Reason with shapes and their attributes.	• Reason with shapes and their attributes.

FOURTH GRADE	FIFTH GRADE	SIXTH GRADE	SEVENTH GRADE	EIGHTH GRADE
• Generalize place value understanding for multidigit whole numbers. • Use place value understanding and properties of operations to perform multi-digit arithmetic.	• Understand the place value system. • Perform operations with multi-digit whole numbers and with decimals to hundredths.			
• Extend understanding of fraction equivalence and ordering. • Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. • Understand decimal notation for fractions, and compare decimal fractions.	• Use equivalent fractions as a strategy to add and subtract fractions. • Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			
		• 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.	• Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	• Know that there are numbers that are not rational, and approximate them by rational numbers.
• Use the four operations with whole numbers to solve problems. • Gain familiarity with factors and multiples. • Generate and analyze patterns.	• Write and interpret numerical expressions. • Analyze patterns and relationships.			

		• 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.	• 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.
		• Understand ratio concepts and use ratioreasoning to solve problems.	• Analyze proportional relationships and use them to solve real-world and mathematical problems.	
				• Define, evaluate, and compare functions. • Use functions to model relationships between quantities.
• Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. • Represent and interpret data. • Geometric measurement: understand concepts of angle and measure angles	• 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.			
		• 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, use, and evaluate probability models.	• Investigate patterns of association in bivariate data.
• Draw and identify lines and angles, and classifyshapes by properties of their lines and angles.	• Graph points on the coordinate plane to solve real-world and mathematical problems. • Classify two-dimensional figures into categories based on their properties.	• 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.