

## GRADE 6: UNIT OVERVIEWS

Unit	Multi-Hour Lessons	Summary	Class Hours	Content Standards Primary (Connections)
6-1 Statistics	<ul style="list-style-type: none"> <li>Introduction to Data Analysis</li> <li>More Measures of Center and Spread</li> <li>Data Displays</li> </ul>	Students calculate and interpret measures of center and spread, explore the effect of outliers on measures of center, identify characteristics of statistical questions, and construct and analyze data displays.	3 lessons 13-14 hours	6.SP.1-5
6-2 Factors and Multiples	<ul style="list-style-type: none"> <li>Greatest Common Factor</li> <li>Least Common Multiple</li> <li>GCF and LCM Extended</li> </ul>	Students explore prime and composite numbers, factors and greatest common factors (GCF), and multiples and least common multiples (LCM).	3 lessons 12-14 hours	6.NS.4
6-3 Ratio Representations	<ul style="list-style-type: none"> <li>Tape Diagrams and Tables</li> <li>Equivalent Ratios and Tables</li> <li>Equivalent Ratios and Double Number Lines</li> <li>Measurements and Rates</li> </ul>	Students develop ratio language and notation, use several ratio representations to examine whether ratios are equivalent, and solve various problems. Included is the use of ratio reasoning to do measurement conversions and solve problems involving measurements.	4 lessons 15-17 hours	6.RP.1-3
6-4 Division	<ul style="list-style-type: none"> <li>Whole Number Division</li> <li>Decimal Division and Rate Problems</li> <li>Fraction Division: Divide Across</li> <li>Fraction Division: Multiply by the Reciprocal</li> </ul>	Students explore the world of division, including whole numbers, decimals, and fractions. Whole number “chunking” division leads to the standard algorithm. Decimal division is developed, practiced for fluency, and applied to solving rate problems. A “divide across” fraction procedure leads to the traditional “divide by the reciprocal” algorithm.	4 lessons 14-16 hours	6.NS.1-3 6.RP.2-3
6-5 Percent	<ul style="list-style-type: none"> <li>Percent as a Number</li> <li>Percent of a Number</li> <li>Percent Applications</li> </ul>	Students build concepts around percent reasoning, including percent as a number, and then the percent of a number. They solve percent problems and applications.	3 lessons 12-13 hours	6.RP.3 6.NS.3 6.SP.2-5
6-6 Expressions	<ul style="list-style-type: none"> <li>Numerical Expressions</li> <li>Algebraic Expressions</li> <li>Words, Numbers, and Symbols</li> </ul>	Students apply the distributive property to rewrite numerical expressions, use exponential notation, and evaluate expressions using the order of operations. Algebra vocabulary is introduced, and attention is focused on writing and evaluating algebraic expressions. Students translate between words, numbers, and symbols, and they explore the meaning of equivalent expressions.	3 lessons 12-14 hours	6.EE.1-4, 6 6.NS.3-4

Ratio and Proportional Relationships

Number Sense

Expressions and Equations

Statistics and Probability

Geometry

## GRADE 6: UNIT OVERVIEWS (Continued)

Unit	Multi-Hour Lessons	Summary	Class Hours	Content Standards Primary (Connections)
6-7 Inputs and Outputs	<ul style="list-style-type: none"> <li>Visual Patterns</li> <li>Comparing Prices</li> <li>Rate Applications</li> </ul>	Students use unit rates, tables, double number lines, graphs, and algebraic input-output rules (equations) to describe visual patterns, compare prices, and solve rate problems.	3 lessons 12-14 hours	6.EE.9 6.RP.3 6.NS.3 6.EE.2, 6 6.SP.1, 3.
6-8 Solving Equations	<ul style="list-style-type: none"> <li>Algebraic Equations</li> <li>Solving Equations 1: Addition and Multiplication</li> <li>Solving Equations 2: All Four Operations</li> </ul>	Students use mobiles, balance scales, tape diagrams, and familiar contexts to explore equation solving. "Mental math" techniques, visuals, and formal procedures are used to solve equations, and equations are used for problem-solving.	3 lessons 13-15 hours	6.EE.5-8 6.EE.9
6-9 Area and Volume	<ul style="list-style-type: none"> <li>Area of Polygons</li> <li>Surface Area of Prisms and Pyramids</li> <li>Volume of Prisms</li> </ul>	Students derive area formulas for common polygons and use the formulas to solve problems. They use nets to find the surface area of solids and apply that knowledge to problem-solving. They extend their knowledge of the volume of a rectangular prism to solving problems with those having fractional edge lengths	3 lessons 14-16 hours	6.G.1, 2, 4 6.EE.2-4, 6, 9 6.RP.3
6-10 The Number Line and the Coordinate Plane	<ul style="list-style-type: none"> <li>Extending the Number Line</li> <li>Between the Integers</li> <li>Graphing in the Coordinate Plane</li> <li>Polygons in the Coordinate plane</li> </ul>	Students use contexts and number lines to learn about integers and non-integer rational numbers, including the concepts of opposites and absolute value. They move to the coordinate plane where they graph ordered pairs of numbers, find distances between points and side lengths of a polygon and explore the effects of reflections across axes.	4 lessons 14-15 hours	6.NS.5-8 6.EE.5,8 6.G.3

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### Grade 6: Big Ideas and Connections

