Mathematics 6 delivers instruction, practice, and review designed to develop computational fluency, deepen conceptual understanding, and apply mathematical practices. Course topics include ratios and rates, fraction and decimal operations, and signed numbers. Students continue to build their algebra skills by plotting points in all four quadrants of the coordinate plane and solving equations and inequalities. Geometry topics include area, surface area, and volume, and statistical work features measures of center and variability, box plots, dot plots, and histograms.

The two-semester course is arranged in themed units, each with three to five lessons. Each lesson includes a variety of activities such as direct instruction, application of skills, performance tasks, and formative and summative assessments. Students engage with the subject matter in an interactive, feedback-rich environment as they progress through standards-aligned content and demonstrate their learning through computer- and teacher-scored assignments. By constantly honing the ability to apply their knowledge in abstract and real-world scenarios, students build the depth of knowledge and higher-order skills required to demonstrate their mastery when put to the test.

This course is built to state standards.

Length: Two Semesters

Unit 1: Number Sense

- Dividing Fractions
- Solving Problems by Dividing Fractions
- Dividing Multi-Digit Whole Numbers
- Decimal Operations
- Greatest Common Factor and Least Common Multiple
- Wrap-Up: Number Sense

Unit 2: Signed Numbers

- Signed Numbers
- Inequalities and Comparison
- Absolute Value
- Wrap-Up: Signed Numbers

Unit 3: The Coordinate Plane

- Plotting Points on the Coordinate Plane
- Quadrants and Axes
- Using Graphs to Solve Problems
- Wrap-Up: The Coordinate Plane

Unit 4: Ratios and Unit Rates

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- Ratios
- Rates and Unit Rates
- Solving Percent Problems
- Unit Conversions
- Wrap-Up: Ratios and Unit Rates

Unit 5: Numerical and Algebraic Expressions

- Exponents
- Writing Expressions
- Understanding Parts of Expressions
- Evaluating Expressions
- Equivalent Expressions
- Wrap-Up: Numerical and Algebraic Expressions

Unit 6: Semester Wrap-Up

Unit 7: Equations and Inequalities Part 1

- Solutions of Equations and Inequalities
- Writing Expressions to Solve Problems
- Solving Equations Using Addition and Subtraction
- Solving Equations Using Multiplication and Division
- Wrap-Up: Equations and Inequalities, Part 1

Unit 8: Equations and Inequalities Part 2

- Solving Inequalities
- Independent and Dependent Variables
- Multiple Representations: Tables, Graphs, and Equations
- Wrap-Up: Equations and Inequalities, Part 2

Unit 9: Geometry

- Area
- Volume
- Coordinate Geometry
- Solid Figures
- Wrap-Up: Geometry

Unit 10: Introduction to Statistics

- Statistical Questions and Data Distributions
- Measures of Center and Variability
- Box Plots
- Dot Plots, Histograms, and Stem-and-Leaf Plots
- Wrap-Up: Introduction to Statistics

Unit 11: Summarizing Data

- Collecting Data
- Summarizing Data Using Measures of Center and Variability

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- Choosing Appropriate Measures to Summarize Data Sets
- Wrap-Up: Summarizing Data

Unit 12: Semester 2 Exam

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