Math 6 is a two-semester course that is 100% aligned to Common Core Standards for Mathematics. The course is designed to help students develop computational fluency, deepen their conceptual understanding, and apply mathematical practices. Students will learn to reason with ratios and rates; perform operations with fractions, decimals, and exponents; and solve equations and inequalities. They will also graph points in all four quadrants of the coordinate plane; explore the geometric concepts of area, surface area, and volume; and analyze data using measures of center and variability, box plots, dot plots, and histograms. In addition, this course includes unit-level discussion activities in which students will learn techniques for having productive group conversations and will reflect on their own thinking and the thinking of others.

There are no required materials for this course.

Length: Two Semesters

Unit 1: Number Sense

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

Unit 2: Integers

- Integers
- Inequalities and Comparison
- Absolute Value
- Wrap-Up: Integers

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: Numerical and Algebraic Expressions

- Exponents
- Expressions and Equations
- Evaluating Expressions
- Equivalent Expressions
- Wrap-Up: Numerical and Algebraic Expressions

Unit 5: 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 6: Semester 1 Exam

- Semester Wrap Up

Unit 7: Equations and Inequalities

- Solutions of Equations and Inequalities
- Solving Equations Using Addition and Subtraction
- Solving Equations Using Multiplication and Division
- Wrap-Up: Equations and Inequalities

Unit 8: Relationships Between Variables

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

Unit 9: Geometry

- Area
- Coordinate Geometry
- Surface Area
- Volume
- 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
- Choosing Appropriate Measures to Summarize Data Sets
- Collecting and Analyzing Data
- Wrap-Up: Summarizing Data

Unit 12: Semester 2 Exam

- Semester Wrap Up

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