Spark Learn Tutoring
Digital Learning Center

# Syllabus — Grade 6 Mathematics

Grade 6 Mathematics is a comprehensive course that is aligned with the Common Core State Standards. In this class, students will expand their mathematical understanding and problem-solving abilities. Through engaging lessons and activities, students will explore key concepts such as ratios, rates, and proportional relationships, expressions and equations, geometry, statistics, and probability. By focusing on real-world applications, critical thinking, and mathematical reasoning, this course aims to equip students with the necessary skills to analyze and solve a wide range of mathematical problems, fostering a strong foundation for future math success.

**Time Commitment:** This 28-week (55 lesson) course includes 2 in-class hours each week and 1-2 hours of homework each lesson, corresponding to a full-year course.

**Grading:** 5% Class Participation, 10% Homework, 15% Classwork, 33% Quizzes, 37% Assessments.

**Content:** *Note: An extra class is added at the end of each unit for review and assessment of the material learned.*

| Unit | Name | Lessons | Length |
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| 1 | Place Value and Algebraic Thinking | • Lesson 1-1: Multiplication & Division of Whole Numbers<br>• Lesson 1-2: Multi-Digit Multiplication/Divison & Multiples<br>• Lesson 1-3: Prime Numbers and Factoring<br>• Lesson 1-4: GCF and Distributive Property | 2.5 weeks |
| 2 | Fractions | • Lesson 2-1: Mixed Numbers & Equivalent Fractions<br>• Lesson 2-2: Fractions w/ Division & Operations<br>• Lesson 2-3: Multiplying Fractions by a Whole & Fractions of a Whole<br>• Lesson 2-4: Multiplying & Dividing Fractions<br>• Lesson 2-5: More Work Dividing Fractions | 3 weeks |
| 3 | Decimals | • Lesson 3-1: Base 10 & Basic Operations with Decimals<br>• Lesson 3-2: Multiplying Decimals<br>• Lesson 3-3: Decimal Division 1<br>• Lesson 3-4: Decimal Division 2 and Mixed Practice | 2.5 weeks |
| 4 | Negative Numbers | • Lesson 4-1: Positive and Negative Numbers<br>• Lesson 4-2: Introduction to Rational Numbers<br>• Lesson 4-3: Coordinate Plane<br>• Lesson 4-4: Absolute Value | 2.5 weeks |
| 5 | Algebraic Expressions | • Lesson 5-1: Exponents and Order of Operations<br>• Lesson 5-2: Algebraic Expression Basics<br>• Lesson 5-3: Equivalent Expressions | 1.5 weeks |
| 6 | Equations & Inequalities | • Lesson 6-1: Intro to Equation Solutions and One-Step Equations<br>• Lesson 6-2: Solving One Step Equation with Mult. and Div<br>• Lesson 6-3: Translating into Equations and Solutions to Inequalities<br>• Lesson 6-4: Translating Phrases into Inequalities | 2.5 weeks |

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| 7 | Ratios and Rates | • Lesson 7-1: Ratios and Tables<br>• Lesson 7-2: Equivalent Ratios and Tape Diagrams<br>• Lesson 7-3: Ratios as Fractions and Unit Rates<br>• Lesson 7-4: Rates and Converting Units<br>• Lesson 7-5: Variables Related by Rates | 3 weeks |
| 8 | Percents | • Lesson 8-1: Introduction to Percent & Equivalent Ratios<br>• Lesson 8-2: Percents using Products & Percent Problems | 1.5 weeks |
| 9 | Area | • Lesson 9-1: Area of Rectangles and Triangles<br>• Lesson 9-2: Trapezoids and Parallelograms<br>• Lesson 9-3: Perimeter, Area, and Algebra | 2 weeks |
| 10 | Solids | • Lesson 10-1: Types of Solids and Volumes of RRP<br>• Lesson 10-2: Surface Area and Modeling Volume/SA | 1.5 weeks |
| 11 | Statistics | • Lesson 1-1: Statistical Questions and Gathering Data<br>• Lesson 11-2: Histograms of Measures of Center<br>• Lesson 11-3: Variations and Quartiles<br>• Lesson 11-4: Box Plots and Data Distribution Shapes<br>• Lesson 11-5: Outliers and Analyzing Results | 3 weeks |
| 12 | Probability | • Lesson 12-1: Measuring Chance with Ratios and Predicting Outcomes<br>• Lesson 12-2: Probability, Percent, and Nonuniform Probabilities | 1.5 weeks |