Spark Learn Tutoring
Digital Learning Center

Syllabus — Grade 7 Mathematics

In the Grade 7 Mathematics course, students will build upon their foundational knowledge of mathematical concepts to develop a deeper understanding of numbers, operations, algebraic thinking, geometry, measurement, and data analysis. Through problem-solving and critical thinking activities, students will explore real-world applications of mathematical principles, enhancing their skills in number sense, proportional relationships, expressions, equations, and statistics. The course will foster the development of mathematical fluency, reasoning, and communication skills, equipping students with the tools necessary for success in higher-level mathematics and everyday problem-solving situations.

Time Commitment: This 28-week (56 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.*

Course Pacing Guide:

Unit	Name	Lessons	Length
1	Essential Review	• Lesson 1-1: Multiplication • Lesson 1-2: Dividing Decimals and Whole Numbers • Lesson 1-3: Fractions & decimals • Lesson 1-4: Ratios & Rates	2.5 weeks
2	Operations with Signed Numbers	• Lesson 2-1: The Rational Number System • Lesson 2-2: Adding Signed Numbers • Lesson 2-3: Subtracting Signed Numbers • Lesson 2-4: Subtraction with Graphs and Distance • Lesson 2-5: Multiplication and Division of Signed Numbers • Lesson 2-6: Reviewing 2-5 and Order of Operations	3 weeks
3	Proportional Relationships	• Lesson 3-1: Ratios and Complex Fractions • Lesson 3-2: Fractions, Algebra, and Ratios • Lesson 3-3: Proportional Relationships • Lesson 3-4: Exploring Proportional Relationships and their Graphs • Lesson 3-5: Equations of Proportions and Further Work	3 weeks
4	Percents	• Lesson 4-1: Finding Fractions of Quantities • Lesson 4-2: Percent Basics and Decimals • Lesson 4-3: Percentages, Decimals, and Part Representations • Lesson 4-4: Percentages & % Increase and Decrease • Lesson 4-5: Applications of Percent's & Finding the Whole (Algebra)	3 weeks
5	Linear Expressions	• Lesson 5-1: Intro to Algebra • Lesson 5-2: Equivalent Expressions • Lesson 5-3: Combining Like Terms & Simplifying Complex Expressions • Lesson 5-4: Factoring Binomials and % Increase and Decrease Review	2.5 weeks

6	Linear Equations and Inequalities	• Lesson 6-1: Solutions to Equations & 2 Step Equations • Lesson 6-2: Two Step Equations & Manipulating Expressions • Lesson 6-3: 2 Step Equations & Inequalities • Lesson 6-4: Solving Word Problems with Two Step Equations • Lesson 6-5: Properties and Modeling of Inequalities	3 weeks
7	Statistics	• Lesson 7-1: Statistical Measures, Populations, and Samples • Lesson 7-2: Means (and Mean Absolute Deviation) • Lesson 7-3: Quartiles, Box Plots, and Choosing Appropriate Stats • Lesson 7-4: Samples of 1 and 2 Populations • Lesson 7-5: Comparing Samples	3 weeks
8	Probability	• Lesson 8-1: Measuring Chance with Ratios & Predicting Outcomes • Lesson 8-2: Probability, Percent, Probability Terminology • Lesson 8-3: Compound Events • Lesson 8-4: Sums of Dice and Simulating Compound Events	2.5 weeks
9	Geometry of Angles and Triangles	• Lesson 9-1: Points, Lines, Rays Segments, and Angles • Lesson 9-2: Angle Types and Pairs • Lesson 9-3: Algebra, Triangles, and their Angles	2 weeks
10	Geometric Measurement	• Lesson 10-1: Geometric Formulas and Areas of Trapezoid • Lesson 10-2: Scaled Drawings and Circles • Lesson 10-3: Circumference and Area of a Circle • Lesson 10-4: Solids, their Cross Sections, and SA • Lesson 10-5: The Volume of Right Prisms	3 weeks