

# Fifth Grade Math



## Course Overview

Fifth grade Math students explore complex mathematical operations and apply concepts to real-world problems.

Students will:

- Understand and practice basic arithmetic operations: addition, subtraction, multiplication, and division
- Reinforce basic number fact fluency
- Understand and use Roman numerals
- Expand understanding of and facility with basic arithmetic operations applied to fractions
- Explore and connect the concepts of ratio, proportion,

and percent to fractions

- Through a proprietary, research-based series of lessons, develop abilities to analyze and solve word problems involving basic arithmetic operations and various number systems (fractions, decimals, ratios, percents)
- Relate English and metric units of measure to length, capacity, weight, and temperature
- Expand understanding of statistics, probability, and graphical representations of data

## Course Outline

### Operations

- Expanded Form
- Thousandths
- Addition Properties/Subtraction Rules
- Roman Numerals
- Properties of Multiplication
- Zeros in the Multiplicand
- Multiplying Three Digits
- Zeros in the Multiplier
- Multiplication with Money
- Three-Digit Quotients and Larger Quotients
- Zeros in the Quotient
- Short Division
- Estimation: Compatible Numbers
- Two-Digit Divisors
- Dividing Larger Numbers
- Order of Operations

### Number Theory and Fractions

- Exploring Prime and Composite Numbers
- Factors, Primes, and Composites
- Greatest Common Factor
- Fraction Sense: Closer to 0,  $\frac{1}{2}$ , 1
- Fractions in Lowest Terms
- Fractions in Higher Terms
- Multiples: LCM and LCD
- Mixed Numbers
- Improper Fractions
- Comparing and Ordering Fractions

### Fractions: Addition and Subtraction

- Renaming Fraction Sums: Like Denominators
- Adding Fractions: Unlike Denominators
- Adding Three Fractions
- Adding Mixed Numbers
- Renaming Mixed Number Sums

- Renaming Differences: Like Denominators
- Subtracting: Unlike Denominators
- More Subtraction of Fractions
- Subtracting Mixed Numbers
- Subtraction with Renaming
- More Renaming in Subtraction
- Estimate to Compute

### Fractions: Multiplication and Division

- Multiplying Fractions
- Multiplying Fractions by Fractions
- Multiplying Fractions and Whole Numbers
- Multiplying Using Cancellation
- Mixed Numbers to Improper Fractions
- Multiplying Fractions and Mixed Numbers
- Multiplying Mixed Numbers
- Division of Fractions
- Reciprocals
- Dividing Whole Numbers by Fractions
- Dividing Fractions by Fractions
- Dividing Fractions by Whole Numbers
- Dividing Mixed Numbers by Fractions
- Dividing Mixed Numbers
- Estimating with Mixed Numbers

### Probability and Statistics

- Probability
- Tree Diagrams
- Independent and Dependent Events
- Finding Averages
- Collecting and Organizing Data
- Working with Data
- Line Plots
- Working with Graphs
- Making Line Graphs
- Interpreting Circle Graphs



## Decimals: Addition and Subtraction

- Decimal Sense
- Decimals and Place Value
- Adding Decimals
- Estimate Decimal Sums
- More Adding Decimals
- Subtracting Decimals
- Estimate Decimal Differences
- More Subtracting Decimals

## Decimals: Multiplication and Division

- Multiplying by 10, 100, and 1,000
- Estimating Decimal Products
- Multiplying Decimals by Whole Numbers
- Multiplying Decimals by Decimals
- Zeros in the Product
- Dividing by 10, 100, and 1,000
- Dividing Decimals by Whole Numbers
- Zeros in Division
- Estimating Decimal Quotients
- Estimating Money

## Ratio, Proportion, and Percent

- Ratios as Fractions
- Proportions
- Scale and Maps
- Relating Fractions to Percents
- Relating Percents to Decimals
- Finding the Percent of a Number
- Using Percent

## Geometry

- Measuring and Drawing Angles
- Identifying Angles
- Polygons
- Congruent Figures
- Triangles
- Quadrilaterals
- Perimeter of a Polygon
- Perimeter of a Rectangle
- Circles
- Estimating Circumference
- Lines of Symmetry
- Transformations

## Measurement Topics

- Relating Customary Units of Length
- Relating Customary Units of Capacity
- Relating Customary Units of Weight
- Temperature

- Units of Time
- Time Zones
- Computing Customary Units

## Metric Measurement, Area, and Volume

- Metric Measurement
- Renaming Metric Units
- Relating Metric Units of Length
- Relating Metric Units of Capacity
- Relating Metric Units of Mass
- Square Measure
- Areas of Rectangles and Squares
- Areas of Parallelograms and Triangles
- Space Figures
- Cubic Measure
- Volume
- Estimating Volume

## Standard Curriculum Items

Math Textbook, Grade 5  
Base-10 Blocks

NOTE: List subject to change.