

Foundation Math I

COURSE DESCRIPTION: Students build and reinforce foundational math skills typically found in third through fifth grade for which they have not achieved mastery. They progress through carefully paced, guided instruction and engaging interactive practice. Summative assessments track progress and skill development. If needed, students can move on to Math Foundations II (addressing skills typically found in sixth through eighth grade) to further develop the computational skills and conceptual understanding needed to undertake high school math courses with confidence.

PREREQUISITES: Teacher/school counselor recommendation

COURSE LENGTH: Two Semesters

REQUIRED TEXT: None

MATERIALS LIST: None

COURSE OUTLINE:

Semester 1

Unit 1: Understanding Numbers

- Addition and Subtraction With Regrouping
- Understanding Numbers
- Ordering Numbers
- Fact Families
- Using Mental Math
- Choosing the Operation
- Adding Numbers Horizontally
- Extra Information

Unit 2: Adding and Subtracting

- Standard and Nonstandard Measurements
- Using Graphs and Charts
- Addition with Regrouping
- Understanding Word Problems
- Perimeter

- Subtraction with Regrouping
- Solving Word Problems
- Deciding When to Regroup

Unit 3: Measurement and Multiplication

- Mean, Median, Mode, and Range
- Capacity, Time, and Weight
- Finding Needed Facts
- Introductions to Multiplication
- Multiplying by 2, 3, 4, and 5
- Multiplying by 6, 7, 8, 9, 10, and 100
- Multiplying Three Numbers
- Area

Unit 4: Division and Data

- Introduction to Division
- Division: The Opposite of Multiplication
- Dividing by 2, 3, 4, and 5
- Multi-Step Word Problems
- Dividing by 6, 7, 8, and 9
- Long Division
- Conclusions and Predictions
- Expressing Numbers
- Data Collection

Unit 5: Fractions and Geometry

- Introduction to Fractions
- Parts of a Set
- Adding and Subtracting Fractions
- Mixed Numbers
- Decimals
- Adding and Subtracting Decimals
- Probability
- Lines, Rays, and Segments

- Plane Figures
- Solids
- Ordered Pairs
- Logical Reasoning

Semester 2

Unit 1: Addition, Subtraction, and Measurement

- Story Problems: A 5-Step Process
- Number Sense: Grouping Addends
- Number Sense: Rounding Numbers
- Addition Subtraction: Related Facts
- Addition and Subtraction: Fact Families
- Patterns
- Ordinal Numbers
- Measurement: Time
- Measurement: Calendars
- Measurement: Units of Measurement

Unit 2: Fractions and Geometry

- Fractions: The Basics
- Fractions: Adding and Subtracting
- Decimals: To the Hundreds
- Decimals: Comparing and Ordering
- Geometry
- Geometry: Angles
- Geometry: Congruence and Symmetry
- Geometry: Perimeter and Area
- Graphs: Ordered Pairs
- Graphs: Bar and Line Graphs
- Graphs: Tables and Pictographs
- Probability
- Using Mental Math

Unit 3: Multiplication, Division, and Decimals

- Choosing the Operation
- Extra Information
- Story Problems: Forming the Problem
- Finding Needed Facts
- Story Problems: Form Problem to Solution
- Logical Reasoning
- Multiplying Two and Three Digits
- Properties of Multiplication
- Multiplication: Estimating
- Dividing Whole Numbers
- Dividing and Estimating
- Whole Numbers: Place Value
- Whole Numbers: Compare and Order
- Decimals to the Thousands
- Decimals: Compare and Order

Unit 4: Operations

- Properties of Addition
- Addition and Subtraction: Inverse Operations
- Addition and Subtraction: Zeros
- Addition and Subtraction with Decimals
- Problem Solving: The 5-Step Plan
- Organizing Data: Using Tables
- Problem Solving: Multistep Problems
- Properties of Multiplication
- Multiplication with 2 and 3 Digit Numbers
- Multiplication: Estimation
- Dividing Whole Numbers
- Dividing Larger Numbers
- Dividing Decimals

Unit 5: Data, Fractions, and Geometry

- Organizing Data: Mean, Mode, Median, Range
- Bar Graphs and Pictographs

- Line Graphs
- Circle Graphs
- Ordered Pairs
- Fractions
- Comparing and Reducing Fractions
- Adding and Subtracting Fractions
- Multiplying Fractions
- Lines and Angles
- Polygons
- Circles
- Space Figures
- Geometric Measurement
- Ratios
- Percent
- Probability