Algebra I-A and I-B provide an expanded, two-year course sequence designed for students who are not prepared for the academic challenges of the traditional one-year Algebra I curriculum.

Algebra I-B course topics include a review of introductory algebra; measurement; graphing data; linear equations; systems of linear equations; polynomials; factoring of polynomials; factoring of quadratic functions; rational expressions; and radical expressions.

Algebra I-B features ample opportunity for students to hone their computational skills by working through practice problem sets before moving on to formal assessment.

This course is built to state standards.

Length: Two semesters

UNIT 1: USING LOGIC TO SOLVE PROBLEMS

- Lesson 1: Building Equations
- Lesson 2: Deductive Reasoning
- Lesson 3: Inductive Reasoning
- Lesson 4: Logic Puzzles
- Lesson 5: Problem Solving
- Lesson 6: Using Logic to Solve Problems Wrap-Up

UNIT 2: REVIEW OF ALGEBRA I-A

- Lesson 1: Integers and Operations
- Lesson 2: Fractions and Decimals
- Lesson 3: Exponents
- Lesson 4: Variables and Problem Solving
- Lesson 5: Solving with Addition and Subtraction
- Lesson 6: Solving with Multiplication and Division
- Lesson 7: Solving Multistep Linear Equations
- Lesson 8: Review of Algebra I-A Wrap-Up

UNIT 3: SOLVING EQUATIONS AND INEQUALITIES

- Lesson 1: Rational and Irrational Numbers
- Lesson 2: Solving Linear Inequalities
- Lesson 3: Literal Equations
- Lesson 4: Measurement and Units
- Lesson 5: Performance Task: Problem Solving with Inequalities
- Lesson 6: Solving Equations and Inequalities Wrap-Up

UNIT 4: LINEAR EQUATIONS

- Lesson 1: Slope
- Lesson 2: Slope-Intercept Equation of a Line
- Lesson 3: Point-Slope Equation of a Line
- Lesson 4: Parallel and Perpendicular Lines
- Lesson 5: Linear Inequalities
- Lesson 6: Linear Equations Wrap-Up

UNIT 5: EXPONENTS AND EXPONENTIAL FUNCTIONS

- Lesson 1: Exponential Functions
- Lesson 2: Graphs of Exponential Functions
- Lesson 3: Arithmetic Sequences
- Lesson 4: Geometric Sequences
- Lesson 5: Understanding Number Sequences
- Lesson 6: Exponential and Linear Growth
- Lesson 7: Exponents and Exponential Functions Wrap-Up

UNIT 6: SEMESTER 1 EXAM

- Lesson 1: Semester 1 Review and Exam

UNIT 7: POLYNOMIALS

- Lesson 1: What Is a Polynomial?
- Lesson 2: Adding and Subtracting Polynomials
- Lesson 3: Adding and Subtracting Functions
- Lesson 4: Multiplying Binomials
- Lesson 5: Multiplying Polynomials
- Lesson 6: Polynomials Wrap-Up

UNIT 8: FACTORING POLYNOMIALS

- Lesson 1: GCF and Factoring by Grouping
- Lesson 2: Factoring $x^2 + bx + c$
- Lesson 3: Factoring $ax^2 + bx + c$
- Lesson 4: Special Cases
- Lesson 5: Factoring and Graphing
- Lesson 6: Factoring Polynomials Wrap-Up

UNIT 9: QUADRATIC EQUATIONS AND FUNCTIONS

- Lesson 1: Solving Quadratic Equations
- Lesson 2: Completing the Square
- Lesson 3: The Quadratic Formula
- Lesson 4: Graphs of Quadratic Functions
- Lesson 5: Linear, Quadratic, and Exponential Functions
- Lesson 6: Performance Task: Pricing for Profit
- Lesson 7: Quadratic Equations and Functions Wrap-Up

UNIT 10: UNDOING FUNCTIONS AND MOVING THEM AROUND

- Lesson 1: Parent Functions
- Lesson 2: Shifting Functions
- Lesson 3: Stretching and Compressing Functions
- Lesson 4: Transformations of Parent Functions
- Lesson 5: Undoing Functions and Moving Them Around Wrap-Up

UNIT 11: DESCRIPTIVE STATISTICS

- Lesson 1: Measures of Center and Spread
- Lesson 2: Dot Plots, Box Plots, and Histograms
- Lesson 3: Describing Distributions
- Lesson 4: Two-Way Frequency Tables
- Lesson 5: Descriptive Statistics Wrap-Up

UNIT 12: DATA AND MATHEMATICAL MODELING

- Lesson 1: Two-Variable Data and Scatterplots
- Lesson 2: Fitting Linear Models to Data
- Lesson 3: Nonlinear Models
- Lesson 4: Data and Mathematical Modeling Wrap-Up

UNIT 13: SEMESTER 2 EXAM

- Lesson 1: Semester 2 Review and Exam