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.

Focusing on review of pre-algebra skills and introductory algebra content, Algebra I-A allows students to deepen their understanding of real numbers in their various forms and then extend their knowledge to linear equations in one and two variables.

Algebra I-A 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: Introduction to Problem Solving

- Building Basic Word Problems
- A Four-Step Approach
- Too Much or Too Little Information
- Draw a Diagram
- Use a Model or Act it Out
- Make a List
- Build a Chart and Find a Pattern
- Guess and Check
- Work Backward
- Introduction to Problem Solving Wrap-Up

Unit 2: The Language of Algebra

- What is a Variable?
- Finding and Naming Variables
- Measurement and Units
- Graphs, Tables, and Equations
- Solving Problems with Tables and Graphs
- Variable Expressions
- Simplifying and Evaluating Expressions
- Mathematical Sentences
- Solving Mathematical Sentences
- Some Guidelines for Problem Solving
- The Language of Algebra Wrap-Up

Unit 3: Solving Equations with Four Basic Operations

- Solving Equations Graphically
- Solving Equations with Larger Numbers
- Solving x + a = b

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- Solving with a Number Line
- Solving Inequalities
- Solving ax = b
- Solving x/a = b
- Inequalities
- Variations of Equations and Inequalities
- Solving Multistep Linear Equations
- Literal Equations
- Solving Equations with Four Basic Operations Wrap-Up

Unit 4: Functions

- Domain and Range
- Identifying Functions
- Graphs of Functions
- Adding and Subtracting Functions
- Functions Wrap-Up

Unit 5: Semester 1 Exam

Unit 6: Using Logic to Solve Problems

- Building Equations
- Deductive Reasoning
- Inductive Reasoning
- Logic Puzzles
- Problem Solving
- Using Logic to Solve Problems Wrap-Up

Unit 7: Linear Equations

- Slope
- Slope-Intercept Equation of a Line
- Point-Slope Equation of a Line
- Parallel and Perpendicular Lines
- Linear Inequalities
- Linear Equations Wrap-Up

Unit 8: Systems of Linear Equations

- Two-Variable Systems: Graphing
- Two-Variable Systems: Substitution
- Two-Variable Systems: Elimination
- Two-Variable Systems of Inequalities
- Systems of Linear Equations Wrap-Up

Unit 9: Exponents and Exponential Functions

- Definitions and Examples of Exponents
- Exponents and the Order of Operations
- Laws of Exponents

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- Square Roots
- Radical Notation
- Exponential Functions
- Graphs of Exponential Functions
- Exponents and Exponential Functions Wrap-Up

Unit 10: Sequences and Functions

- Arithmetic Sequences
- Geometric Sequences
- Understanding Number Sequences
- Exponential and Linear Growth
- Sequences and Functions Wrap-Up

Unit 11: Semester 2 Exam

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