**Algebra I**

**Scope & Sequence**

**Unit 1: Algebra Basics (10 days)**

* Adding & Subtracting Rational Numbers
* Multiplying & Dividing Rational Numbers
* Order of Operations & Matrices
* Writing & Evaluating Expressions
* Real Number System & The Properties
* The Distributive Property
* Simplifying Algebraic Expressions

**Unit 2: Solving Equations (15 days)**

* 1-Step & 2-Step Equations
* Multi-Step Equations
* Equations with Variables on Both Sides
* Absolute Value Equations
* Proportions & Percent
* Equation Applications
* Weighted Averages
* Literal Equations

**Unit 3: Solving Inequalities (8 days)**

* Inequality Basics & Writing Inequalities
* One-Step Inequalities
* Multi-Step Inequalities
* Compound Inequalities
* Absolute Value Inequalities

**Unit 4: Relations & Functions (11 days)**

* Coordinate Plane & Relations
* Functions and Domain & Range
* Interpreting Graphs of Functions
* Function Rules, Tables, & Graphs and Zeros of Functions
* Function Notation and Operations
* Direct Variation
* Inverse Variation
* Arithmetic Sequences

**Unit 5: Graphs of Linear Equations (13 days)**

* Rate of Change & Slope
* Slope-Intercept Form
* Standard Form
* Point-Slope Form
* Writing & Graphing All Forms of Linear Equations
* Applications of Linear Equations
* Parallel & Perpendicular Lines
* Scatterplots & Lines of Fit
* Linear Regression
* Linear Inequalities

**Unit 6: Systems of Equations (10 days)**

* Solving Systems of Equations by Graphing
* Solving Systems of Equations by Substitution
* Solving Systems of Equations by Elimination
* Applications of Linear Systems
* Systems of Linear Inequalities

**Unit 7: Exponents (12 days)**

* Zero & Negative Exponents
* Product & Power Rule
* Quotient Rules
* Review of all Rules
* Scientific Notation
* Operations with Scientific Notation
* Geometric Sequences
* Exponential Growth & Decay

**Unit 8: Polynomials (15 days)**

* Classifying & Simplifying Polynomials
* Adding & Subtracting Polynomials
* Multiplying Polynomials (Distributive Property & FOIL)
* Multiplying Polynomials (Squaring Binomials & Multiplying Trinomials)
* Factoring out GCF
* Factoring by Grouping
* Factoring Trinomials when a = 1
* Factoring Trinomials when a ≠ 1
* Factoring Difference of Squares & Sum/Difference of Cubes
* Factoring Completely

**Unit 9: Quadratic Functions & Equations (13 days)**

* Graphing Quadratic Functions
* Solving Quadratic Equations by Graphing
* Solving Quadratic Equations Using Square Roots
* Solving Quadratic Equations by Factoring
* Solving Quadratic Equations by Completing the Square
* Solving Quadratic Equations Using the Quadratic Formula
* Discriminants & Numbers of Solutions
* Applications of Quadratic Equations

**Unit 10: Radical Expressions & Equations (10 days)**

* Simplifying Radicals
* Adding, Subtracting, & Multiplying Radicals
* Dividing Radicals
* Solving Radical Equations
* Pythagorean Theorem
* Trigonometric Ratios

**Unit 11: Rational Expressions & Equations (11 days)**

* Simplifying Rational Expressions
* Multiplying & Dividing Rational Expressions
* Dividing Polynomials
* Adding & Subtracting Rational Expressions
* Solving Rational Equations
* Applications of Rational Equations