

# Algebra 1 Syllabus

## Quarter One:

### Unit 1.1 Expressions and Linear Equations

- Variables and Expressions
- Order of Operations
- Properties of Numbers
- Distributive Property
- Equations
- Relations
- Functions
- Interpreting Graphs of Functions

### Unit 1.2 Solving Linear Equations

- Writing Equations
- Solving One-Step Equations
- Solving Two-Step Equations
- Solving Multi-Step Equations
- Solving Equations With Variables On Both Sides
- Solving Equations With Absolute Value
- Literal Equations

### Unit 1.3 Writing Linear Equations

- Identifying Linear Functions
- Rates of Change and Slope
- Slope Formula
- Direct Variation
- Slope-Intercept Form
- Graphing Linear Equations  
Anchor Task: Making Stuffed Animals-Agile Mind
- Point-Slope Form
- Standard Form
- Slopes of Parallel and Perpendicular Lines

## Quarter Two:

### Unit 2.1: Scatterplots and Fitting Lines To Data

- Scatterplots and Trend Lines

### Unit 2.2: Systems of Linear Equations

- Solving Systems By Graphing
  - Solving Systems By Substitution
  - Solving Systems By Elimination
  - Solving Special Systems
- Anchor Task: pending (Dana Center)

### Unit 2.3: Inequalities and Systems of Linear Inequalities

- Solving Linear Inequalities
- Solving Systems of Linear Inequalities

## Quarter Three:

### Section 3.1: Interpreting Functions

- Writing Functions
- Graphing Functions
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### Sections 3.2: Exponents and Exponential Functions

- Properties of Exponents
- Exponential Functions

### Sections 3.3: Piecewise-defined and Absolute Value Functions

- Piecewise Functions
- Absolute Value Functions

## Quarter Four:

### Unit 4.1: Polynomial Operations and Factoring

- Classifying Polynomials
- Adding and Subtracting Polynomials
- Multiplying Polynomials
- Dividing Polynomials
- Factors and Greatest Common Factors
- Factoring By GCF
- Factoring Trinomials When  $a$  is 1
- Factoring Trinomials when  $a > 1$
- Factoring Special Products (Difference of a square & Perfect square trinomials)
- Zero Product Property

### Unit 4.2: Quadratic Functions and Equations

- Identifying Quadratic Functions
- Characteristics of Quadratic Functions
- Graphing Quadratic Functions
- Transforming Quadratic Functions
- Solving Quadratic Equations By Graphing
- Solving Quadratic Equations By Factoring
- Solving Quadratic Equations Using Square Roots
- Completing The Square
- The Quadratic Formula and The Discriminant

### Unit 4.3: Data Analysis

- Organizing and Displaying Data
- Frequency and Histograms
- Data Distributions
- Misleading Graphs and Statistics