



Algebra 1 Curriculum Map

ALGEBRA 1 UNITS

Overview:	Suggested Pacing
Unit 0 - Foundations of Algebra	13 Days
Unit 1 - Equations	14 Days
Unit 2 - Inequalities	13 Days
Unit 3 - Introduction to Functions.	14 Days
Unit 4 - Linear Functions	14 Days
Unit 5 - Percents and Exponents	14 Days
Unit 6 - Systems of Equations & Inequalities	13 Days
Unit 7 - Polynomials.	14 Days
Unit 8 - Factoring Polynomials	14 Days
Unit 9 - Quadratic Equations & Functions.	13 Days
Unit 10 - Radicals	12 Days
Unit 11 - Rational Expressions.	13 Days
Unit 12 Bonus Unit: Data Analysis and Probability	11 Days
Total:	172 Days

Unit 1 Equations (14 Days)

- 1.1 Solving One-Step Equations
- 1.2 Solving Two-Step Equations
- 1.3 Simplifying Equations (1.5 Days)
- 1.4 Equations with Variables on Both Sides (1.5 Days)
- 1.5 Literal Equations (2 Days)
- 1.6 Decimal Equations
- 1.7 Ratios & Conversion Factors (2 Days)
- 1.8 Writing Equations (2 Days)
- Unit Review
- Test

Unit 2 Inequalities (13 Days)

- 2.1 Inequalities & Negation
- 2.2 Solving Inequalities
- 2.3 Writing Inequalities (2 Days)
- 2.4 Conjunctions (1.5 Days)
- 2.5 Disjunctions (1.5 Days)
- 2.6 Absolute Value Equations (1.5 Days)
- 2.7 Absolute Value Inequalities (1.5 Days)
- 2.8 Precision & Accuracy
- Unit Review
- Test

Unit 3 Intro to Functions (14 Days)

- 3.1 Graphing Relationships (2 Days)
- 3.2 Relations & Functions (2 Days)
- 3.3 Functional Notation (2 Days)
- 3.4 Graphing Linear Equations (2 Days)
- 3.5 Intercepts
- 3.6 Direct Variation (2 Days)
- 3.7 Scatter Plots
- Unit Review
- Test

Unit 4 Linear Functions (14 Days)

- 4.1 The Slope of a Line (2 Days)
- 4.2 Graphing Using Slope-Intercept Form (2 Days)
- 4.3 Finding the Equation of a Line (2 Days)
- 4.4 More Finding the Equation of a Line (2 Days)
- 4.5 Parallel & Perpendicular Lines (2 Days)
- 4.6 Graphing Linear Inequalities (2 Days)
- Unit Review
- Test

Unit Breakdowns with Suggested Pacing

Unit 0 - Foundations of Algebra (13 Days)

- 0.1 Integers, Opposites & Absolute Value
- 0.2 Adding Real Numbers (1.5 Days)
- 0.3 Subtracting Real Numbers (1.5 Days)
- 0.4 Multiplying & Dividing Real Numbers
- 0.5 Variables & Evaluating Expressions
- 0.6 Exponents & Powers (2 Days)
- 0.7 Order of Operations (1.5 Days)
- 0.8 Distributing & Adding Like Terms (1.5 Days)
- Unit Review
- Test

Unit 5 Percents & Exponents (14 Days)

- 5.1 Ratios, Rates & Conversion Factors
- 5.2 Proportions (1.5 Days)
- 5.3 Percents (1.5 Days)
- 5.4 Percent Change
- 5.5 Multiplication & Division with Exponents
- 5.6 Zero & Negative Exponents
- 5.7 Scientific Notation
- 5.8 Exponential Functions (2 Days)
- 5.9 Exponential Growth & Decay (2 Days)
- Unit Review
- Test

Unit 6 Systems of Equations & Inequalities (13 Days)

- 6.1 Solving Systems of Equations by Graphing
- 6.2 Solving Systems of Equations by Substitution (2 Days)
- 6.3 Solving Systems of Equations by Elimination (2 Days)
- 6.4 Special Systems of Equations
- 6.5 Applications of Systems (3 Days)
- 6.6 Systems of Linear Inequalities (2 Days)
- Unit Review
- Test

Unit 7 Polynomials (14 Days)

- 7.1 Adding & Subtracting Polynomials (1.5 Days)
- 7.2 Multiplying Binomials (1.5 Days)
- 7.3 Multiplying Polynomials
- 7.4 Dividing Polynomials (2 Days)
- 7.5 Arithmetic Sequences (1.5 Days)
- 7.6 Geometric Sequences (1.5 Days)
- 7.7 Summation (2 Days)
- 7.8 Special Sequences (Fibonacci & the Golden Ratio)
- Unit Review
- Test

Unit 8 Factoring Polynomials (14 Days + Optional Algebra Tiles Day)

- 8.1 Factoring Out Common Factors (2 Days)
- 8.2 Factoring Trinomials of $x^2 + bx + c$ (2 Days)
- 8.2s Algebra Tiles (optional extra lesson)
- 8.3 Factoring Trinomials of $ax^2 + bx + c$ (2 Days)
- 8.4 Factoring A Difference of Two Squares
- 8.5 Factoring Special Polynomials (2 Days)
- 8.6 The Zero Product Property
- 8.7 Factoring Applications (2 Days)
- Unit Review
- Test

Unit 9 Quadratic Equations & Functions (13 Days)

- 9.0 Introduction to Quadratics
- 9.1 Solving Quadratics Using Roots
- 9.2 Completing the Square (2 Days)
- 9.3 The Quadratic Equation (2 Days)
- 9.4 The Discriminant
- 9.5 Graphing Quadratic Functions (1.5 Days)
- 9.6 Transforming Quadratic Functions
- 9.7 Modeling Linear, Exponential & Quadratic Functions (1.5 Days)
- Unit Review
- Test

Unit 10 Radicals (12 Days)

- 10.1 Simplifying Radicals (1.5 Days)
- 10.2 Multiplying & Dividing Radicals (1.5 Days)
- 10.3 Using Conjugates
- 10.4 Radical Equations (1.5 Days)
- 10.5 Exponential Equations (1.5 Days)
- 10.6 The Pythagorean Theorem (2 Days)
- 10.7 Graphing Radical Functions
- Unit Review
- Test

Unit 11 Rational Expressions (13 Days)

- 11.1 Simplifying Rational Expressions
- 11.2 Multiplying & Dividing Rational Expressions (2 Days)
- 11.3 Adding Rational Expressions (2 Days)
- 11.4 Complex Rational Expressions (2 Days)
- 11.5 Rational Equations
- 11.6 Inverse Variation
- 11.7 Rational Functions (2 Days)
- Unit Review
- Test

Bonus Unit 12 Data Analysis & Probability (11 Days)

- 12.1 Organizing Data with Matrices
- 12.2 Multiplying Matrices & Determinants
- 12.3 Inverse Matrices (2 Days)
- 12.4 Interpreting Statistical Data
- 12.5 Fundamentals of Counting
- 12.6 The Binomial Expansion Theorem
- 12.7 Compound Event Probability
- 12.8 Normal Distribution
- Unit Review
- Test

	Pacing Guide	CCSS Addressed	Core Skills	Key Vocabulary
Unit 0: Foundations of Algebra	13 Days	HSN-RN.A.2; 8.EE.A.1; 8.NS.A.1; 7.EE.A.2; 7.EE.A.1; 7.NS.A.3; 7.NS.A.2; 7.NS.A.1a; 7.NS.A.1b	Absolute values, Operations on Real Numbers, Evaluating Expressions; Exponents & Powers, Order of Operations, Distribution and Combining Like Terms	Numbers: Real, Rational, Irrational, Natural, Whole, Complex, Opposite, Integers; Absolute Value; Order of Operations; Distributive Property; Commutative Property; Associative Property; Identity Property; Inverse Property; Zero Product Property;
Unit 1: Equations	14 Days	HSA-REI.B.3; HSA-REI.A.1; 8.EE.C.7b; 8.EE.C.7a; 8.EE.C.7	Classifying numbers, Algebraic Expressions, Order of Operations, Exponents, Fractions & Decimals, Properties of numbers	Addition Property of Equality; Multiplication Property of equality; Symmetric property of equality; Isolate a Variable; Literal Equations; Ratio; Conversion Factor
Unit 2: Inequalities	13 Days	HSA-REI.B.3; HSA-REI.A.1	Negation; Solving & Writing Inequalities, Conjunctions, Disjunctions, Absolute Value Equations & Inequalities, Precision & Accuracy	Inequality; Negation; Conjunction; Disjunction; Absolute Value; Precision; Accuracy; Significant Figures
Unit 3: Introduction to Functions	14 Days	HSS-ID.B.6b; HSS-ID.B.6a; HSS-ID.B.6; HSF-IF.C.7a; HSF-IF.C.7; HSF-IF.B.4; HSF-IF.A.2; HSF-IF.A.1	Graphing Relationships; Relations vs Functions; Function Notation; Graphing Linear Equations; Intercepts; Types of Variation; Scatterplots	Coordinate Plane; Quadrants; Origin; Abscissa; Ordinate; Domain; Range; Relation; Function; Mapping Diagram; Standard Form; X & Y Intercepts; Direct Variation; Constant of Variation; Line of Best Fit; Correlation Coefficient; Interpolation; Extrapolation
Unit 4: Linear Functions	14 Days	HSS-ID.C.7; HSG-GPE.B.5; HSF-LE.A.2; HSF-IF.C.7; HSF-IF.B.6; HSF-IF.B.4	Slope; Slope-Intercept Form; Writing Equations of Lines; Parallel and Perpendicular Lines; Graphing Linear Inequalities;	Slope; Hypotenuse; Slope-Intercept Form; Standard Form; Point-Slope Form; Parallel Lines; Perpendicular Lines
Unit 5: Percents and Exponents	14 Days	HSF.LE.A.2; HSF.LE.A.1c; HSF.LE.A.1b; HSF.LE.A.1; HSF-IF.C.8b; HSF-IF.C.7e; HSF-IF.B.5	Ratios & Conversions; Proportions; Finding Percent & Percent Change; Properties of Exponents; Zero and Negative Exponents; Scientific Notation; Exponential Functions; Exponential Growth & Decay	Rate; Unit Rate; Conversion Factors; Extremes & Means; Similar Triangles; Percent; Simple Interest; Principle; Interest; Percent: Change, Increase/Decrease, Error, Difference; Scientific Notation; Exponential Growth/Decay; Growth/Decay rate; Growth/Decay Factor; Compound Interest
Unit 6: Systems of Equations & Inequalities	13 Days	HSA-REI.C.6; HSA-REI.C.5; HSA-CED.A.3; 8.EE.C.8c; 8.EE.C.8b; 8.EE.C.8a; 8.EE.C.8	Solving Systems of Equations by: Graphing, Substitution, and Elimination; Special Systems; Applications of Systems of Equations; Systems of Linear Inequalities	Consistent; Inconsistent; Dependent; Independent; Substitution; Elimination; Shaded Region

	Pacing Guide	CCSS Addressed	Core Skills	Key Vocabulary
Unit 7: Polynomials	14 Days	HSF-BF.A.2; HSF-IF.A.3; HSA-APR.A.1; HSA- SSE.A.2	Operations on Polynomials (+-x /); Arithmetic Sequences; Summation; Special Sequences	Monomial; Binomial; Trinomial; Simplified Standard Form; FOIL; Square of a Sum; Square of a Difference; Difference of two Squares; Conjugates; Arithmetic and Geometric Sequences; Recursive and Explicit Formulas; Common Difference; Common Ratio; Summation; Sigma Notation; Partial Sum Formulas; Phi; Fibonacci Sequence; Golden Ratio
Unit 8: Factoring Polynomials	14 Days	HSA-CED.A.1; HSA- APR.C.4; HSA-APR.B.3	Greatest Common Factor; Factor Trinomials; Factor Special Polynomials; Zero Product Property; Applications of Factoring	Difference of two Squares; Perfect Square Trinomials; Zero Product Property; Vertical Motion Model
Unit 9: Quadratic Equations & Functions	13 Days	HSF-LE.A.2; HSF-LE.A.1; HSF-BF.B.3; HSF-BF.A.1; HSF-IF.C.8a; HSF-IF.C.8; HSF-IF.C.7a; HSF-IF.C.7; HSA-REI.B.4b; HSA- REI.B.4a; HSA-REI.B.4; 8.F.B.4	Solving Quadratics Using: Roots, Completing Square, Quadratic Equation, Graphing; Discriminants; Transformations of Quadratic Function; Modeling	Standard Form (Quadratic); Quadratic Equation; Discriminant; Parabola; Axis of Symmetry; Maximum; Minimum; Graphing Form; Common Difference; Common Ratio; Common Second Differences
Unit 10: Radicals	12 Days	HSG-SRT.C.8; HSF-IF.C.7b; HSF-IF.B.4; HSA-REI.D.10; HSA-REI.B.4b; HSA- REI.B.4; HSA-REI.A.2; HSA- CED.A.1; HSN-RN.A.2; HSN-RN.A.1; 8.EE.A.2; 8.G.B.8; 8.G.B.7	Simplifying Radicals; Multiplying and Dividing Radicals; Conjugates; Radical and Exponential Equations; Pythagorean Theorem; Graphs of Radical Functions	Radical; Index; Product Property; Rationalizing the Denominator; Conjugates; Pythagorean Theorem; Distance and Midpoint Formula; Domain; Range
Unit 11: Rational Expressions	13 Days	HSF-BF.A.1; HSF-IF.C.7d; HSF-IF.C.7; HSF-IF.B.4; HSA-APR.D.7; HSA- APR.D.6; 8.EE.A.2	Simplifying Rational Expressions; Multiply, Divide and Add Rational Expressions; Complex Rational Expressions; Inverse Variation; Rational Equations and Functions	Excluded Values; Direct Variation; Inverse Variation; Constant of Proportionality; Asymptote; Rational Function General Form
Bonus Unit 12: Data Analysis and Probability	11 Days	HSN.VM.C.6; HSN.VM.C.7; HSN.VM.C.8; HSN.VM.C.9; HSS.ID.A.2; HSS.ID.A.3; HSA-REI.C.9; HSS.CP.A.1; HSS.CP.A.3; HSS.CP.B.6; HSS.CP.B.9; HSA-APR.C.5	Organize Data with Matrices; Multiplying Matrices; Determinants; Inverse Matrices; Interpret Data; Fundamentals of Counting; Binomial Expansion Th.; Compound Event Probability; Normal Distribution	Matrix; Scalar Multiplication; Determinant; Mean; Median; Mode; Range; Deviation; Variance; Standard Deviation; Z-Score; Permutation; Combination; Independent Event; Dependent Event; Inclusive Events; Mutually Exclusive Events; Normal Distribution