Algebra 1A Scope and Sequence

Suggested timeline	CCSS	Learning Target	Resources
Week 1	N.RN.B.3 Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; . . . A.SSE.A.1.a Interpret parts of an expression, such as terms, factors, and coefficients. A.SSE.A.2 Use the structure of an expression to identify ways to rewrite it. Common Core Mathematical Practice Standards: 1, 2, 4, 6, 7	Students write and evaluate algebraic expressions. They also simplify numerical and algebraic expressions containing exponents and develop an understanding of irrational numbers.	1.1-1.5
Week 1&2	A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. A.CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. Common Core Mathematical Practice Standards: 1, 2, 3, 4, 6, 7	Students solve equations using mental math and using tables. They also make tables for real-world situations, write two-variable equations based on tables, and graph the data from the tables in the first quadrant of the coordinate plane.	1.6-1.9
Week 2	A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. A.REI.A.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, . . . A.REI.B.3 Solve linear equations and inequalities in one variable, including equations with coefficients, represented by letters. Mathematical Practice Standards: 1, 2, 3, 4, 7, 8	Students solve equations using Properties of Equality. Starting with one-step equations and then two-step equations, students expand to multi-step equations requiring them to use the Distributive Property.	2.1-2.3
Week 3	A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. A.CED.A.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. A.REI.B.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	Students solve literal equations for a variable and solve equations with variables on both sides.	2.4-2.6

	Mathematical Practice Standards: 1, 2, 4, 7		
Week 4	N.Q.A.1 Use units . . . to guide the solution of multi-step problems; . . . choose and interpret the scale and the origin in graphs and data displays. N.Q.A.3 Choose a level of accuracy appropriate to limitations on measurement . . . A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. A.REI.B.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. Mathematical Practice Standards: 1, 2, 3, 4, 6, 7	Students write and solve special types of equations and proportions. Students apply their understanding of writing proportions to many real-world applications from similar figures.	2.7-2.8, 2.10
Week 5	A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. A.REI.A.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method. A.REI.B.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. Mathematical Practice Standards: 1, 2, 3, 4, 7	Students write and solve inequalities using the Properties of Inequalities. They see how the process of solving equations and the process of solving inequalities is similar.	3.2-3.5
Week 6	A.SSE.A.1.b Interpret complicated expressions by viewing one or more of their parts as a single entity. A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. A.REI.B.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. Mathematical Practice Standards: 1, 2, 4, 7	Students solve and graph absolute value in equalities. Students also graph compound inequalities and write compound inequalities for real-world situations.	3.6-3.8
Week 7	A.CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. A.REI.D.10 Understand that the graph of an equation	Students make tables for real-world situations and draw graphs based on the tables. Students write two-variable equations for real-world situations	4.1-4.4

Week 7 Continued	in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve . . . F.IF.A.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. F.IF.B.4 For a function . . . interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Mathematical Practice Standards: 1, 2, 4, 7		
Week 8	N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling. A.CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. F.IF.A.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f (x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f (x). F.IF.A.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. Mathematical Practice Standards: 1, 2, 4, 7	Students write function rules for real-world situations. They determine whether data in a table describes a function by using mapping diagrams and whether a graph shows a function using the vertical line test.	4.5-4.6
Week 8	A.SSE.A.1.b Interpret complicated expressions by viewing one or more of their parts as a single entity. F.IF.A.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. F.BF.A.1.a Determine an explicit expression, a recursive process, or steps for calculation from a context. F.BF.A.2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the	Students write recursive and explicit formulas for arithmetic sequences using function notation.	4.7

	two forms. Mathematical Practice Standards: 1, 2, 4, 6, 7, 8		
Week 9	N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling. A.CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. F.IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. F.IF.B.6 Calculate and interpret the average rate of change of a function. . . . F.IF.C.7.a Graph . . . linear and quadratic functions and show intercepts, maxima, and minima. Mathematical Practice Standards: 1, 2, 4, 6, 7	Students find slope and write equations for direct variations and linear functions. They also graph linear equations using y-intercept and slope.	5.1-5.3
Week 10	A.SSE.A.2 Use the structure of an expression to identify ways to rewrite it. A.CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. F.IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs . . . and sketch graphs showing key features given a verbal description of the relationship. F.IF.C.7.a Graph linear and quadratic functions and show intercepts, maxima, and minima. F.BF.A.1.a Determine an explicit expression, or steps for calculation from a context. F.LE.A.2 Construct linear and exponential functions, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). Mathematical Practice Standards: 1, 4, 7	Students graph equations in point-slope form. Students use two points or information in a table, identifying two points, to write an equation in point-slope form.	5.4-5.5
Week 11	A.SSE.A.2 Use the structure of an expression to identify ways to rewrite it. A.CED.A.2 Create equations in two or more variables	Students graph lines using the y-intercept and slope. They write linear equations for real-world situations. Students rewrite linear equations in different forms.	5.5-5.6

Week 11 Continued	to represent relationships between quantities; graph equations on coordinate axes with labels and scales. F.IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs . . . and sketch graphs showing key features given a verbal description of the relationship. F.IF.C.7.a Graph linear and quadratic functions and show intercepts, maxima, and minima. F.LE.A.2 Construct linear and exponential functions, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). Mathematical Practice Standards: 1, 4, 7	They also determine if the graphs of equations will be perpendicular or parallel by finding slope.	
Week 12	F.IF.C.7.b Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. F.BF.B.3 Identify the effect on the graph of replacing f (x) by f (x) 1 k, k f (x), f (kx), and f (x 1 k) for specific values of k. . . . S.ID.B.6.a Fit a function to the data; use functions fitted to data to solve problems. . . . S.ID.B.6.c Fit a linear function for a scatter plot that suggests a linear association. S.ID.C.7 Interpret the slope and the intercept of a linear model in the context of the data. S.ID.C.8 Compute (using technology) and interpret the correlation coefficient of a linear fit. S.ID.C.9 Distinguish between correlation and causation. Mathematical Practice Standards: 1, 2, 5, 6, 7	Students graph scatter plots and trend lines, and find the equations of trend lines. They will translate the graph of y = |x| by changing h and k in the equation y =|x – h| +k.	5.7-5.8

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