

Algebra 1A
Poudre School District
Pacing Overview

Chapter 1: Solving Linear Equations

5-6 Days

HS.N.Q.A.1, HS.A.CED.A.1, HS.A.CED.A.4, HS.A.REI.A.1, HS.A.REI.B.3

Chapter 2: Solving Linear Inequalities

6-7 Days

HS.A.CED.A.1, HS.A.REI.B.3

Chapter 3: Graphing Linear Functions

5-6 Days

HS.A.CED.A.2, HS.A.REI.D.10, HS.F.IF.B.4, HS.F.IF.B.5, HS.F.IF.C.7a,
HS.F.LE.A.1b, HS.F.LE.B.5

Chapter 4: Writing Linear Functions

8-9 Days

HS.A.CED.A.2, HS.F.BF.A.1a, HS.F.LE.A.1b, HS.F.LE.A.2, HS.F.LE.B.5,
HS.S.ID.B.6a, HS.S.ID.B.6b, HS.S.ID.B.6c, HS.S.ID.C.7, HS.S.ID.C.8, HS.S.ID.C.9




Chapter 5: Solving Systems of Linear Equations

9-10 Days

HS.A.CED.A.3, HS.A.REI.C.5, HS.A.REI.C.6, HS.A.REI.D.11, HS.A.REI.D.12

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Review & Common Summative Assessment

-  Major Work of the Grade.
-  Supporting Work of the Grade.
-  Additional Work of the Grade.

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Chapter 1: Solving Linear Equations

5-6 Days

HS.N.Q.A.1, HS.A.CED.A.1, HS.A.CED.A.4, HS.A.REI.A.1, HS.A.REI.B.3

Chapter Summary

Section	Title	Level of Learning	Standard(s)	Pacing
	Chapter Opener/Mathematical Practices			0.5 day
1.1	Solving Simple Equations	Learning	HS.A.CED.A.1, HS.A.REI.A.1, HS.A.REI.B.3	0.5 day
1.2	Solving Multi-Step Equations	Learning	HS.N.Q.A.1, HS.A.CED.A.1, HS.A.REI.B.3	0.5 day
1.3	Solving Equations with Variables on Both Sides	Learning	HS.A.CED.A.1, HS.A.REI.B.3	1 day
1.5	Rewriting Equations and Formulas	Learning	HS.A.CED.A.4	0.5 day

Total: 3 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources	
Name	Location
Magic of Mathematics	Big Ideas Math: Performance Tasks: Assessment Book Performance Task

Vocabulary		
conjecture	equation	equivalent equations
formula	identity	inverse operations
linear equation in one variable	literal equation	rule
solution of an equation	theorem	

Standards	
HS.N.Q.A.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
HS.A.CED.A.1	Create equations and inequalities in one variable and use them to solve problems. <i>Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</i>
HS.A.CED.A.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. <i>For example, rearrange Ohm's law $V = IR$ to highlight resistance R.</i>
HS.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.
HS.A.REI.B.3	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

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Chapter 2: Solving Linear Inequalities

6-7 Days

HS.A.CED.A.1, HS.A.REI.B.3

Chapter Summary

Section	Title	Level of Learning	Standard(s)	Pacing
	Chapter Opener/Mathematical Practices			0.5 day
2.1	Writing and Graphing Inequalities	Learning	HS.A.CED.A.1	0.5 day
2.2	Solving Inequalities Using Addition or Subtraction	Learning	HS.A.CED.A.1, HS.A.REI.B.3	0.5 day
2.3	Solving Inequalities Using Multiplication or Division	Learning	HS.A.CED.A.1, HS.A.REI.B.3	0.5 day
2.4	Solving Multi-Step Inequalities	Learning	HS.A.CED.A.1, HS.A.REI.B.3	1 day
2.5	Solving Compound Inequalities	Learning	HS.A.CED.A.1, HS.A.REI.B.3	1 day

Total: 4 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources	
Name	Location
Grading Calculations	Big Ideas Math: Performance Tasks: Assessment Book Performance Task

Vocabulary		
compound inequality	equivalent inequalities	graph of an inequality
inequality	solution of an inequality	solution set

Standards	
HS.A.CED.A.1	Create equations and inequalities in one variable and use them to solve problems. <i>Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</i>
HS.A.REI.B.3	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

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Chapter 3: Graphing Linear Functions

5-6 Days

HS.A.CED.A.2, HS.A.REI.D.10, HS.F.IF.B.4, HS.F.IF.B.5, HS.F.IF.C.7a,
HS.F.LE.A.1b, HS.F.LE.B.5

Chapter Summary

Section	Title	Level of Learning	Standard(s)	Pacing
	Chapter Opener/Mathematical Practices			0.5 day
3.2	Linear Functions	Learning	HS.A.CED.A.2, HS.A.REI.D.10, HS.F.IF.B.5, HS.F.IF.C.7a, HS.F.LE.A.1b	0.5 day
3.4	Graphing Linear Equations in Standard Form	Learning	HS.A.CED.A.2, HS.F.IF.C.7a	1 day
3.5	Graphing Linear Equations in Slope-Intercept Form	Learning	HS.A.CED.A.2, HS.F.IF.B.4, HS.F.IF.C.7a, HS.F.LE.B.5	1 day

Total: 3 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources	
Name	Location
The Cost of a T-Shirt	Big Ideas Math: Performance Tasks: Assessment Book Performance Task

Vocabulary		
constant function	continuous domain	discrete domain
linear equation in two variables	linear function	nonlinear function
rise	run	slope
slope-intercept form	solution of a linear equation in two variables	standard form of a linear equation
x-intercept	y-intercept	

Standards	
HS.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.
HS.A.REI.D.10	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
HS.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. <i>Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.</i>

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Standards (continued)

HS.F.IF.B.5	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. <i>For example, if the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.</i>
HS.F.IF.C.7a	Graph linear and quadratic functions and show intercepts, maxima, and minima.
HS.F.LE.A.1b	Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.
HS.F.LE.B.5	Interpret the parameters in a linear or exponential function in terms of a context.

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Chapter 4: Writing Linear Functions

8-9 Days

HS.A.CED.A.2, HS.F.BF.A.1a, HS.F.LE.A.1b, HS.F.LE.A.2, HS.F.LE.B.5,
HS.S.ID.B.6a, HS.S.ID.B.6b, HS.S.ID.B.6c, HS.S.ID.C.7, HS.S.ID.C.8, HS.S.ID.C.9

Chapter Summary

Section	Title	Level of Learning	Standard(s)	Pacing
	Chapter Opener/Mathematical Practices			0.5 day
4.1	Writing Equations in Slope-Intercept Form	Learning	HS.A.CED.A.2, HS.F.BF.A.1a, HS.F.LE.A.1b, HS.F.LE.A.2	1 day
4.2	Writing Equations in Point-Slope Form	Learning	HS.A.CED.A.2, HS.F.BF.A.1a, HS.F.LE.A.1b, HS.F.LE.A.2	1 day
4.3	Writing Equations of Parallel and Perpendicular Lines	Learning	HS.A.CED.A.2, HS.F.LE.A.2	0.5 day
4.4	Scatter Plots and Lines of Fit	Learning	HS.F.LE.B.5, HS.S.ID.B.6a, HS.S.ID.B.6c, HS.S.ID.C.7	0.5 day
4.5	Analyzing Lines of Fit	Learning	HS.F.LE.B.5, HS.S.ID.B.6a, HS.S.ID.B.6b, HS.S.ID.B.6c, HS.S.ID.C.7, HS.S.ID.C.8, HS.S.ID.C.9	2 day

Total: 5.5 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources

Name	Location

Vocabulary

causation	correlation	correlation coefficient
extrapolation	interpolation	line of best fit
line of fit	linear model	linear regression
parallel lines	perpendicular lines	point-slope form
residual	scatter plot	

Standards

HS.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.
HS.F.BF.A.1a	Determine an explicit expression, a recursive process, or steps for calculation from a context.
HS.F.LE.A.1b	Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.
HS.F.LE.A.2	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).
HS.F.LE.B.5	Interpret the parameters in a linear or exponential function in terms of a context.
HS.S.ID.B.6a	Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.
HS.S.ID.B.6b	Informally assess the fit of a function by plotting and analyzing residuals.
HS.S.ID.B.6c	Fit a linear function for a scatter plot that suggests a linear association.
HS.S.ID.C.7	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.
HS.S.ID.C.8	Compute (using technology) and interpret the correlation coefficient of a linear fit.
HS.S.ID.C.9	Distinguish between correlation and causation.

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Chapter 5: Solving Systems of Linear Equations

9-10 Days

HS.A.CED.A.3, HS.A.REI.C.5, HS.A.REI.C.6, HS.A.REI.D.12

Chapter Summary

Section	Title	Level of Learning	Standard(s)	Pacing
	Chapter Opener/Mathematical Practices			0.5 day
5.1	Solving Systems of Linear Equations by Graphing	Learning	HS.A.CED.A.3, HS.A.REI.C.6	1 day
5.2	Solving Systems of Linear Equations by Substitution	Learning	HS.A.CED.A.3, HS.A.REI.C.6	1 day
5.3	Solving Systems of Linear Equations by Elimination	Learning	HS.A.CED.A.3, HS.A.REI.C.5, HS.A.REI.C.6	1.5 days
5.4	Solving Special Systems of Linear Equations	Learning	HS.A.CED.A.3, HS.A.REI.C.6	0.5 day
Supplement	Application of Systems of Linear Equations			2 days
5.6	Solving Linear Inequalities in Two Variables	Learning	HS.A.CED.A.3, HS.A.REI.D.12	1 day
5.7	Systems of Linear Inequalities	Learning	HS.A.CED.A.3, HS.A.REI.D.12	1.5 days
Supplement	Applications of Systems of Inequalities			2 days

Total: 11 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources

Name	Location

Vocabulary

graph of a linear inequality	graph of a system of linear inequalities	half-planes
linear inequality in two variables	solution of a linear inequality in two variables	solution of a system of linear equations
solution of a system of linear inequalities	system of linear equations	system of linear inequalities

Standards

HS.A.CED.A.3	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. <i>For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.</i>
HS.A.REI.C.5	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
HS.A.REI.C.6	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
HS.A.REI.D.12	Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.