

Options EHS Algebra 1A-OR		Scope and Sequence
Unit	Lesson	Objectives
Modeling with Linear Equations and Inequalities: Part One		
Quantitative Reasoning		
		Describe a quantitative relationship shown in a table or graph, including graphs without scales.
		Interpret a graph given with or without a scale to determine the quantitative relationship it describes.
Dimensional Analysis		
		Use dimensional analysis to convert units and compare quantities, attending to limitations on the unit of measurement.
Equations in One Variable		
		Explain the steps used to solve a two-step, one-variable linear equation.
		Create two-step, one-variable linear equations to model problems.
		Solve two-step, one-variable linear equations and simple absolute value equations, pointing out solutions that are viable or not viable in a modeling context.
Writing and Solving Equations in Two Variables		
		Solve for an unknown quantity in a two-variable linear equation, given one of the values.
		Determine a two-variable linear equation that represents a scenario, identifying constraints on the variables in terms of the context.
Writing and Graphing Equations in Two Variables		
		Construct a table of values and a graph for a two-variable linear equation that models a situation, pointing out solutions that are viable or not viable based on the context.
		Write a two-variable linear equation to model a quantitative relationship, describing the constraints of the model

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		based on the context.
		Interpret graphs and rates by examining the quantities represented by each axis.
	Solving Linear Equations: Variable on One Side	
		Determine the input value that produces the same output value for two functions from a table or graph.
		Explain the steps used to solve a one-variable linear equation having the variable on one side only.
		Solve one-variable linear equations having the variable on one side only, pointing out solutions that are viable or not viable in a modeling context.
		Create one-variable linear equations, having the variable on one side only, to model and solve problems.
	Solving Linear Equations: Variables on Both Sides	
		Explain the steps used to solve a one-variable linear equation having the variable on both sides.
		Solve one-variable linear equations having the variable on both sides using tables, graphs, or algebra, pointing out solutions that are viable or not viable in a modeling context.
		Create one-variable linear equations, having the variable on both sides, to model and solve problems.
	Solving Linear Equations: Distributive Property	
		Solve one-variable linear equations involving the distributive property.
		Determine if a one-variable linear equation has zero, one, or infinite solutions.
		Create one-variable linear equations involving the distributive property to model and solve problems.
	Performance Task: Tablet Time	
	Unit Test	
Modeling with Linear Equations and Inequalities: Part Two		
	Solving Mixture Problems	
		Use a table to organize information given in mixture problems.

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		Write and solve one-variable linear equations to model and solve mixture problems.
	Solving Rate Problems	
		Use a table to organize information given in time-distance-rate and work problems.
		Write and solve one-variable linear equations to model and solve time-distance-rate and work problems.
	Literal Equations	
		Rearrange a literal equation to highlight a quantity of interest and use it to solve problems.
	Inequalities in One Variable	
		Explain the steps used to solve a two-step one-variable linear inequality.
		Solve two-step one-variable linear inequalities, and state the solution in set or interval notation or graph it on a number line.
		Create two-step one-variable linear inequalities to model and solve problems, pointing out solutions that are viable or not viable in the context.
	Solving One-Variable Inequalities	
		Explain the steps used to solve a multistep one-variable linear inequality.
		Solve multistep one-variable linear inequalities.
		Graph the solution sets of one-variable linear inequalities.
	Real Numbers	
		Classify real numbers.
		Identify the field properties of real numbers.
		Represent real numbers with variables.
	Unit Test	
Modeling with Linear Functions: Part One		

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	Introduction to Functions	
		Determine the domain and range of a functional relationship given in a mapping diagram, table, graph, or scenario. Analyze a mapping diagram, table, graph, or scenario to recognize functional relationships.
	Function Notation	
		Interpret function notation that models a real-world situation. Identify the input and output of a functional relationship, pointing out constraints on the domain and range. Use function notation to represent a functional relationship.
	Evaluating Functions	
		Analyze a function represented by an equation, table, or graph to determine the output when given the input, and vice versa. Find input and output values of two functions graphed in the same coordinate plane. Write the inverse of a given linear function.
	Analyzing Graphs	
		Use the graph of a function to determine the key aspects, using interval notation where applicable.
	Analyzing Tables	
		Given a table of values for a continuous function, make predictions about the key features of the graph of the function.
	Recognizing Patterns	
		Analyze a sequence of numbers to determine the pattern, and identify whether it is arithmetic or geometric. Use a recursive rule to calculate a term of a sequence.

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		Write a recursive rule for a sequence.
	Introduction to Linear Functions	Calculate the rate of change of a function and, if constant, the initial value of the function. Determine if a relationship is linear by analyzing the rate of change. Calculate the rate of change of a function and, if constant, the initial value of the function.
	Unit Test	
Modeling with Linear Functions: Part Two		
	Slope of a Line	Identify if the slope of a linear relationship is zero, positive, negative, or undefined. Determine the slope of a line from a graph, table of values, or ordered pairs. Interpret slope in the context of real-world scenarios.
	Slope-Intercept Form of a Line	Identify the slope and y-intercept of a linear function, and use them to graph the function. Write a linear function, in slope-intercept form, for a given relationship. Analyze how a change in a parameter of a linear function affects its graph or the scenario it represents.
	Point-Slope Form of a Line	Write the equation of a line given its slope and a point on the line in point-slope form, and express the relationship as a function. Graph a line given its equation in point-slope form, identifying the slope and intercepts.
	Writing Linear Equations	Write two-variable linear equations in different forms using varying pieces of information about the relationships. Use linear models to solve problems.

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		Write two-variable linear equations in different forms using varying pieces of information about the relationships.
	Special Linear Relationships	
		Determine if a relationship is a direct variation.
		Find the constant of variation in a direct variation.
		Write an equation for a direct variation.
		Write recursive and explicit rules for arithmetic sequences using function notation.
	Unit Test	
Linear Systems of Equations and Inequalities		
	Solving Systems of Linear Equations: Graphing	
		Use technology to find or approximate the solution of a system of linear equations graphically.
		Analyze a system of linear equations to determine if it has one solution, no solution, or infinitely many solutions.
	Solving Systems of Linear Equations: Substitution	
		Solve a system of linear equations using substitution.
		Interpret the solution of a system of linear equations in a modeling context.
	Solving Systems: Introduction to Linear Combinations	
		Solve systems of linear equations using linear combinations, limiting the systems to those that do not require multiples of both equations.
		Interpret the solution of a system of linear equations in a modeling context.
		Verify that, given a system of two equations in two variables, replacing one equation by the sum of that equation

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		and a multiple of the other produces a system with the same solutions.
	Solving Systems of Linear Equations: Linear Combinations	
		Solve a system of linear equations using linear combinations.
		Interpret the solution of a system of linear equations in a modeling context.
	Modeling with Systems of Linear Equations	
		Create a system of linear equations to model a problem.
		Interpret the solution of a system of linear equations in a modeling context.
	Graphing Two-Variable Linear Inequalities	
		Relate the graph of a two-variable linear inequality to its algebraic representation.
	Modeling with Two-Variable Linear Inequalities	
		Create a two-variable linear inequality to model a problem.
		Graph the solutions to a two-variable linear inequality.
		Interpret the solutions of a two-variable linear inequality in a modeling context.
	Solving Systems of Linear Inequalities	
		Identify solutions of a system of two-variable linear inequalities.
		Graph a system of two-variable linear inequalities.
		Determine a system of two-variable linear inequalities given a solution set.
	Modeling with Systems of Linear Inequalities	

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		Create a system of two-variable linear inequalities to model a problem.
		Graph the solutions to a system of two-variable linear inequalities.
		Interpret the solutions to a system of two-variable linear inequalities in a modeling context.
	Unit Test	
Introduction to Statistics		
	Designing a Study	
		Classify study types.
		Classify sampling methods.
		Determine if a sample is biased.
		Analyze study types and sampling methods.
	Introduction to Sampling Methods	
		Describe a population and sample given a description of a study.
		Identify whether a study utilized convenience sampling or voluntary response sampling.
		Analyze a study to determine if bias is present and whether that bias leads to an overestimate or underestimate of the population parameter.
	Simple Random Sample	
		Describe the process of simple random sampling.
		Explain the process of generating a simple random sample using a table of random digits.
		Explain the process of generating a simple random sample using a random number generator.
	Other Sampling Methods	
		Describe the process and/or advantages and disadvantages of stratified random sampling.
		Describe the process and/or advantages and disadvantages of systematic random sampling.

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		Describe the process and/or advantages and disadvantages of cluster sampling.
		Distinguish between stratified random sampling, systematic random sampling, and cluster sampling.
	Observational Studies and Experiments	
		Distinguish between an observational study and an experiment.
		Describe the effect of confounding.
		Identify the explanatory variable, response variable, treatments, experimental units/subjects, factors, and levels of an experimental design.
	Test	
Cumulative Exam		
	Cumulative Exam Review	
	Cumulative Exam	