Unit	Lesson	Lesson Objectives
Input-Output Relationships		
	Graphing on the Coordinate Plane	
		Create graphs from a table or situation and use them to solve problems.
		Identify and graph points in the coordinate plane, describing their relationship to axes and quadrants.
	Interpreting Graphs	
		Analyze qualitative graphs.
		Create a graph to model a situation.
		Interpret information given in a graph.
	Tables, Graphs, and Equations	
		Generate different representations of the same two-variable data.
		Recognize that tabular and graphical representations may be partial representations.
		Translate tables and graphs into equations.
	Introduction to Functions	
		Determine if a real-world situation describes a functional relationship.
		Identify functions from tables, graphs, and equations.
	Linear vs. Nonlinear Functions	
		Differentiate functions as either linear or nonlinear.
		Interpret the rate of change from a graph or table.
Linear Functions		
	Constructing Linear Functions	
		Analyze linear functions to find the rate of change and initial value.
		Interpret the rate of change and initial value of a linear function in terms of the situation it models.
	Rate of Change and Introduction to Slope	
		Compare positive slopes in a real-world situation.
		Determine the positive slope of a line from a table and a graph.
	Exploring Slope	
		Determine the value of the slope of a line from a table or a graph.
		Recognize the difference between positive slope, negative slope, no slope, and zero slope.
	Proportional Relationships	
		Compare proportional and nonproportional linear functions in the form of a table, graph, and equation.
		Determine whether a linear function is a direct variation.
		Solve problems involving direct variation.
	Slope-Intercept Form	
		Analyze a graph to determine slope and *y* -intercept.
		Graph a linear function using the slope and *y* -intercept.
		Write a linear equation in slope-intercept form given the slope and *y* -intercept.
	Graphing in a Variety of Contexts	
		Construct and analyze graphs given two components of a linear function.
		Estimate *y* -intercepts on a graph.

Unit	Lesson	Lesson Objectives
	Writing Linear Functions	
		Compare and contrast using point-slope form and the slope-intercept form to get an equation to slope-intercept form.
		Write a linear equation in slope-intercept form given the slope and a point other than the *y* -intercept.
	Writing Linear Equations Given Two Points	
		Write a linear equation in slope-intercept form given two points.
	Applying Linear Functions	
		Determine what the slope and *y* -intercept are and what they represent in real-world functional relationships.
		Evaluate inputs and outputs for linear equations in slope-intercept form.
		Use real-world scenarios of linear functions to write an equation in slope-intercept form.
	Comparing Slopes and Intercepts	
		Compare the slope and intercepts of linear functions, including when they are expressed as equations written in different forms.
		Determine slope and *y* -intercept of linear functions represented differently.
Patterns in Bivariate Data		
	Constructing Scatterplots	
		Analyze a scatterplot.
		Classify dependent and independent variables.
		Create a scatterplot using a table of values.
	Interpreting Clusters and Outliers	
		Analyze the influence outliers and clusters have on the data set.
		Explain the meaning of clusters and outliers in context.
		Identify clusters and outliers in a scatterplot and table of values.
	Exploring Association	
		Analyze the correlation and association in scatterplots.
	Drawing Trend Lines	
		Draw a line of best fit in scatterplots and identify its purpose.
		Use a graphing calculator to graph scatterplots and draw the trend line.
	Using Equations to Represent Trend Lines	
		Create the linear equation of the trend line.
		Find and interpret the slope of a trend line.
	Making Predictions	
		Analyze data to determine interpolations and extrapolations.
		Substitute *x*- and y-values into the data to create predictions of a real-world scenario.
		Use a calculator to graph a scatterplot and create line of best fit.
	Making Two-Way Tables	
		Create a two-way table that organizes bivariate data.
		Determine the variables of a scenario in bivariate data.
		Label components of the two-way table appropriately.
	Interpreting Two-Way Tables	
		Interpret and analyze a two-way table.
		Use frequencies to describe a possible association between two variables.
	Performance Task: Business Success	

Unit	Lesson	Lesson Objectives
Linear Equations		
	Combining Like Terms to Solve Equations	
		Determine and apply properties of equality when solving an equation.
		Identify and combine like terms to solve one-variable linear equations.
	Solving with the Distributive Property	
		Justify the steps taken to solve one-variable linear equations involving the distributive property.
		Solve one-variable linear equations using the distributive property.
	Solving Equations with Rational Numbers	
		Identify the least common denominator of fractions to combine like terms and solve equations.
		Solve one-variable linear equations with rational numbers using properties of equality.
	Modeling with Variables on Both Sides	
		Use algebra tiles to model one-variable equations with variables on both sides.
		Use algebra tiles to solve one-variable equations with variables on both sides.
	Solving with Variables on Both Sides	
		Determine and apply the steps needed to isolate a variable in a linear equation with variables on both sides.
		Solve equations with variables on both sides and verify the solutions.
	Solving Multistep Equations with Variables on Both Sides	
		Build a process for solving multistep linear equations with variables on both sides.
		Solve multistep linear equations with variables on both sides and verify the solutions.
	Analyzing Solutions	
		Identify equations that have one solution, infinitely many solutions, and no solution.
		Solve equations that have one solution, infinitely many solutions, and no solution.
		Write equations that have infinitely many solutions and no solution.
Linear Systems of Equations		
	Exploring Systems of Linear Equations	
		Determine if a given coordinate point is a solution to a system of linear equations.
		Identify the unique solution of a system of two linear equations from a graph.
	Using Graphs to Determine the Number of Solutions	
		Create a system of linear equations that has no solution, one solution, or infinitely many solutions.
		Determine the number of solutions of a system of linear equations from a graph or by inspection.
	Using Graphs to Solve Systems	
		Determine the solution of a linear system from the graph.
		Graph linear systems on the coordinate plane.
		Rewrite a system of linear equations in slope-intercept form.
	Estimating Solutions of Systems	
		Estimate solutions of linear systems graphically.
		Use intercepts to graph a system of equations given in standard form.
	Writing and Solving Systems	
		Create systems of equations from mathematical problems.
		Solve systems of two linear equations.

Unit	Lesson	Lesson Objectives
	Using Substitution to Solve Systems	
		Use substitution to solve a linear system.
	Rewriting Equations to Use Substitution	
		Isolate one variable in a system of linear equations.
		Use substitution to solve a system of linear equations.
		Write and solve a system of linear equations from a real-world scenario.
	Using Addition to Solve Systems	
		Use the linear combination method to solve linear systems.
	Multiplying One Equation to Solve Systems	
		Solve a system using the linear combination method after multiplying one equation.
		Write equations of a linear system in standard form from a real-world scenario.
	Problem Solving with Systems	
		Solve a system of linear equations.
		Write a system of linear equations to represent a real-world scenario.
Transformations		
	Congruence	
		Determine the congruence of figures by measuring corresponding sides and angles.
		Identify and write corresponding parts of congruent figures.
	Overview of Transformations	
		Identify types of transformations.
		Relate the result of a transformation to the original figure.
	Translations	
		Describe a translation using coordinates.
		Identify and describe a translation on the coordinate plane.
		Translate figures on the coordinate plane given as an ordered pair and verbal expression.
	Reflections	
		Describe a reflected figure using the line of reflection and coordinates.
		Identify and describe a reflection on the coordinate plane.
		Reflect figures on the coordinate plane given the line of reflection.
	Rotations	
		Analyze a graph to determine the angle and direction of rotation of a figure.
		Identify the image of a figure after a given rotation.
	Rotations in the Coordinate Plane	
		Describe the rotation of a figure using coordinates.
		Rotate figures on the coordinate plane given the degree and direction.
	Congruence and Transformations	
		Describe a sequence of transformations that shows that a given pre-image is congruent to a transformed figure.
	Dilations	
		Determine the result of a dilation given a center of dilation and the scale factor.
		Determine the scale factor of a dilation.
		Use proportional reasoning to determine if one figure is a dilation of another.

Unit	Lesson	Lesson Objectives
	Dilations in the Coordinate Plane	
		Describe the dilation of a figure on the coordinate plane by the scale factor.
		Use the scale factor to graph dilations on the coordinate plane.
	Similarity and Transformations	
		Apply scale factor to find unknown side lengths of an image or pre-image after a dilation or sequence of transformations.
		Describe a sequence of transformations that result in a similar figure.
		Determine the similarity of figures by comparing corresponding side lengths and angle measures.
Congruence and Similarity		
	Transversals	
		Determine angle relationships created by a transversal line intersecting two nonparallel lines.
		Find unknown angle measures created by a transversal intersecting two or more nonparallel lines.
	Parallel Lines Cut by a Transversal	
		Determine if two lines cut by a transversal are parallel.
		Find missing measurements using angle relationships in a diagram of a transversal crossing parallel lines.
		Identify interior angles, exterior angles, alternate interior angles, and alternate exterior angles when a transversal crosses parallel lines.
	Sum of Interior Angles of a Triangle	
		Determine the angle measures of interior angles of a triangle.
		Explain that the sum of the interior angles of a triangle is 180 degrees by rearranging the angles to create a straight line.
		Use angle relationships formed from parallel lines cut by transversals to establish facts about the interior angles of a triangle.
	Exterior Angles of a Triangle	
		Determine angle measures of exterior angles of a triangle and the sum of exterior angles of a triangle.
		Identify exterior, adjacent interior, and remote interior angles of a triangle.
		Use angle relationships to establish facts about exterior angles of a triangle.
	Similar Triangles	
		Analyze and apply third angle theorem and angle-angle criterion in similar triangles.
		Identify proportionality of side lengths to determine triangle similarity.
		Write similarity statements of similar triangles.
	Similar Triangles and Slope	
		Find unknown measurements of similar triangles.
		Interpret similar triangles created by intersecting transversal and parallel lines.
		Use similar triangles in the coordinate plane to write linear equations.
	Performance Task: Sign Production	
Working with Exponents		
	Powers and Exponents	
		Evaluate powers using fractional and negative bases.
		Express a power of a positive integer base in expanded form.
		Express expanded form in exponential form.
	Zero and Negative Exponents	
		Determine patterns of exponent values from a table.
		Evaluate powers of zero and negative exponents.
		Simplify expressions of zero and negative exponents.

Unit	Lesson	Lesson Objectives
	Powers with the Same Base	
		Evaluate powers of the same base through multiplication and division.
		Simplify expressions of powers with the same base.
	Raising a Power to a Power	
		Simplify and evaluate expressions of raising a power to a power of integer exponents.
	Evaluating Expressions with Exponents	
		Evaluate expressions using substitution of the variables.
		Simplify expressions using the rules of exponents.
	Introduction to Scientific Notation	
		Convert very small or very large numbers between scientific notation and standard notation.
		Order and estimate products and quotients of numbers written in scientific notation.
	Operations with Scientific Notation	
		Evaluate products and quotients of scientific notation values.
		Identify proper units of measurement for quantities written in scientific notation.
		Recognize scientific notation answers generated by technology and identify the symbols associated with the value.
Pythagorean Theorem and Irrational Numbers		
	Exploring the Pythagorean Theorem	
		Apply the Pythagorean theorem using Pythagorean triples as the side lengths.
		Identify sets of Pythagorean triples.
		Recognize perfect squares.
		Use Pythagorean triples to determine if a triangle is a right triangle.
	Estimating and Comparing Square Roots	
		Estimate square roots without using technology.
		Make comparative statements involving square roots.
		Plot the estimated values of square roots on a number line.
	Finding the Hypotenuse in Right Triangles	
		Approximate the length of the hypotenuse of a right triangle to solve real-world problems.
		Use the Pythagorean theorem to find the length of the hypotenuse of a right triangle.
	Unknown Leg Lengths in Right Triangles	
		Approximate the length of a leg of a right triangle to solve real-world problems.
		Given the length of one leg and the hypotenuse of a right triangle, use the Pythagorean theorem to find the length of the other leg.
	Converse to the Pythagorean Theorem	
		Determine if a triangle is a right triangle by using the converse of the Pythagorean theorem.
	Finding Distance in the Coordinate Plane	
		Apply the Pythagorean theorem to find the distance between two points on the coordinate plane.
		Generate and use the distance formula to find the distance between two points on the coordinate plane.
	Pythagorean Theorem in Three Dimensions	
		Identify diagonals and right triangles within cubes.
		Solve for unknown side lengths of right triangles within a cube.

Unit	Lesson	Lesson Objectives
	Exploring Real Numbers	
		Classify numbers as rational or irrational numbers, and decimals as terminating or repeating.
		Determine sums and products of rational and irrational numbers.
		Express a repeating decimal with bar notation, and convert it to a fraction.
	Performance Task: Architectural Works and Wonders	
Volume		
	Introduction to the Volume of a Cylinder	
		Apply the formula to find the volume of a cylinder.
		Recognize and identify parts of a cylinder.
	Applications with the Volume of a Cylinder	
		Find unknown dimensions of a cylinder given its volume.
		Solve real-life problems using the volume of cylinders.
	Introduction to the Volume of a Cone	
		Apply the formula to find the volume of a cone.
		Connect the volume of a cone to the volume of a cylinder.
		Recognize and identify parts of a cone.
	Applications with the Volume of a Cone	
		Find unknown dimensions of a cone given its volume.
		Solve a real-world problem utilizing the formula for volume of a cone.
	Introduction to the Volume of a Sphere	
		Apply the formula to find the volume of a sphere.
		Connect the volume of a sphere to the volume of a cylinder.
		Identify the parts of a sphere.
	Spherical and Cubic Volume Applications	
		Apply volume formulas, including those that evaluate perfect cubes, to find unknown measurements.
		Recognize perfect cubes.
		Solve a real-world problem utilizing the formula for volume of a sphere.