Wyoming Department of Education Required Virtual Education Course Syllabus

Natrona County School District # 1

Program Name	Natrona Virtual Learning	Content Area	MA
Course ID	NVA030602	Grade Level	6
Course Name	MTH06BFundamentals of Geometry and Algebra	# of Credits	
SCED Code		Curriculum Type	K12 Inc

COURSE DESCRIPTION

This semester 2 research based course focuses on Students enhance computational and problem-solving skills while learning topics in algebra, geometry, probability, and statistics. They solve expressions and equations in the context of perimeter, area, and volume problems while further developing computational skills with fractions and decimals. The study of plane and solid figures includes construction and transformations of figures. Also in the context of problem solving, students add, subtract, multiply, and divide positive and negative integers and solve problems involving ratios, proportions, and percent, including simple and compound interest, rates, discount, tax, and tip problems. They learn multiple representations for communicating information, such as graphs on the coordinate plane, statistical data and displays, as well as the results of probability and sampling experiments. They investigate patterns involving addition, multiplication, and exponents, and apply number theory and computation to mathematical puzzles.

WYOMING CONTENT AND PERFORMANCE STANDARDS

STANDARD#	BENCHMARK_(Standard/Indicator) Use the Standards and Benchmarks as Spreadsheets
6.RP.1	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, “The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.” “For every vote candidate A received, candidate C received nearly three votes.”
6.RP.2	Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0 (b not equal to zero), and use rate language in the context of a ratio relationship. For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger." (Expectations for unit rates in this grade are limited to non-- complex fractions.)

6.RP.3	Use ratio and rate reasoning to solve real--world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
6.RP.3a	Make tables of equivalent ratios relating quantities with whole--number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.
6.RP.3b	Solve unit rate problems including those involving unit pricing and constant speed. For example, If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?
6.RP.3c	Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole given a part and the percent.
6.RP.3d	Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.
6.NS.1	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4--cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?
6.NS.2	Fluently divide multi--digit numbers using the standard algorithm.
6.NS.3	Fluently add, subtract, multiply, and divide multi--digit decimals using the standard algorithm for each operation.
6.NS.4	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. For example, express 36 + 8 as 4 (9 + 2).
6.NS.5	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, debits/credits, positive/negative electric charge); use positive and negative numbers to represent quantities in real--world contexts, explaining the meaning of 0 in each situation.
6.NS.6	Understand a rational number as a point on the number line. Extend number line

	diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.
6.NS.6a	Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., –(–3) = 3, and that 0 is its own opposite.
6.NS.6b	Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
6.NS.6c	Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
6.NS.7	Understand ordering and absolute value of rational numbers.
6.NS.7a	Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. For example, interpret –3 > –7 as a statement that –3 is located to the right of –7 on a number line oriented from left to right.
6.NS.7b	Write, interpret, and explain statements of order for rational numbers in real--world contexts. For example, write –3°C > –7°C to express the fact that –3°C is warmer than –7°C.
6.NS.7c	Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real--world situation. For example, for an account balance of –30 dollars, write |– 30| = 30 to describe the size of the debt in dollars.
6.NS.7d	Distinguish comparisons of absolute value from statements about order. For example, recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars.
6.NS.8	Solve real--world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
6.EE.1	Write and evaluate numerical expressions involving whole--number exponents.
6.EE.2	Write, read, and evaluate expressions in which letters stand for numbers.
6.EE.2a	Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation “Subtract y from 5” as 5 – y.
6.EE.2b	Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. For example, describe the expression 2(8 + 7) as a product of two factors; view (8 + 7) as

	both a single entity and a sum of two terms.
6.EE.2c	Evaluate expressions at specific values for their variables. Include expressions that arise from formulas in real--world problems. Perform arithmetic operations, including those involving whole--number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas V = s^3 and A = 6 s^2 to find the volume and surface area of a cube with sides of length s = 1/2.
6.EE.3	Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3(2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y.
6.EE.4	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.
6.EE.5	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
6.EE.6	Use variables to represent numbers and write expressions when solving a real--world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
6.EE.7	Solve real--world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all nonnegative rational numbers.
6.EE.8	Write an inequality of the form x > c or x < c to represent a constraint or condition in a real--world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams.
6.EE.9	Use variables to represent two quantities in a real--world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.

6.G.1	Find area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real--world and mathematical problems.
6.G.2	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = l w h and V = b h to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real--world and mathematical problems.
6.G.3	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real--world and mathematical problems.
6.G.4	Represent three--dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real--world and mathematical problems.
6.SP.1	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, “How old am I?” is not a statistical question, but “How old are the students in my school?” is a statistical question because one anticipates variability in students’ ages.
6.SP.2	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
6.SP.3	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.
6.SP.4	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
6.SP.5	Summarize numerical data sets in relation to their context, such as by: **a.** Reporting the number of observations. **b.** Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. **c.** Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data was gathered. **d.** Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data was gathered.

U8.1: Semester 2 Introduction	6.SP.2	Demonstrate understanding that statistics can beUsed to summarize characteristics of a group of numbers.
	6.SP.3	Demonstrate understanding that mean, median, and mode are all measures of where the center of a data set lies.
	6.SP.5.c.	Demonstrate understanding that the mode is the most frequent element in a data set; a data set can have more than one mode.
	6.SP.1.	Calculate the range, mean, median, and mode for a data set.
U8.2: Foundations	6.EE.2.c.	Demonstrate understanding of the effect of changing the units when measuring surface area and volume of rectangular prisms.
	6.G.2.	Demonstrate understanding that fractions, decimals, and percents are all ways to represent rational numbers.
	6.SP.4	Find the surface area of cubes, prisms, and pyramids.
	6.SP.5.a.	Select an appropriate statistical graph for a given situation.
	6.SP.1.	Explain which types of graphs are appropriate for various data sets.
	6.MP.5	
	6.MP.7.	
	6.MP.4.	
	6.SP.5.b.	
U8.3: More Statistical	6.SP.4.	Answer questions about one-- and two--variable data graphs.

raphs		
	6.SP.5.b.	Interpret data represented in a histogram.
	6.SP.1.	Draw a histogram for a given data set.
	6.SP.2.	Recognize and solve problems interpreting fractions as the ratio between two quantities or numbers.
	6.RP.1.	Use a ratio to compare two measures in a variety of contexts.
	6.SP.5.c.	Demonstrate understanding that fractions, decimals, and percent are all ways to represent rational numbers.
	6.MP.7.	
	6.MP.3.	
	6.MP.2.	
	6.SP.5.b.	
U8.4: Histograms	6.SP.1.	Demonstrate understanding that statistics can beUsed to summarize characteristics of a group of numbers.
	6.SP.2.	Recognize the difference between a statistical question and a nonstatistical question.
	6.SP.3.	Calculate the range, mean, median, and mode for a data set.
	6.SP.5.d.	
	6.MP.2.	
	6.MP.5.	
U8.5: Getting to the Core: Understanding Data Displays	6.SP.3.	Determine the best measure of finding the center of a data set for a particular situation.
	6.SP.5.c.	Demonstrate understanding that mean, median, and mode are all measures of where the center of a data set lies.
	6.SP.5.d.	Explain and compute the mean, median, or mode for a set of data.
	6.SP.2.	Find the simple interest earned on an investment.
	6.MP.1.	Convert between fractions, decimals, mixed numbers, and percents.
	6.MP.2.	Solve problems involving the percent of a number or quantity.
	6.MP.4.	
	6.MP.6	
	6.SP.5.b.	
U8.7: Measures of Center	6.SP.3.	Determine the best measure of finding the center of a data set for a particular situation.
	6.SP.5.c.	Demonstrate understanding that mean, median, and mode are all measures of where the center of a data set lies.
	6.SP.5.d.	Explain and compute the mean, median, or mode for a set of data.
	6.SP.2.	Find the simple interest earned on an investment.
	6.MP.1.	Convert between fractions, decimals, mixed numbers, and percents.
	6.MP.2.	Solve problems involving the percent of a number or quantity.

	6.MP.4.	
	6.MP.6	
	6.SP.5.b.	
U8.8: Box--and--Whisker Plots	6.SP.4.	Create or interpret box--and--whisker plots.
	6.SP.3.	Identify the median and outliers for a numerical data set.
	6.MP.1.	Solve problems involving proportions.
	6.SP.5.b.	Demonstrate understanding that a ray is a part of a line and an angle is formed by two rays that have the same endpoint.
		Solve problems by using the results of simple probability experiments.
U8.9: Getting to the Core: Distribution of Data	6.SP.5.d	Demonstrate understanding that mean, median, and mode are all measures of where the center of a data set lies.
	6.SP.5.c.	Determine the best measure of finding the center of a data set for a particular situation.
	6.SP.4.	Explain and compute the mean, median, or mode for a set of data.
	6.SP.3.	Create or interpret box--and--whisker plots.
	6.SP.5.b.	
	6.SP.5.a.	
	6.MP.5.	
	6.MP.7.	
	6.SP.5.d.	
U8.10: Measures of Variation	6.SP.5.d.	Demonstrate understanding of and calculate the interquartile range for a data set.
	6.SP.5.c.	Use measures of variation to compare distributions within and across data sets.
	6.SP.4.	
	6.SP.3.	
	6.SP.5.b.	
	6.SP.5.a.	
	6.MP.5.	
	6.SP.5.d.	
	6.SP.5.c.	
U8.11: Statistical Claims	6.SP.5.d.	Evaluate the validity of a statistical claim on the basis of graphics or data.
	6.SP.1.	Demonstrate understanding that the collection methods and display of data can influence conclusions about the data.
	6.SP.2.	Interpret information displayed in a graph or table.
	6.EE.2.c.	Interpret categorical data sets by using ratios, differences, and other strategies.
	6.MP.1.	Find the volume of a cylinder throughUse of a formula.
	6.MP.2.	Find the circumference of a circle, either in terms of pi or using an

		approximation of pi.
	6.MP.3	Represent probabilities as fractions, decimals, and percents.
	6.SP.5.c.	
	6.SP.5.a.	
	6.SP.5.b.	
U8.12: Getting to the Core: Interpreting Data Sets	6.SP.2.	Use measures of variation to compare distributions within and across data sets.
	6.SP.1.	Demonstrate understanding that the collection methods and display of data can influence conclusions about the data.
	6.SP.5.c.	Evaluate the validity of a statistical claim on the basis of graphics or data.
	6.MP.1.	Interpret information displayed in a graph or table.
	6.MP.5.	Demonstrate understanding of and calculate the interquartile range for a data set.
	6.SP.5.d.	
	6.SP.5.a	
	6.SP.5.b.	
U8.13: Unit Review 1	6.SP.4.	Demonstrate understanding of and calculate the interquartile range for a data set.
	6.SP.5.c.	Demonstrate understanding that mean, median, and mode are all measures of where the center of a data set lies.
	6.SP.3.	Draw a histogram for a given data set.
	6.SP.1.	Create or interpret box--and--whisker plots.
	6.SP.2.	Identify outliers in a data set.
	6.SP.5.a.	Determine the effect outliers have on the measures of central tendency for a data set.
	6.SP.5.b.	Evaluate the validity of a statistical claim on the basis of graphics or data.
	6.MP.1.	Demonstrate understanding that the collection methods and display of data can influence conclusions about the data.
	6. MP.2.	Use measures of variation to compare distributions within and across data sets.
	6. MP.3.	Interpret data represented in a histogram.
	6.MP.7.	Determine the best measure of finding the center of a data set for a particular situation.
	6.SP.5.d.	
U8.14: Unit Review 2	6.SP.4.	Calculate the range, mean, median, and mode for a data set.
	6.SP.5.c.	Demonstrate understanding that the collection methods and display of data can influence conclusions about the data.
	6.SP.3.	Demonstrate understanding that mean, median, and mode are all measures of where the center of a data set lies.
	6.SP.1.	Create or interpret box--and--whisker plots.
	6.SP.2.	Use measures of variation to compare distributions within and across data sets.

	6.SP.5.a.	Recognize the difference between a statistical question and a nonstatistical question.
	6.SP.5.b.	Determine the best measure of finding the center of a data set for a particular situation.
	6.MP.1.	Demonstrate understanding of and calculate the interquartile range for a data set.
	6. MP.2.	Interpret information displayed in a graph or table.
	6. MP.3.	Explain and compute the mean, median, or mode for a set of data.
	6.MP.7.	Demonstrate understanding that statistics can beUsed to summarize characteristics of a group of numbers.
		Evaluate the validity of a statistical claim on the basis of graphics or data.
U8.15: Unit Checkpoint 1	6.SP.4.	Calculate the range, mean, median, and mode for a data set.
	6.SP.5.c.	Demonstrate understanding that the collection methods and display of data can influence conclusions about the data.
	6.SP.3.	Demonstrate understanding that mean, median, and mode are all measures of where the center of a data set lies.
	6.SP.1.	Create or interpret box--and--whisker plots.
	6.SP.2.	Use measures of variation to compare distributions within and across data sets.
	6.SP.5.a.	Recognize the difference between a statistical question and a nonstatistical question.
	6.SP.5.b.	Determine the best measure of finding the center of a data set for a particular situation.
	6.MP.1.	Demonstrate understanding of and calculate the interquartile range for a data set.
	6. MP.2.	Interpret information displayed in a graph or table.
	6. MP.3.	Explain and compute the mean, median, or mode for a set of data.
	6.MP.7.	Demonstrate understanding that statistics can beUsed to summarize characteristics of a group of numbers.
		Evaluate the validity of a statistical claim on the basis of graphics or data.
U8.16: Extended Problems: Real--World Application	6.NS.6.c.	TEACHER GRADED ASSIGNMENT
	6.NS.7.b.	
U9.1: Foundations	6.NS.6.b.	Identify coordinates of given points on a coordinate plane.
	6.NS.6.c.	Plot points on a coordinate plane.
	6.G.1.	Demonstrate how fractions and whole numbers can be plotted on a number line.
	6.MP.7.	Find the area of a triangle with given base and height.
	6.MP.5	Demonstrate understanding of the relationship between a square

		number and a square root.
		Write or recognize decimal numbers in words, standard form, and expanded form.
U9.2: Points on a Coordinate Plane	6.G.3.	Locate and plot points on a coordinate plane.
	6.NS.6.c.	Draw a polygon on a coordinate grid when given coordinates of vertices.
	6.MP.1	Find distance between points on a coordinate grid with same first coordinate or same second coordinate.
	6.MP.7.	Solve word problems involving graphs of points on a coordinate plane.
	6.NS.8.	Identify rational numbers of equal value, expressed in different ways.
	6.NS.6.b.	Demonstrate understanding of principles for generating fraction representations.
	6.NS.7.c.	Recognize and solve problems by using these different interpretations of fractions: part of a whole, part of a set, point on a number line, and quotient.
U9.3: Using Points to Solve Problems	6.EE.6.	Demonstrate understanding that solving an equation means finding all possible values of the variables within the allowed domain that make the equation true.
	6.EE.5	Substitute values into a linear equation in two variables to graph the linear equation.
	6.EE.9	
U9.4: Equations with Two Variables	6.NS.6.b.	Identify and graph ordered pairs in all quadrants of a coordinate plane.
	6.NS.6.c.	Locate and plot points on a coordinate plane.
	6.MP.1	Identify coordinates of given points on a coordinate plane.
		Describe results of transformations of plane figures.
		Reflect figures on a coordinate plane.
U9.5: Getting to the Core: Reflecting Points on a Coordi...	6.NS.6.b.	Determine the location of and plot points to form geometric figures with a given description on a coordinate plane.
	6.NS.6.c	Find distance between points on a coordinate grid with same first coordinate or same second coordinate.
	6.G.3.	Solve word problems involving graphs of points on a coordinate plane.
	6.NS.8.	Identify coordinates of given points on a coordinate plane.
	6.MP.1.	Plot points on a coordinate plane.
	6.MP.2.	
	6.MP.4.	
	6.RP.3.a.	
U9.6: Getting to the Core: Coordinate Plane	6.SP.4.	n/a

	6.EE.6.	
	6.EE.5.	
	6.NS.1.	
	6.SP.2.	
	6.EE.9.	
	6.MP.1.	
	6.MP.8	
U9.8: Scatter Plots	6.SP.4.	Graph or write an equation to solve a problem that involves a linear function.
	6.EE.6.	Identify independent and dependent variables from a given mathematical relationship or practical situation.
	6.EE.5.	Create a scatter plot from statistical data.
	6.NS.1.	Demonstrate understanding of the effect of changing the units when measuring surface area and volume of rectangular prisms.
	6.SP.2.	Demonstrate understanding that statistics can beUsed to summarize characteristics of a group of numbers.
	6.EE.9.	Demonstrate an understanding of the meaning of fraction division in terms of a practical problem.
	6.MP.1.	
	6.MP.8	
U9.9: Interpreting Scatter Plots	6.G.2.	Determine the location of and plot points to form geometric figures with a given description on a coordinate plane.Solve word problems involving graphs of points on a coordinate plane.Find distance between points on a coordinate grid with same first coordinate or same second coordinate.Solve problems using area and perimeter formulas.Identify and graph ordered pairs in all quadrants of a coordinate plane.
	6.G.1.	
	6.EE.2.c.	
	6.MP.3.	
	6.NS.8	
U9.10: Figures on a Coordinate Plane	6.EE.8.	Find a unit rate for a given situation.
	6.RP.2.	Graph an inequality of the form x > c or x < c on a number line.
	6.G.3.	Write an inequality of the form x > c or x < c for a problem.
	6.EE.5.	Determine the location of and plot points to form geometric figures with a given description on a coordinate plane.
	6.MP.1.	Identify and graph ordered pairs in all quadrants of a coordinate plane.
	6.MP.7	
	6.NS.7.a.	
U9.11: Getting to the Core: Polygons on the Coordinate Pl...	6.NS.6.c.	Determine the location of and plot points to form geometric figures with a given description on a coordinate plane.Solve word problems involving graphs of points on a coordinate plane.Find distance between points on a coordinate grid with same first

		coordinate or same second coordinate.Solve problems using area and perimeter formulas.Identify and graph ordered pairs in all quadrants of a coordinate plane.
	6.EE.5.	
	6.NS.8.	
	6.MP.2.	
	6.G.3.	
	6.NS.8.	
	6.EE.9.	
	6.MP.1.	
	6.MP.7	
U9.12: Unit Review 1	6.NS.6.c.	Demonstrate understanding that solving an equation means finding all possible values of the variables within the allowed domain that make the equation true.
	6.EE.5.	Determine the location of and plot points to form geometric figures with a given description on a coordinate plane.
	6.NS.8.	Solve word problems involving graphs of points on a coordinate plane.
	6.MP.2.	Create a scatter plot from statistical data.
	6.G.3.	Draw a polygon on a coordinate grid when given coordinates of vertices.
	6.NS.8.	Interpret a scatter plot.
	6.EE.9.	Make or interpret conjectures on the basis of mathematical data.
	6.MP.1.	Find distance between points on a coordinate grid with same first coordinate or same second coordinate.
	6.MP.7	Plot points on a coordinate plane.
		Substitute values into a linear equation in two variables to graph the linear equation.
		Identify coordinates of given points on a coordinate plane.
		Identify independent and dependent variables from a given mathematical relationship or practical situation.
U9.13: Unit Review 2	6.NS.6.c.	Locate and plot points on a coordinate plane.
	6.NS.6.b.	Plot points on a coordinate plane.
	6.G.3.	Identify coordinates of given points on a coordinate plane.
	6.NS.8.	Describe results of transformations of plane figures.
	6.G.1.	Reflect figures on a coordinate plane.
	6.EE.2.c.	Solve problems using area and perimeter formulas.
	6.MP.1	Find distance between points on a coordinate grid with same first coordinate or same second coordinate.
		Solve word problems involving graphs of points on a coordinate plane.
		Identify and graph ordered pairs in all quadrants of a coordinate plane.
		Determine the location of and plot points to form geometric

		figures with a given description on a coordinate plane.
U9.14: Unit Checkpoint 1	6.G.3.	Determine the location of and plot points to form geometric figures with a given description on a coordinate plane.
	6.NS.6.b.	Make or interpret conjectures on the basis of mathematical data.
	6.NS.6.c.	Plot points on a coordinate plane.
	6.NS.8.	Create a scatter plot from statistical data.
	6.EE.9.	Locate and plot points on a coordinate plane.
	6.SP.1.	Substitute values into a linear equation in two variables to graph the linear equation.
	6.EE.5.	Demonstrate understanding that solving an equation means finding all possible values of the variables within the allowed domain that make the equation true.
	6.MP.1.	Interpret a scatter plot.
	6. MP.7.	Find distance between points on a coordinate grid with same first coordinate or same second coordinate.
		Identify independent and dependent variables from a given mathematical relationship or practical situation.
		Draw a polygon on a coordinate grid when given coordinates of vertices.
U9.15: Unit Checkpoint 2	6.RP.2.	Demonstrate understanding of the meaning of a rate.
	6.RP.3.b.	Solve a story problem involving rate.
	6.RP.1.	Solve rate, average speed, distance, and time problems.
	6.EE.7.	Use a rate to solve a practical problem.
	6.MP.6	Demonstrate understanding of the meaning of unit rate and solve unit--rate problems.
		Find a unit rate for a given situation.
		Recognize and use symbolic representations to represent and compare rates.
U10.1: Foundations	6.NS.6.c.	Use a rate to solve a practical problem.
	6.RP.3.b.	Recognize and use symbolic representations to represent and compare rates.
	6.RP.2.	Graph fractions, mixed numbers, and decimals on a number line.
	6.MP.1	Solve a simple problem involving addition or subtraction of fractions.
		Identify rational numbers of equal value, expressed in different ways.
		Solve a story problem involving rate.
U10.2: Rates as Comparisons	6.RP.2.	Compare fractions, mixed numbers, and decimals.
	6.RP.3.b.	Solve equations that involve mixed numbers.
	6.MP.1.	Solve a story problem involving rate.
		Demonstrate understanding of the meaning of unit rate and solve unit--rate problems.
		Find a unit rate for a given situation.

U10.3: Unit Rates	6.RP.2.	Demonstrate understanding of the meaning of unit rate and solve unit--rate problems.
	6.RP.3.b.	Find a unit rate for a given situation.
	6.MP.1.	Solve a story problem involving rate.
	6.NS.1.	Define multiplicative inverses as a pair of numbers that multiply to 1.
		Demonstrate an understanding of the meaning of fraction division in terms of a practical problem.
U10.4: Solving Unit--Rate Problems	6.RP.2.	Demonstrate understanding of the meaning of a rate.
	6.RP.3.b.	Demonstrate understanding of the meaning of unit rate and solve unit--rate problems.
	6.MP.1.	Find a unit rate for a given situation.
U10.5: Getting to the Core: Another Look at Unit Rates		n/a
U10.7: Average--Speed Problems	6.RP.3.b.	Solve rate, average speed, distance, and time problems.
	6.RP.2.	Graph or write an equation to solve a problem that involves a linear function.
	6.RP.1.	Demonstrate understanding that fractions, decimals, and percents are all ways to represent rational numbers.
	6.RP.3.c.	Recognize and demonstrate how ratios, fractions, percents, and decimals can beUsed to compare one value to another.
	6.G.2.	Find the volume of a rectangular or triangular prism.
	6.EE.2.c.	
	6.MP.1.	
U10.8: Constant--Rate Problems	6.RP.3.a.	Solve rate, average speed, distance, and time problems.
	6.RP.3.b.	
	6.RP.2.	
	6.MP.1.	
U10.9: Getting to the Core: Another Look at Constant Rate...	6.RP.3.a.	Find a unit rate for a given situation.
	6.RP.3.b.	Demonstrate understanding of the meaning of unit rate and solve unit--rate problems.
	6.RP.2.	Demonstrate understanding of the meaning of a rate.
	6.MP.1	Solve rate, average speed, distance, and time problems.
U10.10: Direct Variation	6.EE.9.	Graph or write an equation to solve a problem that involves a linear function.
	6.EE.6.	Solve rate, average speed, distance, and time problems.
	6.RP.2.	Identify independent and dependent variables from a given mathematical relationship or practical situation.
	6.RP.3.b.	Solve problems involving proportions.

	6.MP.1.	Solve problems involving the percent of a number or quantity.
	6.RP.3.c.	Convert between fractions, decimals, mixed numbers, and percents.
U10.11: Interpreting Direct Variation	6.EE.9.	Graph or write an equation to solve a problem that involves a linear function.
	6.EE.6.	Solve rate, average speed, distance, and time problems.
	6.RP.2.	Identify independent and dependent variables from a given mathematical relationship or practical situation.
	6.RP.3.b.	Use properties of adjacent angles to find angle measures.
	6.MP.1.	Demonstrate understanding that a ray is a part of a line and an angle is formed by two rays that have the same endpoint.
U10.12: Getting to the Core: Another Look at Direct Variat...	6.RP.2.	Demonstrate understanding of the meaning of a rate.
	6.RP.3.b.	Graph or write an equation to solve a problem that involves a linear function.
	6.RP.3.a.	Identify independent and dependent variables from a given mathematical relationship or practical situation.
	6.MP.1	
U10.13: Unit Review 1	6.EE.5.	Recognize and use symbolic representations to represent and compare rates.
	6.RP.2.	Demonstrate understanding of the meaning of unit rate and solve unit--rate problems.
	6.RP.3.a.	Use a rate to solve a practical problem.
	6.RP.3.b.	Find a unit rate for a given situation.
	6.EE.9.	Solve rate, average speed, distance, and time problems.
U10.14: Unit Review 2	6.EE.5.	Solve rate, average speed, distance, and time problems.
	6.RP.2.	Demonstrate understanding of the meaning of a rate.
	6.RP.3.a.	Demonstrate understanding of the meaning of unit rate and solve unit--rate problems.
	6.RP.3.b.	Identify independent and dependent variables from a given mathematical relationship or practical situation.
	6.EE.9.	Graph or write an equation to solve a problem that involves a linear function.
		Find a unit rate for a given situation.
U10.15: Unit Checkpoint 1	6.EE.5.	
	6.RP.2.	Recognize and use symbolic representations to represent and compare rates.
	6.RP.3.a.	Find a unit rate for a given situation.
	6.RP.3.b.	Demonstrate understanding of the meaning of unit rate and solve unit--rate problems.
	6.EE.9.	Solve rate, average speed, distance, and time problems.
		Use a rate to solve a practical problem.

U10.16: Unit Checkpoint 2	6.NS.6.c.	Solve a problem involving addition or subtraction of integers.
	6.NS.6.a.	Identify and represent decimal numbers, fractions, mixed numbers, and positive and negative integers on a number line.
		Find the opposite of a number.
		Define multiplicative inverses as a pair of numbers that multiply to 1.
		Solve calculation problems and problems arising from practical situations that involve positive and negative numbers and one or more operations.
		Use the order of operations to simplify expressions with mixed operations.
U11.1: Foundations	6.NS.5.	Use properties of complementary and supplementary angles and the sum of the angles of a triangle to find missing angle measures.
		State and recognize the definitions of a right angle, an acute angle, an obtuse angle, and a straight angle.
		Solve problems using area and perimeter formulas.
		Solve calculation problems and problems arising from practical situations that involve positive and negative numbers and one or more operations.
		Solve a problem involving addition or subtraction of integers.
U11.2: Adding and Subtracting Signed Numbers	6.EE.7.	Solve calculation problems and problems arising from practical situations that involve positive and negative numbers and one or more operations.
	6.NS.7.b.	Use a Venn diagram, tree diagram, or other visual organizer to find the number of ways a process can be done.
	6.NS.7.d.	Find the circumference of a circle, either in terms of pi or using an approximation of pi.
	6.EE.5.	Identify whether specific events are certain, likely, unlikely, or impossible.
		Solve for x in an equation in the form x + a = b.
U11.3: Net Gains and Losses	6.EE.7.	Identify and represent decimal numbers, fractions, mixed numbers, and positive and negative integers on a number line.
	6.NS.6.a.	Solve a problem involving addition or subtraction of integers.
	6.NS.5.	Solve calculation problems and problems arising from practical situations that involve positive and negative numbers and one or more operations.
	6.NS.7.d.	Solve for x in an equation in the form x + a = b.
	6.NS.7.c.	
	6.NS.7.a.	

U11.4: Getting to the Core: Addition/Subtraction of Signe...	6.NS.5.	n/a
	6.NS.3.	
	6.NS.7.c.	
	6.NS.7.d.	
	6.NS.7.b.	
U11.5: Multiplying Signed Numbers	6.NS.5.	Solve problems by using the results of simple probability experiments.
	6.NS.3.	Calculate and use theoretical probability to solve problems.
	6.NS.7.c.	Determine whether events in a set are independent or dependent.
	6.NS.7.d.	Solve calculation problems and problems arising from practical situations that involve positive and negative numbers and one or more operations.
	6.NS.7.b.	Solve a multiplication or division problem that involves decimal numbers.
		Multiply fractions and explain a step--by--step approach.
U11.6: Dividing Signed Numbers	6.NS.6.a.	
	6.NS.7.c.	Use exponents to represent a pattern involving multiplication.
	6.NS.7.d.	Use the order of operations to simplify expressions with mixed operations.
		Solve calculation problems and problems arising from practical situations that involve positive and negative numbers and one or more operations.
U11.7: Exponents and Patterns	6.EE.1.	Draw or identify a triangle or a quadrilateral on the basis of a given description.
	6.MP.8.	Find a unit rate for a given situation.
	6.RP.3.b.	Solve rate, average speed, distance, and time problems.
	6.RP.2.	Use the order of operations to simplify expressions with mixed operations.
	6.MP.1	Use exponents to represent a pattern involving multiplication.
		Represent and compute a power by using repeated multiplication.
U11.8: Getting to the Core: Multiplication/Division of Si...	6.EE.1.	Identify and extend simple patterns.
	6.MP.8.	Use the order of operations to simplify expressions with mixed operations.
	6.EE.2.c.	Use exponents to represent a pattern involving multiplication.
	6.NS.5	Represent and compute a power by using repeated multiplication.

		Solve calculation problems and problems arising from practical situations that involve positive and negative numbers and one or more operations.
		Use the order of operations to simplify an expression with signed numbers.
U11.9: Properties of Signed Numbers	6.EE.8.	Create or interpret box--and--whisker plots.
	6.NS.6.c.	Interpret categorical data sets by using ratios, differences, and other strategies.
	6.SP.4.	Demonstrate understanding that mean, median, and mode are all measures of where the center of a data set lies.
	6.MP.8	Graph an inequality of the form x > c or x < c on a number line.
	6.NS.7.a	Write an inequality of the form x > c or x < c for a problem.
	6.EE.5.	Identify relative positions of rational numbers on a number line.
U11.10: Inequalities	6.NS.7.c.	Use the order of operations to simplify an expression with signed numbers.
	6.NS.7.d.	Graph an inequality of the form x ≥ c or x ≤ c on a number line.
	6.NS.5.	Write an inequality of the form x ≥ c or x ≤ c on a number line.
	6.EE.8.	Solve problems involving inequalities.
	6.EE.5	Use the order of operations to simplify expressions with mixed operations.
	6.NS.7.a.	Use the properties of arithmetic to simplify expressions.
U11.11: Getting to the Core: Number Properties and Inequal...	6.EE.9.	Write an inequality of the form x > c or x < c for a problem.
	6.NS.6.a.	Use the order of operations to simplify expressions with mixed operations.
	6.NS.5	Graph an inequality of the form x > c or x < c on a number line.
	6.MP.8.	Solve calculation problems and problems arising from practical situations that involve positive and negative numbers and one or more operations.
	6.EE.2.c.	Use the order of operations to simplify an expression with signed numbers.
		Use exponents to represent a pattern involving multiplication.
U11.12: Unit Review 1	6.NS.6.a.	Solve for x in an equation in the form x + a = b.
	6.NS.7.c.	Write an inequality of the form x ≥ c or x ≤ c on a number line.
	6.NS.7.d.	Solve problems involving inequalities.
	6.EE.5.	Use the properties of arithmetic to simplify expressions.
	6.EE.8.	Solve a problem involving addition or subtraction of integers.
	6.MP.8.	Use the order of operations to simplify an expression with signed numbers.
	6.NS.6.c.	Identify and extend simple patterns.
		Represent and compute a power by using repeated multiplication.

		Solve calculation problems and problems arising from practical situations that involve positive and negative numbers and one or more operations.
		Use exponents to represent a pattern involving multiplication.
		Identify and represent decimal numbers, fractions, mixed numbers, and positive and negative integers on a number line.
		Use the order of operations to simplify expressions with mixed operations.
		Graph an inequality of the form $x \geq c$ or $x \leq c$ on a number line.
U11.13: Unit Review 2	6.EE.9.	
	6.NS.6.a.	Solve calculation problems and problems arising from practical situations that involve positive and negative numbers and one or more operations.
	6.NS.5	Use the order of operations to simplify an expression with signed numbers
	6.MP.8.	Use the order of operations to simplify expressions with mixed operations.
	6.EE.2.c.	Graph an inequality of the form $x > c$ or $x < c$ on a number line. Write an inequality of the form $x > c$ or $x < c$ for a problem.
		Use exponents to represent a pattern involving multiplication.
		.
U11.14: Unit Checkpoint 1	6.NS.7.a.	Use the properties of arithmetic to simplify expressions.
	6.NS.6.a.	Use the order of operations to simplify expressions with mixed operations
	6.NS.5.	Use the order of operations to simplify an expression with signed numbers.
	6.EE.2.c.	Graph an inequality of the form $x > c$ or $x < c$ on a number line.
	6.EE.8	Solve calculation problems and problems arising from practical situations that involve positive and negative numbers and one or more operations.
		Write an inequality of the form $x > c$ or $x < c$ for a problem.
U11.15: Unit Checkpoint 2	6.MP.1.	Represent probabilities as fractions, decimals, and percents.
	6.MP.4.	Demonstrate understanding of the meaning of probabilities represented by rational numbers.
		Identify whether specific events are certain, likely, unlikely, or impossible.
		Demonstrate understanding of the difference between theoretical and experimental probability.
		Determine whether events in a set are independent or dependent.

		Determine the probability of independent events.
		Demonstrate understanding that the sum of the probabilities for complementary events is 1, and calculate the probability of complementary events.
		Calculate and use theoretical probability to solve problems.
		Use a Venn diagram, tree diagram, or other visual organizer to find the number of ways a process can be done.
		Solve problems by using the results of simple probability experiments.
		Use experimental probability to predict future events.
U12.1: Foundations	6.MP.8. .	Use a Venn diagram, tree diagram, or other visual organizer to find the number of ways a process can be done.
	6.MP.5.	Identify and systematically record the possible outcomes for a simple event.
	6.MP.7.	Use experimental probability to predict future events.
		Solve problems by using the results of simple probability experiments.
		Write or recognize decimal numbers in words, standard form, and expanded form.
		Demonstrate understanding of the relationship between a square number and a square root.
		Solve a simple problem involving addition or subtraction of fractions.
U12.2: Counting	6.G.1.	Represent probabilities as fractions, decimals, and percents.
	6.RP.1.	Demonstrate understanding of the meaning of probabilities represented by rational numbers.
	6.MP.5	Identify whether specific events are certain, likely, unlikely, or impossible.
		Demonstrate understanding of the difference between theoretical and experimental probability.
		Determine whether events in a set are independent or dependent.
		Determine the probability of independent events.
		Demonstrate understanding that the sum of the probabilities for complementary events is 1, and calculate the probability of complementary events.
		Calculate and use theoretical probability to solve problems.
		Use a Venn diagram, tree diagram, or other visual organizer to find the number of ways a process can be done.
		Solve problems by using the results of simple probability experiments.
		Use experimental probability to predict future events.
U12.3: Probability and Experiments	6.EE.5.	Use experimental probability to predict future events.
	6.MP.2	Organize all possible outcomes for a simple probability situation.

U12.4: Experimental Probability	6.MP.8.	Use experimental probability to predict future events.
	6.MP.7.	Solve problems by using the results of simple probability experiments.
		Use a Venn diagram, tree diagram, or other visual organizer to find the number of ways a process can be done.
		Demonstrate understanding of the difference between theoretical and experimental probability.
		Calculate and use theoretical probability to solve problems.
U12.5: Theoretical Probability	6.MP.8.	n/a
	6.MP.7.	
U12.7: The Law of Large Numbers	6.G.2.	Calculate and use theoretical probability to solve problems.
	6.G.1.	Demonstrate understanding of the difference between theoretical and experimental probability.
	6.RP.1.	Represent probabilities as fractions, decimals, and percents.
		Find the surface area of cubes, prisms, and pyramids.
		Solve problems involving area, surface area, and volume of objects.
		Demonstrate understanding of the effect of changing the units when measuring surface area and volume of rectangular prisms.
U12.8: Independent and Dependent Events	6.RP.1.	Solve problems involving the percent of a number or quantity.
	6.RP.3.c.	Convert between fractions, decimals, mixed numbers, and percents.
	6.MP.3.	Use a ratio to compare two measures in a variety of contexts.
	6.MP.7	Calculate and use theoretical probability to solve problems.
		Determine whether events in a set are independent or dependent.
		Determine the probability of independent events.
U12.9: Complementary Events	6.RP.1.	Demonstrate understanding that the sum of the probabilities for complementary events is 1, and calculate the probability of complementary events.
	6.MP.6	Demonstrate understanding that for two mutually exclusive events, the probability of one or the other event occurring is the sum of the probabilities of each event.
		Calculate and use theoretical probability to solve problems.
		Find the simple interest earned on an investment.
		Solve problems involving proportions.
		Demonstrate understanding that quantities may be compared, added, or subtracted if they have been measured by the same unit.
U12.10: Unit Review	6.MP.1	Demonstrate understanding that the sum of the probabilities for complementary events is 1, and calculate the probability of

		complementary events.
	6.MP.4.	Solve problems by using the results of simple probability experiments.
	6.MP.3.	Calculate and use theoretical probability to solve problems.
		Determine the probability of independent events.
		Demonstrate understanding that for two mutually exclusive events, the probability of one or the other event occurring is the sum of the probabilities of each event.
		Use experimental probability to predict future events.
		Use a Venn diagram, tree diagram, or other visual organizer to find the number of ways a process can be done.
		Demonstrate understanding of the difference between theoretical and experimental probability.
		Determine whether events in a set are independent or dependent.
U12.11: Unit Checkpoint	6.NS.6.c.	Draw or identify a triangle or a quadrilateral on the basis of a given description.
	6.NS.6.b.	Find the side length of a regular polygon when given its perimeter.
	6.MP.6.	Plot points on a coordinate plane.
		Determine the location of and plot points to form geometric figures with a given description on a coordinate plane.
		Use a variety of tools to construct figures.
		Translate figures on a coordinate plane.
		Use ratio and proportion to find a triangle similar to a given triangle.
		Use geometric formulas to solve problems.
		Use ratio and proportion to identify similar triangles.
		Describe results of transformations of plane figures.
		Reflect figures on a coordinate plane.
U13.1: Foundations	6.SP.4.	Demonstrate understanding that statistics can be used to summarize characteristics of a group of numbers.
	6.SP.1.	Demonstrate understanding that the mode is the most frequent element in a data set; a data set can have more than one mode.
	6.SP.2.	Select an appropriate statistical graph for a given situation.
	6.MP.5.	Identify lines that are perpendicular.
	6.MP.4.	Use a variety of tools to construct figures.
U13.2: Folded--Paper Construction	6.MP.5.	Use a variety of tools to construct figures.
	6.SP.5.c.	Demonstrate how to develop a sampling strategy for a given purpose and population.
	6.MP.7.	Demonstrate understanding of and calculate the interquartile range for a data set.
	6.MP.8.	Identify outliers in a data set.
U13.3: Compass and	6.MP.7.	n/a

Straightedge Construction		
	6.MP.8.	
U13.5: Translation	6.NS.6.b.	Relate a decimal number to a fraction on a number line.
	6.NS.6.c.	Identify and place on a number line numbers represented by constant variables, such as a = 1.6 or b = 4.
	6.MP.4.	Plot points on a coordinate plane.
		Describe results of transformations of plane figures.
		Predict, describe, and perform transformations on two-- dimensional shapes.
U13.6: Reflection	6.G.3.	Draw a polygon on a coordinate grid when given coordinates of vertices.
	6.NS.6.b.	Find distance between points on a coordinate grid with same first coordinate or same second coordinate.
	6.NS.6.c.	Identify coordinates of given points on a coordinate plane.
	6.MP.4.	Describe results of transformations of plane figures.
		Predict, describe, and perform transformations on two-- dimensional shapes.
U13.7: Rotation	6.MP.7.	Describe results of transformations of plane figures.
	6.MP.8.	Use a variety of tools to construct figures.
U13.8: Translating with Coordinates	6.NS.5. 6.NS.6.a. 6.NS.6.b.	Translate figures on a coordinate plane.
		Predict, describe, and perform transformations on two-- dimensional shapes.
		Solve calculation problems and problems arising from practical situations that involve positive and negative numbers and one or more operations.
		Solve a problem involving addition or subtraction of integers.
		Create a scatter plot from statistical data.
U13.9: Reflecting with Coordinates	6.EE.8.	Reflect figures on a coordinate plane.
	6.NS.5.	Write an inequality of the form x > c or x < c for a problem.
	6.NS.6.a.	Solve calculation problems and problems arising from practical situations that involve positive and negative numbers and one or more operations.
	6.NS.6.b.	Predict, describe, and perform transformations on two-- dimensional shapes.
U13.10: Unit Review	6.MP.5.	Use a variety of tools to construct figures.
	6.NS.6.b.	Reflect figures on a coordinate plane.
	6.NS.6.c.	Describe results of transformations of plane figures.
	6.MP.6.	Translate figures on a coordinate plane.
	6.MP.7.	
	6.MP.8.	
U13.11: Unit		

Checkpoint		
U14.1: Semester 2 Review 1		
U14.2: Semester 2 Review 2		
U14.3: Semester 2 Review 3		
U14.4: Semester 2 Checkpoint 1		
U14.5: Semester 2 Checkpoint 2		