ALGEBRA I CURRICULUM

Course 17005

This course will deepen student understanding of mathematical concepts such as functions and real numbers, will teach students how to solve a variety of different types of equations, and will enable students to read and interpret graphs. Special emphasis will be placed on connecting algebra to the real world and in preparing students for Algebra II.

ALGEBRA I OUTLINE:

Goals	Skills	Summative Assessments	Time Frame	Main Resources
• Use estimation strategies in problem-solving situations. • Simplify expressions involving polynomials. • Analyze and/or use patterns or relations. • Interpret and/or use linear functions and their equations, graphs, or tables. • Describe, compute, and/or use the rate of change (slope) of a line. • Analyze and/or interpret data on a scatter plot. • Use measures of dispersion to describe a set of data. • Use data displays in problem-solving settings and/or to make predictions. • Apply probability to practical situations.	• Represent and/or use numbers in equivalent forms (e.g., integers, fractions, decimals, percents, square roots, and exponents). • Apply number theory concepts to show relationships between real numbers in problem-solving settings. • Write, solve, and/or graph linear equations using various methods. • Write, solve, and/or graph systems of linear equations using various methods. • Write, solve, and/or graph linear inequalities using various methods. • Write, solve, and/or graph systems of linear inequalities using various methods. • Use exponents, roots, and/or absolute values to solve problems.	Mid-year and End of Year Benchmark Assessments, PSSA (if in 7th or 8th)	1-year	Glencoe Algebra I ©2014

ALGEBRA I MAP:

TIME FRAME	BIG IDEAS	CONCEPTS	ESSENTIAL QUESTIONS	STANDARDS	OBJECTIVES	DIFFERENTIATION	ASSESSMENT
Chapter 1: Foundations for Algebra (Weeks 1-6)	• Algebra is the connection between the small pool of arithmetic mathematics which students work with from kindergarten on and the lake of generalized upper level math which students use everywhere in high school. Having a firm foundation with the arithmetic operations and properties is a key component to success in algebra.	1. Writing an evaluating expressions with numbers and variables 2. Identifying and using properties of numbers 3. Identifying and writing equations, relations, and functions 4. Identifying and interpreting graphs of functions	• What are we going to need to be able to do to succeed the rest of the year?	A1.1.2.1.1 Write, solve and/or apply a linear equation (including problem situations). A1.1.2.1.2 Use and/or identify an algebraic property to justify any step in an equation solving process (linear equations only). A1.1.2.1.3 Interpret solutions to problems in the context of the problem situation (linear equations only). A1.2.1.1.1 Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically. A1.2.1.1.2 Determine if a relation is a function given a set of points or a graph. A1.2.1.1.3 Identify the domain or range of a relation (may be presented as ordered pairs, a graph, or a table). A1.2.1.2.1 Create, interpret and/or use the equation, graph or table of a linear function. A1.2.2.1.4 Determine the slope and/or y-intercept represented by a linear equation or graph.	• Students should be able to identify and use vocabulary words that apply to algebraic expressions. • Students should be able to write algebraic expressions as verbal expressions and vice versa. • Students should be able to use the order of operations. • Students should be able to identify and use properties of numbers. • Students should be able to solve functions. • Students should be able to identify independent and dependent variables. • Students should be able to identify and use parts of a relation. • Students should be able to use and identify functions. • Students should be able identify different types of functions. • Students should understand and be able to use function notation. • Students should be able to identify and interpret different parts of graphs of	Additional time Additional practice Partner/group work	Homework Classwork and Activities Quizzes Mid-Chapter Check Vocabulary Test Test

				CC.2.2.8.C.2 Use concepts of functions to model relationships between quantities. M08.B-F.2.1.2 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch or determine a graph that exhibits the qualitative features of a function that has been described verbally. M08.B-F.2.1.2a Describe the relationship between two variables with a linear relationship displayed in graph form.	functions.		
Chapter 2: Equations (Weeks 7-11)	• After learning what a variable is and how our numeric operations apply to them we can start working with variables in equations and using them to find an unknown value in problems.	1. Writing equations 2. Solving equations 3. Solving ratios and proportions 4. Using ratios and proportions to solve percents and weighted averages	• How can we determine what an unknown in a problem is or determine what variables we would need to be given to find another unknown?	A1.1.1.4.1 Use estimation to solve problems. A1.1.2.1.1 Write, solve and/or apply a linear equation (including problem situations). A1.1.2.1.2 Use and/or identify an algebraic property to justify any step in an equation solving process (linear equations only). A1.1.2.1.3 Interpret solutions to problems in the context of the problem situation (linear equations only). A1.2.1.2.1 Create, interpret and/or use the equation, graph or table of a linear function.	• Students should be able to write verbal equations as algebraic equations and vice versa. • Students should be able to solve equations for an unknown by using opposite operations to get all numbers to the opposite side of the equals sign from the variable. • Students should be able to solve equations for an unknown where we have an unknown on both side of the equals sign. • Students should be able to solve an equation for an unknown involving absolute values of	Additional time Additional practice Partner/group work	Homework Classwork and Activities Quizzes Mid-Chapter Check Vocabulary Test Test

				A2.1.3.1.4 Write, solve and/or apply linear or exponential growth or decay (including problem situations). A2.1.3.2.1 Determine how a change in one variable relates to a change in a second variable (e.g., y=4/x, if x doubles, what happens to y?). A2.1.3.2.2 Use algebraic processes to solve a formula for a given variable (e.g., solve d = rt for r). CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays. CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method	the unknown. • Students should be able to identify proportions using multiple methods including but not limited to cross multiplication. • Students should be able to write ratios as unit rates and then use them to solve a bigger problem. • Students should be able to read and use scales to determine either the length of a scale model give the length of the actual or vice versa. • Students should be able to find a percent of change and identify it as a percent increase or a percent decrease. • Students should be able to find discounts, sales tax, and other mark-ups and mark-downs. • Students should be able to solve equations with multiple variables for a specific variable. • Students should be able to identify and solve for a needed variable in a literal equation. • Students should be able to convert between units of measure using dimensional analysis.		

					• Students should be able to write and solve problems that involve determining how much of a certain object or liquid would be needed to create a certain mixture. • Students should be able to write and solve equations for a uniform motion problem.		
Chapter 3: Inequalities (Weeks 12-18)	• Equations are such a vast field with multiple different uses that we need to focus on each branch individually. Linear functions is the first step down the branch of equations that deals with very unique equations called functions.	1. Graphing linear equations and using that to solve linear equations 2. Finding rates of change of a function and finding the slope of a linear equation 3. Finding and using equations for direct variation 4. Identifying arithmetic sequences and determining an equation to represent the sequence. 5. Identifying proportional and nonproportional relationships	• How can we use equations to model problems that can be represented by a line?	A1.1.1.4.1 Use estimation to solve problems. A1.1.2.1.1 Write, solve and/or apply a linear equation (including problem situations). A1.1.2.1.2 Use and/or identify an algebraic property to justify any step in an equation solving process (linear equations only). A1.1.2.1.3 Interpret solutions to problems in the context of the problem situation (linear equations only). A1.1.2.2.1 Write and/or solve a system of linear equations (including problem situations) using graphing, substitution and/or elimination (limit systems to 2 linear equations). A1.1.2.2.2 Interpret solutions to problems in the context of the problem situation (systems of 2 linear	• Students should be able to identify and write a linear equation in standard form. • Students should be able to find the "x" and "y" intercepts given an equation, table, or graph with out having to convert to another form. • Students should understand that the zero, root, solution, and x-intercept are all the same thing. • Students should be able to identify when an equation does not have a solution or when it has an infinite number of solutions. • Students should be able to identify solutions on a graph of a linear function. • Students should be able to find rates of change given a table or a graph. • Students should be able to find the	Additional time Additional practice Partner/group work	Homework Classwork and Activities Quizzes Mid-Chapter Check Vocabulary Test Test

				equations only).	slope of a line given two points on the line.		
				A1.1.3.1.3 Interpret solutions to problems in the context of the problem situation (limit to linear inequalities).	• Students should be able to interpret what the slope of the line tells us about the graph of the line.		
				A1.2.1.1.1 Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.	• Students should be able to identify a direct variation and then write an equation to describe the direct variation.		
				A1.2.1.1.3 Identify the domain or range of a relation (may be presented as ordered pairs, a graph, or a table).	• Students should be able to use an equation to estimate a value at a given point.		
				A1.2.1.2.1 Create, interpret and/or use the equation, graph or table of a linear function.	• Students should be able to identify arithmetic sequences and then write an equation to model the sequence.		
				A1.2.1.2.2 Translate from one representation of a linear function to another (graph, table and equation).	• Students should be able to use equations for arithmetic sequence to determine any term in an arithmetic sequence.		
				A1.2.2.1.1 Identify, describe and/or use constant rates of change.	• Students should be able to identify proportional and nonproportional relationships.		
				A1.2.2.1.2 Apply the concept of linear rate of change (slope) to solve problems.			
				A1.2.2.1.3 Write or identify a linear equation when given the graph of the line 2 points on the line, or the slope and a point on a line, (Linear equation may be in point-slope, standard			

				and/or slope-intercept form). A1.2.2.1.4 Determine the slope and/or y-intercept represented by a linear equation or graph. A2.1.3.2.1 Determine how a change in one variable relates to a change in a second variable (e.g., y=4/x, if x doubles, what happens to y?). A2.1.3.2.2 Use algebraic processes to solve a formula for a given variable (e.g., solve d = rt for r). A2.2.1.1.1 Analyze a set of data for the existence of a pattern and represent the pattern with a rule algebraically and/or graphically. A2.2.1.1.2 Identify and/or extend a pattern as either an arithmetic or geometric sequence (e.g., given a geometric sequence, find the 20th term). A2.2.1.1.3 Determine the domain, range or inverse of a relation. CC.2.2.HS.C.3 Write functions or sequences that model relationships between two quantities. CC.2.2.HS.D.9 Use reasoning to solve equations and justify the			

				solution method.			
Chapter 4: Functions (Weeks 19-24)	• Once a students has an understanding of what a function is and how functions relate to linear equations we can start to dive into the different ways we can represent linear functions and make working with them easier. We can also use linear functions to represent different things because of our new ways of modeling linear functions	1. Using and graphing different forms of linear equations 2. Dealing with parallel and perpendicular lines 3. Using scatter plots to make inferences about data 4. Finding the inverse of linear functions	• How can we use a graph to represent and problem we come across in the real world?	A1.1.2.1.1 Write, solve and/or apply a linear equation (including problem situations). A1.1.2.1.2 Use and/or identify an algebraic property to justify any step in an equation solving process (linear equations only). A1.1.2.1.3 Interpret solutions to problems in the context of the problem situation (linear equations only). A1.1.2.2.1 Write and/or solve a system of linear equations (including problem situations) using graphing, substitution and/or elimination (limit systems to 2 linear equations). A1.2.1.2.1 Create, interpret and/or use the equation, graph or table of a linear function. A1.2.1.2.2 Translate from one representation of a linear function to another (graph, table and equation). A1.2.2.1.1 Identify, describe and/or use constant rates of change. A1.2.2.1.2 Apply the concept of linear rate of change (slope) to solve problems.	• Students should be able to identify, write, and graph equations in slope intercept form. • Students should be able to use an equation to determine a "y" value outside of the given graph from a given "x" value. • Students should be able to identify, write, and graph equations in point-slope form. • Students should be able to rewrite an equations given in point slope form into slope intercept and standard form. • Students should be able to write the equation of a line that is parallel or perpendicular to another line given only and equation and a point that it needs to go through. • Students should be able to identify a positive, or negative correlation on a scatter plot. • Students should be able to identify a line of fit for a scatter plot and find the equation. • Students should be able to identify the difference between correlation and causation and how media uses both.	Additional time Additional practice Partner/group work	Homework Classwork and Activities Quizzes Mid-Chapter Check Vocabulary Test Test

| | | | | | A1.2.2.1.3
Write or identify a linear equation when given the graph of the line 2 points on the line, or the slope and a point on a line, (Linear equation may be in point-slope, standard and/or slope-intercept form).

A1.2.2.1.4
Determine the slope and/or y-intercept represented by a linear equation or graph.

A1.2.2.2.1
Draw, find and/or write an equation for a line of best fit for a scatter plot.

A2.2.1.1.1
Analyze a set of data for the existence of a pattern and represent the pattern with a rule algebraically and/or graphically.

A2.2.1.1.2
Identify and/or extend a pattern as either an arithmetic or geometric sequence (e.g., given a geometric sequence, find the 20th term).

A2.2.1.1.3
Determine the domain, range or inverse of a relation.

A2.2.2.2.1
Identify or describe the effect of changing parameters within a family of functions (e.g., $y = x2$ and $y = x2 + 3$, or $y = x2$ and $y = 3x2$).

A2.2.3.1.1
Draw, identify, find and/or | • Students should be able to find an inverse of a relation.
• Students should be able to find an inverse of a function. | | |

				write an equation for a regression model (lines and curves of best fit) for a scatter plot. A2.2.3.1.2 Make predictions using the equations or graphs of regression models (lines and curves of best fit) of scatter plots. CC.2.1.HS.F.3 Apply quantitative reasoning to choose and Interpret units and scales in formulas, graphs and data displays. CC.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems. CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. CC.2.2.HS.C.6 Interpret functions in terms of the situation they model.			
Chapter 5: Linear Functions (Weeks 25-26)	• Equations are a very exact way of modeling problems. It requires exact measures and a limit to having equality between sides. • Inequalities are a good way for us to represent problems where we do not have exact numbers.	1. Solving inequalities 2. Graphing inequalities	• How is coloring and equations related?	A1.1.1.4.1 Use estimation to solve problems. A1.1.2.1.1 Write, solve and/or apply a linear equation (including problem situations). A1.1.2.1.2 Use and/or identify an algebraic property to justify any step in an equation solving process (linear equations only).	• Students should be able to apply previous knowledge of solving equation to solving inequalities. • Students should be able to graph inequalities.	Additional time Additional practice Partner/group work	Homework Classwork and Activities Quizzes Mid-Chapter Check Vocabulary Test Test

	Being able to use an inequalities allows us to be unsure of an exact measure but to be able to have a general idea of a value of unknowns.			A1.1.2.1.3 Interpret solutions to problems in the context of the problem situation (linear equations only). A1.1.2.2.2 Interpret solutions to problems in the context of the problem situation (systems of 2 linear equations only). A1.1.3.1.1 Write or solve compound inequalities and/or graph their solution sets on a number line (may include absolute value inequalities). A1.1.3.1.2 Identify or graph the solution set to a linear inequality on a number line. A1.1.3.1.3 Interpret solutions to problems in the context of the problem situation (limit to linear inequalities). CC.2.2.HS.D.10 Represent, solve and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically. CC.2.2.HS.D.7 Create and graph equations or inequalities to describe numbers or relationships. CC.2.2.HS.D.9 Use reasoning to solve equations and justify the			

				solution method.			
Chapter 6: Systems of Equations and Inequalities (Weeks 27-28)	• In the real world there are multiple constraints go into a situation. To model this with mathematics we need to use multiple equations or inequalities to help narrow the answers down.	1. Solving systems of equations using different methods including substitution, graphing, and elimination. 2. Applying systems of linear equations to real world problems 3. Solving systems of Inequalities	• How can I use two different situations to solve for a set of variables in both?	A1.1.1.4.1 Use estimation to solve problems. A1.1.2.1.1 Write, solve and/or apply a linear equation (including problem situations). A1.1.2.1.2 Use and/or identify an algebraic property to justify any step in an equation solving process (linear equations only). A1.1.2.1.3 Interpret solutions to problems in the context of the problem situation (linear equations only). A1.1.2.2.1 Write and/or solve a system of linear equations (including problem situations) using graphing, substitution and/or elimination (limit systems to 2 linear equations). A1.1.2.2.2 Interpret solutions to problems in the context of the problem situation (systems of 2 linear equations only). A1.1.3.1.1 Write or solve compound inequalities and/or graph their solution sets on a number line (may include absolute value inequalities). A1.1.3.1.2 Identify or graph the solution set to a linear inequality on a number	• Students should be able to solve a system of equations by graphing both equations and using the intersection of the two lines to identify the solution to the system. • Students should be able to solve a system of equations by solving for one variable and substituting in to the other equation by for the solved for variable. • Students should be able to add or subtract a system of equations to eliminate one variable to solve the system of equations. • Students should be able to multiply one or both of the equations to get the system so they can solve by using elimination through addition or subtraction. • Students should be able to apply their understanding of systems of equations to real world problems. • Students should be able to solve a system of inequalities through graphing each inequality and finding the double shaded area.	Additional time Additional practice Partner/group work	Homework Classwork and Activities Quizzes Mid-Chapter Check Vocabulary Test Test

| | | | | line.

A1.1.3.1.3
Interpret solutions to problems in the context of the problem situation (limit to linear inequalities).

A1.1.3.2.1
Write and/or solve a system of linear inequalities using graphing (limit systems to 2 linear inequalities).

A1.1.3.2.2
Interpret solutions to problems in the context of the problem situation (systems of 2 linear inequalities only).

A2.1.3.1.1
Write and/or solve quadratic equations (including factoring and using the Quadratic Formula).

A2.1.3.1.2
Solve equations involving rational and/or radical expressions (e.g., $10/(x + 3) + 12/(x - 2) = 1$ or $\sqrt{x2 + 21x} = 14$).

A2.1.3.1.3
Write and/or solve a simple exponential or logarithmic equation (including common and natural logarithms).

A2.1.3.1.4
Write, solve and/or apply linear or exponential growth or decay (including problem situations).

A2.1.3.2.1
Determine how a change in one variable relates to | | | |

				a change in a second variable (e.g., y=4/x, if x doubles, what happens to y?). A2.1.3.2.2 Use algebraic processes to solve a formula for a given variable (e.g., solve d = rt for r). A2.2.2.1.1 Create, interpret and/or use the equation, graph or table of a polynomial function (including quadratics). A2.2.2.1.2 Create, interpret and/or use the equation, graph or table of an exponential or logarithmic function (including common and natural logarithms). A2.2.2.1.3 Determine, use and/or interpret minimum and maximum values over a specified interval of a graph of a polynomial, exponential or logarithmic function. A2.2.2.1.4 Translate a polynomial, exponential or logarithmic function from one representation to another (graph, table and equation). A2.2.3.1.1 Draw, identify, find and/or write an equation for a regression model (lines and curves of best fit) for a scatter plot. A2.2.3.1.2 Make predictions using			

				the equations or graphs of regression models (lines and curves of best fit) of scatter plots. CC.2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. CC.2.2.HS.D.10 Represent, solve and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically. CC.2.2.HS.D.7 Create and graph equations or inequalities to describe numbers or relationships. CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.			
Chapter 7: Exponents and Polynomials (Weeks 29-31)	• Before having the ability to deal with functions that have a higher exponent than 1 on the variable students need to be able to work with exponents. Since exponents are just a short way to deal with multiplication most of our rules and constraints can be shown through multiplication.	1. Properties of exponents 2. Functions dealing with exponents on the variable 3. Geometric sequences 4. Recursive formulas	• How do we work with equations that have exponents on our variables and have variables in the denominator of a fraction?	A1.1.1.1.1 Compare and/or order any real numbers (rational and irrational may be mixed). A1.1.1.1.2 Simplify square roots (e.g., $\sqrt{24} = 2\sqrt{6}$). A1.1.1.2.1 Find the Greatest Common Factor (GCF) and/or the Least Common Multiple (LCM) for sets of monomials. A1.1.1.3.1 Simplify/evaluate expressions involving properties/laws of	• Students should be able to multiply and divide monomials that include exponents. • Students should be able simplify expressions with rational exponents. • Students should be able to write large numbers in scientific notation. • Students should be able to identify and graph exponential functions. • Students should be able to identify a growth or a decay.	Additional time Additional practice Partner/group work	Homework Classwork and Activities Quizzes Mid-Chapter Check Vocabulary Test Test

				exponents, roots and/or absolute value to solve problems (exponents should be integers from -10 to 10).	• Students should be able to find the compound interest.		
				A1.2.1.1.1 Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.	• Students should be able to identify geometric sequences and write an equation to find the nth term.		
				A1.2.1.1.2 Determine if a relation is a function given a set of points or a graph.	• Students should be able to write a recursive formula.		
				A1.2.1.1.3 Identify the domain or range of a relation (may be presented as ordered pairs, a graph, or a table).	•		
				A1.2.1.2.1 Create, interpret and/or use the equation, graph or table of a linear function.			
				A1.2.2.1.1 Identify, describe and/or use constant rates of change.			
				A2.1.2.1.1 Use exponential expressions to represent rational numbers.			
				A2.1.2.1.2 Simplify/evaluate expressions involving positive and negative exponents and/or roots (may contain all types of real numbers - exponents should not exceed power of 10).			
				A2.1.2.1.3 Simplify/evaluate expressions involving			

				multiplying with exponents (e.g. x6 * x7 = x13), powers of powers (e.g., (x6)7=x42) and powers of products (2x2)3=8x6 (limit to rational exponents).			
				A2.1.2.1.4 Simplify or evaluate expressions involving logarithms and exponents (e.g. log28 = 3 or log42 = ½).			
				A2.1.3.1.2 Solve equations involving rational and/or radical expressions (e.g., 10/(x + 3) + 12/(x − 2) = 1 or √(x2 + 21x) = 14).			
				A2.1.3.1.3 Write and/or solve a simple exponential or logarithmic equation (including common and natural logarithms).			
				A2.1.3.1.4 Write, solve and/or apply linear or exponential growth or decay (including problem situations).			
				A2.1.3.2.1 Determine how a change in one variable relates to a change in a second variable (e.g., y=4/x, if x doubles, what happens to y?).			
				A2.1.3.2.2 Use algebraic processes to solve a formula for a given variable (e.g., solve d = rt for r).			
				A2.2.1.1.1 Analyze a set of data for the existence of a pattern			

| | | | | and represent the pattern with a rule algebraically and/or graphically.

A2.2.1.1.2
Identify and/or extend a pattern as either an arithmetic or geometric sequence (e.g., given a geometric sequence, find the 20th term).

A2.2.1.1.4
Identify and/or determine the characteristics of an exponential, quadratic, or polynomial function (e.g., intervals of increasing/decreasing, intercepts, zeros, and asymptotes).

A2.2.2.1.1
Create, interpret and/or use the equation, graph or table of a polynomial function (including quadratics).

A2.2.2.1.2
Create, interpret and/or use the equation, graph or table of an exponential or logarithmic function (including common and natural logarithms).

A2.2.2.1.4
Translate a polynomial, exponential or logarithmic function from one representation to another (graph, table and equation).

CC.2.1.HS.F.1
Apply and extend the properties of exponents to solve problems with rational exponents

CC.2.1.HS.F.2 | | | |
|---|---|---|---|---|---|---|---|

				Apply properties of rational and irrational numbers to solve real world or mathematical problems. CC.2.2.HS.C.3 Write functions or sequences that model relationships between two quantities. CC.2.2.HS.C.5 Construct and compare linear, quadratic and exponential models to solve problems.			
Chapter 8: Factoring Polynomials (Weeks 32-36)	• In an average conversation between 2 people the word "probably" is a common occurrence. The statement in and of itself then brings in probability and statistics. When someone say, "I'll probably win something" does that mean that one out of seven people will win something or does that mean that one out of three hundred people will win something. Probability and statistics helps to quantify and separate how likely one thing is to the next. It helps us to prioritize what we need to do in a day and what to	1. Sampling and making inferences about a sample 2. Distribution of data and comparing sets of data. 3. Simulations 4. Permutations and combinations 5. Probability of compound events	• How can we use statistics to make money?	A1.2.2.1.1 Identify, describe and/or use constant rates of change. A1.2.2.1.2 Apply the concept of linear rate of change (slope) to solve problems. A1.2.2.1.3 Write or identify a linear equation when given the graph of the line 2 points on the line, or the slope and a point on a line, (Linear equation may be in point-slope, standard and/or slope-intercept form). A1.2.2.1.4 Determine the slope and/or y-intercept represented by a linear equation or graph. A1.2.2.2.1 Draw, find and/or write an equation for a line of best fit for a scatter plot. A1.2.3.1.1 Calculate and/or interpret the range, quartiles and	• Students should be able explain the difference between populations and samples. • Students should be determine whether a sample is biased or not and then name the type of example. • Students should be able to find the variance in statistics and understand what that form of variance is showing us. • Students should be able to compare two data sets. • Students should be ablet to explain what a simulation is and to create and use a simulation to help make inferences about and event. • Students should be able to determine the best model for a set of data. • Students should be	Additional time Additional practice Partner/group work	Homework Classwork and Activities Quizzes Mid-Chapter Check Vocabulary Test Test

				interquartile range of data.	able to use permutations and combinations to find the probability of a event.		
do first. Probability and statistics is such an integral part of out every day thought process that the students have to get practice and know how to use it when they need it.				A1.2.3.2.1 Estimate or calculate to make predictions based on a circle, line, bar graph, measures of central tendency, or other representations. A1.2.3.2.2 Analyze data, make predictions, and/or answer questions based on displayed data (box-and-whisker plots, stem-and-leaf plots, scatter plots, measures of central tendency, or other representations). A1.2.3.2.3 Make predictions using the equations or graphs of best-fit lines of scatter plots. A1.2.3.3.1 Find probabilities for compound events (e.g., find probability of red and blue, find probability of red or blue) and represent as a fraction, decimal or percent). A2.2.3.1.1 Draw, identify, find and/or write an equation for a regression model (lines and curves of best fit) for a scatter plot. A2.2.3.1.2 Make predictions using the equations or graphs of regression models (lines and curves of best fit) of scatter plots. A2.2.3.2.1 Use combinations,	• Students should be able to find the probability of a compound event. • Students should be able to find the probability distribution of a set of data.		

				permutations, and the fundamental counting principle to solve problems. A2.2.3.2.2 Use odds to find probability and/or use probability to find odds. A2.2.3.2.3 Use probability for independent, dependent or compound events to predict outcomes. CC.2.4.HS.B.1 Summarize, represent, and interpret data on a single count or measurement variable. CC.2.4.HS.B.3 Analyze linear models to make interpretations based on the data. CC.2.4.HS.B.4 Recognize and evaluate random processes underlying statistical experiments. CC.2.4.HS.B.5 Make inferences and justify conclusions based on sample surveys, experiments, and observational studies. CC.2.4.HS.B.7 Apply the rules of probability to compute probabilities of compound events in a uniform probability model.			