8th Grade Curriculum	
	Unit 1 - Equations
Quality Questions	How can you use reasoning to explain order of operations? Why does it make sense to use inverse operations to isolate variables in multi-step equations? How can we utilze equations to solve problems?
Learning Targets	I can use order of operations when simplifying algebraic expressions. I can evaluate expressions for given variable replacements. I can combine like terms in algebraic expressions. I can solve multi-step equations. I can determine if an equation has one solution, no solution, or infinite solutions. I can solve algebraic proportions. I can solve real-world problems involving equations.
Skills	Use order of operations appropriately; evaluate expressions with variables and their given values; identify/combine like terms; solve one-, two- and multi-step equations using order of operations; determine number of solutions for equations as well as solutions; solve algebraic proportions; convert real-world problems into equations and solve.

8th Grade Curriculum	
	Unit 2 - Relations and Functions
Quality Questions	How can you identify and piece together multiple representations of functions? What are some types of relationships that can be modeled by graphs? How do the tools of of algebra relate to equations and modeling relationships in graphic or chart form?
Learning Targets	I can determine whether a relation is a function (given ordered pairs, tables, mappings, or graphs). I can identify the domain and range of relations and functions. I can identify the zeros of a function (either graphically or setting the equation equal to zero). I can evaluate functions given in f(x) form. I can detect patterns in data and be able to represent them algebraically.
Skills	Identify relation as functions based on ordered pairs, tables, mapping or graphs; identify domain and range of a function as well as independent and dependent variables; identify zeros of a function by graph and/or equations; evaluate function given in f(x) - function notation - form; detect patterns in data and represent them algebraically.

8th Grade Curriculum	
	Unit 3 - Linear Functions
Quality Questions	How does graphing an equation relate to functions? What are some types of relationships that can be modeled by linear graphs? Why should we know different forms of linear equations?
Learning Targets	I can recognize four types of slope (positive, negative, zero, and undefined). I can find the slope of a line (given the equation, a graph, or two ordered pairs). I can describe how changes to the slope and y-intercept will affect a graph. I can recognize and graph vertical and horizontal lines. I can identify the x- and y-intercepts given a table, an equation, or a graph. I can graph linear equations (in slope-intercept form, standard form, point-slope form, using a t-table, and by intercepts). I can write the equation of a line (given the graph, a point and the slope, or two points of the line.)
Skills	Identify slope as positive, negative, zero and undefined; find slope given the equation, graph or ordered pairs; describe change in slope and y-intercept for graphing; identify and graph vertical and horizontal lines; identify x- and y-intercepts; graph linear equations; write equation of a line.

8th Grade Curriculum	
	Unit 4 - Systems of Equations/Inequalities
Quality Questions	What can we do with a system of equations/inequalities that we cannot with a single equation/inquality? How might one determine the most efficient method for solving a system of equations?
Learning Targets	I can determine whether a system of equations has one solution, no solution, or infinite solutions. I can solve systems of equations graphically. I can solve systems of equations by substitution or elimination. I can write a system of equations to model a real-life situation. I can solve systems of inequalities graphically.
Skills	Determine if system has one, no , or infinite solutions by graphing, substitution, or elimination; writ

8th Grade Curriculum	
	Unit 5 - Exponential Functions
Quality Questions	Why do we need to use exponential notation to model situations?
Learning Targets	I can define and identify characteristics of exponential functions. I can model exponential change using a table, graph, and equation. I can write and use the exponential equation to model exponential change. I can graph and solve exponential functions and apply them to real life situations. I can compare linear vs. exponential changes. I can compare arithmetic vs. geometric sequences.
Skills	Identify and define exponential functions - positive and negative, graphically; model exponential change using a table, graph, and equation; write exponential equations to model exponential change; graph and solve exponential functions that have been applied to real-world situations; compare and identify linear (line)and exponential (curve) changes; compare arithmetic (adding/subtracting) and geometric (multiplication) sequences.

8th Grade Curriculum	
	Unit 6 - Statistics and Probability
Quality Questions	Why and how are statistics used in the real world? What do statistics and probabity show us and why are they useful?
Learning Targets	I can construct and interpret a scatterplot and its line of best fit. I can determine the mean, median, mode, and range for a given set of data. I can construct and interpret a box-and-whisker plot using the lower extreme, lower quartile, median, upper quartile, and upper extreme of a data set. I can read and interpret data displays. I can calculate the compound probability of an event. I can calculate combinations and permutations given a description of an event.
Skills	Interpret and create scatter plot and line of best fit using proper scales and breaks where necessary; determine mean, median, mode and range of a given set of data; construct and interpolate and extrapolate information from a box-and-whisker plot; read and interpret multiple data displays; calculate compound probability; calculate combinations and permutations.

8th Grade Curriculum	
	Unit 7 - Radicals and Pythagorean Theorem
Quality Questions	How are irrational numbers different from rational numbers? How is the Pythagorean Theorem used?
Learning Targets	I can evaluate expressions that include radicals. I can solve equations that include squared variables or radicals. I can simplify radical expressions. I can interpret and apply the Pythagorean Theorem. I can apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world problems. I can apply the Pythagorean Theorem to find the distance between two points in a coordinate systems.
Skills	Evaluate expressions including radicals; solve equations with exponents of two or radicals; simplify radical expressions; interpret and apply Pythagorean Theorem; use Pythagorean Theorem in real-world applications; use Pythagorean theorem to find distance between two coordinate pairs on a coordinate plane.

8th Grade Curriculum	
	Unit 8 - Polynomials and Factoring
Quality Questions	Why should we factor? How can we use the polynomial operations of addition, subtraction, and multiplication in real life? How is factoring used to simplify a rational expression?
Learning Targets	I can classify a polynomial by degree and number of terms. I can simplify monomial expressions using the product, power, quotient, and negative exponent rules. I can write a polynomial in standard and simplest form. I can add, subtract, multiply, and divide polynomials. I can factor polynomials (GCF, Difference of Squares, and Trinomials by unFOILing and AC Method). I can identify prime polynomials.
Skills	Classify polynomial by degree and number of terms; simplify monomial expressions using multiplication, positive and negative exponents, and division; write polynomial in standard and simplest form; add, subtract, multiply and divide polynomials; I can factor polynomials ((GCF, difference of squares, trinomials - unFOILing, AC method); identify prime polynomials.

8th Grade Curriculum	
	Unit 9 - Quadratics
Quality Questions	What are the advantages of quadratic function in vertex form? In standard form? How are quadratic functions related to the parent quadratic function? How are real solutions of a quadratic equations related to the graph of the related quadratic function? How does the graph of a quadratic function relate to its algebraic equation?
Learning Targets	I can graph quadratic equations using the axis of symmetry and vertex. I can solve quadratic equations, either graphically by identifying the roots/zeros, or setting equation equal to zero and solving for x-values. I can solve quadratic word problems. I can solve projectile motion problems. Given a situation, I can determine whether a linear or quadratic relationship exists. Then, I can find the equation for the line or curve of best fit. Using my equation or line or curve or best fit, I can make predictions on future outcomes.
Skills	Graphing equations using the axis of symmetry (-b/2a) and vertex; solve quadratics by identifying the roots/zeros for solving for x - values; set up and solve quadratic word problems;solve projectile motion problems and relate to the real world; determine if linear or quadratic relationship; find and using line or curve of best fit given the data to interpolate or extrapolate appropriate data.

8th Grade Curriculum	
	Unit 10 - Rational Expressions
Quality Questions	Why should we simplify rational equations? What makes a number a rational number?
Learning Targets	I can identify and simplify rational expressions. I can multiply rational expressions. I can divide rational expressions. I can add and subtract rational expressions with like-bases. I can add and subtract rational expressions with unlike-bases.
Skills	Identify and simplify rational expressions; multipliy and divide rational expressions; add adn subtractionrationa expressions with like and unlike bases.