

8th Grade Mathematics Algebra Curriculum Map 2023

Pacing Guide	Standard Code & Indicator	Sample Learning Activities	Sample Assessments	Additional Standards
<p>August-September</p> <p>Unit Title: Review of Algebraic Concepts</p>	<p>A-SSE1 Interpret expressions that represent a quantity in terms of its context.</p> <p>A-SSE1A Interpret parts of an expression, such as terms, factors, and coefficients.</p> <p>N-VM.8. (+) Add, subtract, and multiply matrices of appropriate dimensions.</p> <p>8.SP.1. Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.</p> <p>8.SP.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit (e.g., line of best fit) by judging the closeness of the data points to the line.</p>	<p>-Use variables</p> <p>-Review basic operations with addition, subtraction, multiplication, and division of integers</p> <p>-Identify the following properties: Identity, Commutative, Associative, Distributive, Inverse</p> <p>-Graph Data & coordinates</p> <p>-Interpret and create scatter plots</p> <p>-Add, subtract, and Multiply matrices</p> <p>Instructional Resources:</p> <p>Prentice Hall Algebra Textbook</p> <p>Kutasoftware.com</p> <p>Beyondtheworksheet.com (Lindsey Perro)</p>	<p>Formative Assessments: Checkpoint Quiz Teacher Observation Homework/Classroom Student Participation Journal Entry Problem of the Day Interactive flipchart</p> <p>Summative Assessments: Chapter Test-Review of Algebraic Concepts Graphing Calculator Assessment (Matrices)</p> <p>Benchmark Assessment: BOY Benchmark LinkIt Benchmark</p> <p>Accommodations and Modifications</p>	<p>Interdisciplinary Standard: 2.2.8.MSC.5: Students form teams to solve one problem. Each team has a different problem. They have to effectively communicate with one another to resolve the problem. It is stressed that groups listen to one another to come to a conclusion.</p> <p>Technology Standard: 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.</p>

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		<p>Spiral review (Teacher created)</p> <p>Math-Aids.com</p> <p>Teacher created resources</p> <p>Student Technology: Scientific Calculator Chromebook Google Classroom Khan Academy Quizzes.com Quizlet Live desmos.com</p> <p>Teacher Technology: ActivView Flipchart lessons Interactive Activities on the ActivPanel</p>		
<p style="text-align: center;">Mid September – Beginning of October</p> <p>Unit Title: Solving Equations</p>	<p>A-REI.1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.</p> <p>A-REI.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.</p> <p>A-CED.A1 Create equations and inequalities in one variable and use them to solve problems. <i>Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</i></p>	<p>-Solve algebraic equations: one step, two-step, multi-step and variables on both sides</p> <p>-Solve percent equations</p> <p>-Use geometric formulas</p> <p>-Calculate mean, median, and mode</p> <p>Instructional Resources:</p>	<p>Formative Assessments: Checkpoint Quiz Teacher Observation Homework/Classroom Student Participation Journal Entry Problem of the Day Interactive flipchart</p> <p>Summative Assessments: Chapter Test-Equations End of Chapter Project-”Putting it all together”</p>	<p>Interdisciplinary Standard: W.8.1 Students will explain the difference between 1 solution, no solution and infinitely many solutions using examples to support.</p> <p>Technology Standard: 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.</p>

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	<p>A-CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.</p> <p>A-CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.</p>	<p>Big Ideas Algebra Textbook</p> <p>Kutasoftware.com</p> <p>Beyondtheworksheet.com (Lindsey Perro)</p> <p>Spiral review (Teacher created)</p> <p>Math-Aids.com</p> <p>Teacher created resources</p> <p>Student Technology: Scientific Calculator Graphing Calculator Chromebook Google Classroom Math IXL Khan Academy Quizzes.com Quizlet Live desmos.com</p> <p>Teacher Technology: ActivView Flipchart lessons Interactive Activities on the ActivPanel</p>	<p>Accommodations and Modifications</p>	
<p>October</p> <p>Unit Title: Solving Inequalities</p>	<p>A-RE1.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.</p> <p>A-CED.1</p>	<p>-Solve inequalities</p> <p>-Identify, graph and write solutions</p>	<p>Formative Assessments: Checkpoint Quiz Teacher Observation Homework/Classroom Student Participation Journal Entry</p>	<p>Interdisciplinary Standard: Physical Education 2.2.8.MSC.5: In our CSI activity, students must work independently and</p>

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	<p>Create equations and inequalities in one variable and use them to solve problems. <i>Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</i></p> <p>A-CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.</p>	<ul style="list-style-type: none"> -Use addition and subtraction to solve inequalities -Use multiplication and division -Solve multi-step inequalities -Write and solve compound inequalities -Identify absolute value equations -Evaluate absolute value inequalities <p>Instructional Resources:</p> <p>Big Ideas Algebra Textbook</p> <p>Kutasoftware.com</p> <p>Beyondtheworksheet.com (Lindsey Perro)</p> <p>Spiral review (Teacher created)</p> <p>Math-Aids.com</p> <p>Teacher created resources</p> <p>Student Technology:</p>	<p>Problem of the Day Interactive flipchart</p> <p>Summative Assessments: Chapter Test-Inequalities CSI -Equations and Inequalities</p> <p>Accommodations and Modifications</p>	<p>cooperatively in order to reach the desired outcome of the activity. In the end, students evaluated their own performance and their group.</p> <p>Technology Standard: 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.</p>
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		<p>Scientific Calculator Graphing Calculator Chromebook Google Classroom Math IXL Prodigy Khan Academy Quizzes.com Quizlet Live desmos.com</p> <p>Teacher Technology: ActivView Flipchart lessons Interactive Activities on the ActivPanel</p>		
<p>November</p> <p>Unit Title: Review of Proportion and Similarity : Ratios, Proportions and Percents</p>	<p>8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.</p> <p>7.RP.A.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units..</p> <p>7.RP.A.2 Recognize and represent proportional relationships between quantities.</p> <p>7.RP.A.2.c Represent proportional relationships by equations.</p> <p>7.SP.7.a Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events.</p> <p>7.SP.7.b Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.</p>	<p>-Solve percent problems – part, whole and percent</p> <p>-Differentiate between rates and ratios.</p> <p>-Calculate unit rates</p> <p>-Understand and solve proportions</p> <p>-Identify similarity</p> <p>-Understand and use percent</p> <p>-Differentiate between percent and fractions</p> <p>-Find the percent of change</p>	<p>Formative Assessments: Checkpoint Quiz Teacher Observation Homework/Classroom Student Participation Journal Entry Problem of the Day Interactive flipchart</p> <p>Summative Assessments: Chapter Test Probability Assessment</p> <p>Accommodations and Modifications</p>	<p>Interdisciplinary Standard: W.8.1 An “error” filled assessment is given to the students. Students must find the errors made based on the current topic and explain the error that was made. They will highlight the mistake and provide a clear explanation.</p> <p>Technology Standards: 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.</p>

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	<p>7.SP.8.a Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.</p> <p>7.SP.7.b Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event</p>	<p>-Connect ratios and probability</p> <p>-Determine probability</p> <p>-Differentiate between independent and dependent</p> <p>Instructional Resources:</p> <p>Big Ideas Algebra Textbook</p> <p>Kutasoftware.com</p> <p>Beyondtheworksheet.com (Lindsey Perro)</p> <p>Spiral review (Teacher created)</p> <p>Math-Aids.com</p> <p>Teacher created resources</p> <p>Student Technology:</p> <p>Scientific Calculator Graphing Calculator Chromebook Google Classroom Math IXL Prodigy Khan Academy Quizzes.com Quizlet Live desmos.com</p>		
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		<p>Teacher Technology: ActivView Flipchart lessons Interactive Activities on the ActivPanel</p>		
<p>End of November - December</p> <p>Unit Title: Functions</p>	<p>8.F.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. 1</p> <p>8.F.2 Compare properties (e.g., rate of change, intercepts, domain and range) of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).</p> <p>8.F.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.</p> <p>8.F.4. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.</p> <p>F-IF.A.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f</p>	<p>-Analyze and interpret graphs</p> <p>-Understand relations and functions</p> <p>-Apply Domain and Range in a function</p> <p>-Use vertical line test and mapping to determine functionality</p> <p>-Understand function rules</p> <p>-Make a function table</p> <p>-Create a function graph</p> <p>-Write a rule</p> <p>-Understand direct variation</p> <p>-Identify number patterns</p> <p>-Understand an arithmetic sequence</p>	<p>Formative Assessments: Checkpoint Quiz Teacher Observation Homework/Classroom Student Participation Journal Entry Problem of the Day Interactive flipchart</p> <p>Summative Assessments: Chapter Test- Functions Linear Functions Project</p> <p>Accommodations and Modifications</p>	<p>Interdisciplinary Standard W.8.1 Students will be given three types of methods that show linear equations (table, graph and an equation). Students must write a paragraph stating which of the three examples has the greatest slope and which has the least slope. Students must provide explanations with their findings.</p> <p>Technology Standard: 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.</p>

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	<p>corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.</p> <p>F-IF.A.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.</p> <p>F-IF.A.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.</p> <p>F-IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.</p> <p>F-IF.B.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.</p> <p>F-BF.A.2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.*</p>	<p>-Determine non-linear equations can be functions</p> <p>Instructional Resources:</p> <p>Big Ideas Algebra Textbook</p> <p>Kutasoftware.com</p> <p>Beyondtheworksheet.com (Lindsey Perro)</p> <p>Spiral review (Teacher created)</p> <p>Math-Aids.com</p> <p>Teacher created resources</p> <p>Student Technology: Scientific Calculator Graphing Calculator Chromebook Google Classroom Math IXL Prodigy Khan Academy Quizzes.com Quizlet Live desmos.com</p> <p>Teacher Technology: ActivView Flipchart lessons Interactive Activities on the ActivPanel</p>		
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<p>End of December - January</p> <p>Unit Title: Linear Relationships (Slope)</p>	<p>A-CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</p> <p>8.EE.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.</p> <p>8.EE.7.a Solve linear equations in one variable. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).</p> <p>8.EE.7.b Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.</p> <p>8.G.1 Verify experimentally the properties of rotations, reflections, and translations</p> <p>A-CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</p> <p>A-REI.D.10 - Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).</p>	<ul style="list-style-type: none"> -Determine slope -Determine rate of change -Identify slope formula -Find negative and positive slope -Understand undefined and zero slopes -Graph and write an equation of undefined and zero slopes -Determine slope Intercept form -Understand and solve linear equations -Identify y-intercept -Understand standard form -Identify x-intercept -Understand horizontal and vertical lines -Identify point-slope form -Use a table 	<p>Formative Assessments: Checkpoint Quiz Teacher Observation Homework/Classroom Student Participation Journal Entry Problem of the Day Interactive flipchart Graphing Calculator Assignments</p> <p>Summative Assessments: Chapter Test Rap Song - Slope (Parallel and Perpendicular Slopes)</p> <p>Accommodations and Modifications</p>	<p>Interdisciplinary Standard W.8.1 Students will be given various forms of linear equations. Students must write and defend their choice on which linear equation has the steepest slope. (The three items given are an equation, table, and graph).</p> <p>Technology Standard: 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.</p>
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	<p>F-IF.B.4 - For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.</p> <p>F-IF.B.5 - Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.</p> <p>F-IF.B.6 - Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.</p> <p>F-IF.C.7 - Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p> <p>F-IF.C.7a - Graph linear and quadratic functions and show intercepts, maxima, and minima.</p> <p>F-IF.C.8 - Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.</p> <p>F-IF.C.9 - Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).</p> <p>F-BF.A1 - Write a function that describes a relationship between two quantities.</p> <p>F-BF.A1.a - Determine an explicit expression, a recursive process, or steps for calculation from a context</p>	<p>-Identify parallel and perpendicular lines</p> <p>-Interpret and create scatter plots</p> <p>-Define and identify absolute value</p> <p>-Understand and solve equations</p> <p>-Identify translations</p> <p>Instructional Resources:</p> <p>Big Ideas Algebra Textbook</p> <p>Kutasoftware.com</p> <p>Beyondtheworksheet.com (Lindsey Perro)</p> <p>Spiral review (Teacher created)</p> <p>Math-Aids.com</p> <p>Teacher created resources</p> <p>Student Technology:</p> <p>Scientific Calculator</p> <p>Graphing Calculator</p> <p>Chromebook</p>		
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		<p>Google Classroom Math IXL Khan Academy Quizzes.com Quizlet Live desmos.com</p> <p>Teacher Technology: ActivView Flipchart lessons Interactive Activities on the ActivPanel</p>		
<p>February</p> <p>Unit Title: Systems of Equations</p>	<p>A-CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</p> <p>A-CED.A.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.</p> <p>A-REI.C.5. Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.</p> <p>A-REI.C.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.</p> <p>A-REI.D.10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).</p>	<p>-Solve linear equations by graphing</p> <p>-Solve linear equations by substitution and elimination</p> <p>-Apply linear systems</p> <p>-Understand and solve linear inequalities</p> <p>-Identify and solve systems of linear inequalities.</p> <p>-Use quadratic functions to show how points of intersection can be determined</p> <p>Instructional Resources:</p>	<p>Formative Assessments: Checkpoint Quiz Teacher Observation Homework/Classroom Student Participation Journal Entry Problem of the Day Interactive flipchart Graphing Calculator Assignments</p> <p>Summative Assessments: Chapter Test End of Chapter Project- Systems of Equations</p> <p>Accommodations and Modifications</p>	<p>Interdisciplinary Standard RI 8.7 In small groups, students have to decide whether graphing, substitution or the elimination method would be the most effective way to solve the problem.</p> <p>Technology Standard: 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.</p>

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	<p>A-REI.D.11 Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.</p> <p>A-REI.D.12 Graph the solutions to a linear inequality in two variables as a halfplane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.</p>	<p>Big Ideas Algebra Textbook</p> <p>Kutasoftware.com</p> <p>Beyondtheworksheet.com (Lindsey Perro)</p> <p>Spiral review (Teacher created)</p> <p>Math-Aids.com</p> <p>Teacher created resources</p> <p>Student Technology: Scientific Calculator Graphing Calculator Chromebook Google Classroom Math IXL Prodigy Khan Academy Quizzes.com Quizlet Live desmos.com</p> <p>Teacher Technology: ActivView Flipchart lessons Interactive Activities on the ActivPanel</p>		
<p>End of February - Mid March</p>	<p>8.EE.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions.</p> <p>8.EE.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and</p>	<p>-Understand and use exponents, including the use of zero and negative powers</p> <p>-Simplify exponents</p>	<p>Formative Assessments: Checkpoint Quiz Teacher Observation Homework/Classroom Student Participation</p>	<p>Interdisciplinary Standard: ELA SL.8.1D Students will go to the board and share how to solve the scientific notation word problems.</p>

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<p>Unit Title: Exponents and Exponential Function</p>	<p>$x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.</p> <p>8.EE.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.</p> <p>8.EE.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.</p> <p>F-IF.C.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.</p> <p>F-IF.C.8b Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, and classify them as representing exponential growth or decay.</p> <p>F-LE.A.1a Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.</p> <p>F-LE.A.1b Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.</p>	<ul style="list-style-type: none"> -Identify and use the Multiplication property -Understand powers of a power -Understand product to a power -Identify and use the division property -Understand and use scientific notation -Identify geometric sequences -Evaluate and graph exponential functions -Understand the concept of growth and decay <p>Instructional Resources:</p> <p>Big Ideas Algebra Textbook</p> <p>Kutasoftware.com</p> <p>Beyondtheworksheet.com (Lindsey Perro)</p> <p>Spiral review (Teacher created)</p>	<p>Journal Entry Problem of the Day Interactive flipchart Graphing Calculator Assignments</p> <p>Summative Assessments: Chapter Test Exponential Growth Project</p> <p>Accommodations and Modifications</p>	<p>Students will have to analyze how the student completed the process and either make changes to the problem or concur. Students will be selected through a volunteer basis.</p> <p>Technology Standard: 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.</p>
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	<p>F-LE.A.1c Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.</p> <p>F-LE.A.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).</p> <p>F-LE.A.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.</p>	<p>Math-Aids.com</p> <p>Teacher created resources</p> <p>Student Technology: Scientific Calculator Graphing Calculator Chromebook Google Classroom Math IXL Prodigy Khan Academy Quizzes.com Quizlet Live desmos.com</p> <p>Teacher Technology: ActivView Flipchart lessons Interactive Activities on the ActivPanel</p>		
<p style="text-align: center;">March</p> <p>Unit Title: Polynomials and Factoring</p>	<p>A-APR.A.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.</p> <p>A-APR.2. Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a, the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.</p> <p>A-APR.5. (+) Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n, where x and y are</p>	<p>-Add and Subtract polynomials</p> <p>-Multiply polynomials by a monomial, binomial and trinomial</p> <p>-Factor and multiply binomials</p> <p>-Understand special cases</p>	<p>Formative Assessments: Checkpoint Quiz Teacher Observation Homework/Classroom Student Participation Journal Entry Problem of the Day Interactive flipchart Graphing Calculator Assignments</p> <p>Summative Assessments: Chapter Test</p>	<p>Interdisciplinary Standard W.8.1 An “error” filled assessment is given to the students. Students must find the errors made based on the current topic and explain the error that was made. They will highlight the mistake and provide a clear explanation.</p> <p>Technology Standard:</p>

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	<p>any numbers, with coefficients determined for example by Pascal's Triangle.1</p> <p>A-SSE.2 Use the structure of an expression to identify ways to rewrite it.</p> <p>A-SSE.A.1a Interpret parts of an expression, such as terms, factors, and coefficients.</p> <p>A-SSE.A.1b Interpret complicated expressions by viewing one or more of their parts as a single entity.</p>	<p>-Factor trinomials & trinomial special cases</p> <p>-Factor trinomials by grouping</p> <p>-Divide polynomials using long division</p> <p>Instructional Resources:</p> <p>Big Ideas Algebra Textbook</p> <p>Kutasoftware.com</p> <p>Beyondtheworksheet.com (Lindsey Perro)</p> <p>Spiral review (Teacher created)</p> <p>Math-Aids.com</p> <p>Teacher created resources</p> <p>Student Technology:</p> <p>Scientific Calculator</p> <p>Graphing Calculator</p> <p>Chromebook</p> <p>Google Classroom</p> <p>Math IXL</p> <p>Prodigy</p> <p>Khan Academy</p> <p>Quizzes.com</p> <p>Quizlet Live</p> <p>desmos.com</p>	<p>Accommodations and Modifications</p>	<p>9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.</p>
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		Teacher Technology: ActivView Flipchart lessons Interactive Activities on the ActivPanel		
<p style="text-align: center;">April</p> <p>Unit Title: Quadratic Equations</p>	<p>A-SSE.3.a Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. Factor a quadratic expression to reveal the zeros of the function it defines.</p> <p>A-SSE.3.b Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.</p> <p>A-REI.4 Solve quadratic equations in one variable.</p> <p>A-REI.4 a Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.</p> <p>A-REI.4.b Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b.</p> <p>A-APR.3 Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.</p> <p>A-CED.A.1 Create equations and inequalities in one variable and use them to solve problems. <i>Include</i></p>	<p>-Create and interpret quadratic graphs</p> <p>-Identify and graph parabolas</p> <p>-Identify and use standard form</p> <p>-Compare widths of parabolas</p> <p>-Identify and understand quadratic functions</p> <p>-Graph equations and inequalities</p> <p>-Estimate square roots</p> <p>-Find square roots of rational numbers and irrational numbers</p> <p>-Identify perfect squares</p> <p>-Solve quadratic equations by graphing</p> <p>-Solve quadratic equations by factoring (zero product property)</p>	<p>Formative Assessments: Checkpoint Quiz Teacher Observation Homework/Classroom Student Participation Journal Entry Problem of the Day Interactive flipchart Graphing Calculator Assignments</p> <p>Summative Assessments: Chapter Test Angry Birds Parabola Project</p> <p>Accommodations and Modifications</p>	<p>Interdisciplinary Standard: W.8.1 In the Angry Birds project, students have to solve, graph and then explain the various quadratic results in paragraph form using key vocabulary and applying proper formulas. 25% of their grade is based on their explanation of the project.</p> <p>Technology Standard: 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.</p>

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	<p><i>equations arising from linear and quadratic functions, and simple rational and exponential functions.</i></p> <p>F-IF.C.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*</p> <p>F-IF.C.7a Graph linear and quadratic functions and show intercepts, maxima, and minima.</p> <p>F-IF.7b Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.</p> <p>F-IF.7c Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.</p> <p>F-IF.C.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.</p> <p>F-IF.C.8a Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.</p> <p>F-IF.C.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).</p>	<p>-Solve quadratic equations by completing the square</p> <p>-Solve quadratic equations by using the quadratic formula</p> <p>-Understand linear and exponential growth</p> <p>Instructional Resources:</p> <p>Big Ideas Algebra Textbook</p> <p>Kutasoftware.com</p> <p>Beyondtheworksheet.com (Lindsey Perro)</p> <p>Spiral review (Teacher created)</p> <p>Math-Aids.com</p> <p>Teacher created resources</p> <p>Student Technology:</p> <p>Scientific Calculator</p> <p>Graphing Calculator</p> <p>Chromebook</p> <p>Google Classroom</p> <p>Math IXL</p> <p>Prodigy</p> <p>Khan Academy</p>		
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		Quizzes.com Quizlet Live desmos.com		
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End of April -May Unit Title: “Radical equations and expressions”	<p>A-REI.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.</p> <p>A-APR.4. Prove polynomial identities and use them to describe numerical relationships.</p> <p>8.G.6. Explain a proof of the Pythagorean Theorem and its converse.</p> <p>8.G.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.</p> <p>8.G.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.</p> <p>A-REI-D.10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).</p>	<ul style="list-style-type: none"> -Simplify radicals -Use Pythagorean Theorem -Use distance and midpoint formula -Understand radical expressions -Solve radical equations -Graph square root functions -Understand that some solutions may or may not be extraneous solutions -Use polynomial identity property to find Pythagorean triples 	<p>Formative Assessments: Checkpoint Quiz Teacher Observation Homework/Classroom Student Participation Journal Entry Problem of the Day Interactive flipchart Graphing Calculator Assignments</p> <p>Summative Assessments: Chapter Test Pythagorean Theorem Challenge</p> <p>Accommodations and Modifications</p>	<p>Interdisciplinary Standard: ELA SL.8.1 Stations will be set up in the classroom for students to be able to complete various tasks on the Pythagorean Theorem (application). They will read the word problems then complete the task at hand. After they attempt the problem independently- they will have the chance to critique each other's work and provide feedback on how to solve the problem in an efficient manner.</p> <p>Technology Standard: 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.</p>
		Instructional Resources:		

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		<p>Big Ideas Algebra Textbook</p> <p>Kutasoftware.com</p> <p>Beyondtheworksheet.com (Lindsey Perro)</p> <p>Spiral review (Teacher created)</p> <p>Math-Aids.com</p> <p>Teacher created resources</p> <p>Student Technology: Scientific Calculator Graphing Calculator Chromebook Google Classroom Math IXL Prodigy Khan Academy Quizzes.com Quizlet Live desmos.com</p> <p>Teacher Technology: ActivView Flipchart lessons Interactive Activities on the ActivPanel</p>		
<p>End of May-June</p>	<p>A-APR.6 Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.</p>	<p>-Understand inverse variation</p> <p>-Graph rational functions</p>	<p>Formative Assessments: Checkpoint Quiz Teacher Observation Homework/Classroom Student Participation</p>	<p>Interdisciplinary Standard: W.8.2 Students will learn a topic from the chapter and present the information to the class.</p>

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<p>Unit Title: “Rational Expressions”</p>	<p>A-APR.7. Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.</p> <p>A-REI.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.</p>	<p>-Simplify, Multiply, Divide, Add and Subtract Rational expressions</p> <p>-Divide polynomials</p> <p>-Understand and identify combinations and permutations</p> <p>-Solve rational equations</p> <p>Instructional Resources:</p> <p>Big Ideas Algebra Textbook</p> <p>Kutasoftware.com</p> <p>Beyondtheworksheet.com (Lindsey Perro)</p> <p>Spiral review (Teacher created)</p> <p>Math-Aids.com</p> <p>Teacher created resources</p> <p>Student Technology:</p> <p>Scientific Calculator Graphing Calculator Chromebook Google Classroom Math IXL Prodigy</p>	<p>Journal Entry Problem of the Day Interactive flipchart Graphing Calculator Assignments</p> <p>Summative Assessments: Chapter Test Student Presentations-Rational Expressions</p> <p>Benchmark: EOY Math Benchmark LinkIt Benchmark</p> <p>Accommodations and Modifications</p>	<p>They will do this in small groups. They must organize the key information, provide examples, and demonstrate a clear understanding of the topic.</p> <p>Technology Standard: 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.</p>
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Alternate Assessments: CSI Equation and Inequalities Activity ; Angry Birds Parabola Project ; Systems of Equations End of Unit Project

21st Century Standards: 9.1.8.A.2 and 9.1.8.D.5

21st Century Skills: Critical thinking, Creativity, Collaboration, Communication and Technology Literacy

Career Ready Practices: CRP 2, CRP 4, CRP 5, CRP 6, CRP 8 & 11