Math - Algebra

Unit #1	**Title:** Graphing and Solving Linear Equations and Inequalities	**Pacing:** 30 days

Stage 1- Desired Results

Established Goals/NJSLS Standards

- N.Q.1 -Use units as a way to understand problems and to guide the solution of multi-step problems.
- N.Q.3 - Choose a level of accuracy appropriate to limitations on measurement when reporting quantities
- A.SSE.1 - Interpret expressions that represent a quantity in terms of its context.
- A.CED.1 - Create equations and inequalities in one variable and use them to solve problems.
- 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.
- A.REI.3 - Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
- A.REI.10. Find approximate solutions of linear equations by making a table of values, using technology to graph and successive approximations.
- A.RE1.11 Find approximate solutions of linear equations by making a table of values, using technology to graph and successive approximations.
- A.REI.12 Graph the solutions to a linear inequality in two variables as a half-plane (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.
- F.IF6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval.
- F.IF7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.
- S-ID6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.

Enduring Understandings ***Students will understand…***	**Essential Questions** ***Students will consider...***
• Linear equations and inequalities can be used to model real life situations. • Equations are an efficient tool to find solutions to problems and predict future outcomes. • Graphs and equations are alternative (and often equivalent) ways for depicting and analyzing patterns of change. • Real world situations can be modeled by graphs and equations.	• Where are linear equations and inequalities used in everyday life? • How do you create an equation to model a real life situation? • How do I use solutions to solve equations? • What is a linear relationship? • What are the different ways a linear relationship may be represented? • What is the significance of a linear relationships slope and y-intercept? • How are inequalities and equations similar or different? • How may linear relationships model real world situations? • How may linear relationships help us analyze real world situations and solve practical problems?

Knowledge ***Students will know…***	**Academic Vocabulary**
• several methods to solve linear equations. • various ways to graph linear equations. • how to create equations from real life examples. • methods to solve and graph linear inequalities. • the meaning of slope and how to to find slope from points, an equation, or from a graph.	• Equations • Solve • Solutions • Simplify • Slope • X-intercept • Y-intercept • Slope intercept form • Independent • Dependent • Parallel • Scatter Plot • Line of best fit • Independent • Standard Form • Inequalities • Rate of Change • Perpendicular

Skills
Students will be able to…

- How to interpret linear models.
- Solve multistep linear equations and inequalities.
- Create linear equations and inequalities based on real life examples.
- Solve a linear equation for a given variable.
- Interpret solutions in terms of the context of the problem.
- How to find slope given two points.
- How to interpret slope as the rate of change.
- How to find the equation of a line.
- Model linear relationships.
- Graph linear relationships.
- Find slopes of parallel and perpendicular lines.
- Rearrange equations of a line into a different form.

21ST Century/ Interdisciplinary Themes	**21st Century Skills**
Global Awareness **Financial, Business, & Entrepreneurial Literacy** Civic Literacy Environmental Literacy Health Literacy	Creativity & Innovation **Communication & Collaboration** Media Literacy **Critical Thinking & Problem Solving** Information Literacy **Information, Communication, & Technology** **Life & Career Skills**

Stage 2- Assessment Evidence

Formative Assessments	***Student Self-Assessment***	***Common Assessments***
• Homework assignments. • In class assignments • Review games	• Exit tickets • Homework review	• Benchmark Assessments • Big Ideas Chapter Tests

Stage 3- Learning Plan

Suggested Learning Activities

- Teacher led practice
- Group practice and collaboration
- Application examples
- Graphing activities

Resources/Instructional Materials
(articles, novels, websites, books, magazines, art, media)

- Big Ideas Math text and web based instruction
- IXL
- Study Island

● *Technology Resources*

- Desmos Graphing App
- IXL
- Web based tutorials/activities
- Socrative
- Study Island
- Geometer's Sketchpad
- Kahoot!
- Google Apps

Accommodations & Modifications
for Special Ed., At Risk, ELL, & Gifted Students

- Allow oral responses
- Allow verbalization before writing
- Use audio materials when necessary
- Modify homework assignments
- Read tests aloud
- Provide math manipulatives as necessary
- Restate, reword, clarify directions
- Re-teach concepts using small groups
- Provide educational "breaks" as necessary
- Chunking Content
- Calculator
- Use mnemonic devices
- Provide a cueing system
- Untimed and/or extended test taking time
- Shorten assignments to focus on mastery concept
- Acronyms
- Graphic Organizers
- Notes Provided
- Check agenda book for parent(s) communication
- Read directions aloud
- Assignment, Project, and Assessment Modification Based on Individual Student Needs
- Speech to Text/Text to Speech Features in Google Apps
- Technology assisted instruction
- Preferential seating utilized
- Redirect student(s) as necessary
- Student choice for project or approach to assignment
- Inquiry-Based Learning

Math - Algebra

Unit #2	**Title:** Systems and Functions	**Pacing:** 30 days

Stage 1- Desired Results

Established Goals/NJSLS Standards

- 8.EE.8a Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs.
- 8.EE.8b Solve system of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection.
- 8.EE.8c Solve Real-world and mathematical problems leading to two linear equations in two variables.
- A.CED.3 Represent constraints by systems of equations and interpret solutions as viable and nonviable options in a modeling context.
- A.REI.5 Prove that, given a system of two equations in two variables, replacing one equations by the sum of that equation and a multiple of the other produces a system with the same solution.
- A.REI.6 Solve systems of linear equations exactly and approximately, focusing on pairs of linear equations in two variables.
- A.REI.12 Graph the solution to a linear inequality in two variables as a half-plane, and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.
- F.IF.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.
- F.IF.2 - Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
- F.IF.3 - Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.
- F.IF.5 - Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.
- F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.
- F.IF.9 Compare properties of two functions each represented in a different way.

Enduring Understandings ***Students will understand…***	**Essential Questions** ***Students will consider...***
• Systems of linear equations and inequalities can be used to model real life situations. • Some systems of linear equations have 1 solution, some have no solution, and some have infinitely many solutions. • The solutions to a system of linear equations in two variables correspond to points of intersection of their graphs. • A function is a relationship between two quantities where each input has only one output. • Equations are an efficient tool to find solutions to problems and predict future outcomes. • The domain and range describe the inputs and output of a function. • Functions and sequences represent real world examples. • Functions may be linear or nonlinear.	• How can you solve a system of linear equations? • How can you use substitution to solve a system of linear equations? • How can you use elimination to solve a system of linear equations. • Can a system of linear equations have no solution? • Can a system of linear equations have many solutions? • How can you sketch the graph of a system of linear inequalities? • What is the difference between functions and equations? • How do I use function notation? • How do I graph a function? • What makes a function continuous or discrete? • How can I tell whether it's a function by just looking at a graph? • What are the similarities and differences between arithmetic and geometric sequences? • What makes a function exponential or linear? • How do I create a linear or exponential function from real world situation?

Knowledge *Students will know…*	Academic Vocabulary
• there are multiple ways to represent a function. • how to use and evaluate function notation. • multiple ways to solve a system of equations and which method is most appropriate. • the overlap of two half planes is the solution to a system of linear inequalities. • there are systems with no solution or infinitely many solutions. • how to apply the vertical line test to determine whether a graph is a function.	• System of Equations • Region • Half-Plane • Functions, Relations • Domain • Range • Piecewise • Discrete • Continuous • Sequences

Skills

Students will be able to…

- Solve systems by graphing.
- Solve systems by substitution
- Solve systems by elimination
- Solve and graph systems of linear inequalities and interpret solutions
- Model real-life examples using systems.
- Write linear functions.
- Write and evaluate functions in function notation.
- Find the domain and range of nonlinear functions.
- Graph piecewise and absolute value functions.
- Form graphs form functions and vice versa.
- Compare functions in different forms.
- Write an equation for an arithmetic sequence

21ST Century/ Interdisciplinary Themes	21st Century Skills
Global Awareness **Financial, Business, & Entrepreneurial Literacy** Civic Literacy Environmental Literacy Health Literacy	Creativity & Innovation **Communication & Collaboration** Media Literacy **Critical Thinking & Problem Solving** Information Literacy **Information, Communication, & Technology** **Life & Career Skills**

Stage 2- Assessment Evidence

Formative Assessments	*Student Self-Assessment*	*Common Assessments*
• Homework assignments. • In class assignments • Review games • 3 ways to solve project	• Exit tickets • Homework review	• Benchmark Assessments • Big Ideas Chapter Tests

Stage 3- Learning Plan

Suggested Learning Activities

- Teacher led practice
- Group practice and collaboration
- Application examples
- Graphing activities

Resources/Instructional Materials
(articles, novels, websites, books, magazines, art, media)

- Big Ideas Math text and web based instruction
- IXL
- Study Island

Technology Resources

- Desmos Graphing App
- Study Island
- IXL
- Geometer's Sketchpad
- Web based tutorials/activities
- Kahoot!
- Socrative
- Google Apps

Accommodations & Modifications
for Special Ed., At Risk, ELL, & Gifted Students

- Allow oral responses
- Allow verbalization before writing
- Use audio materials when necessary
- Modify homework assignments
- Read tests aloud
- Provide math manipulatives as necessary
- Restate, reword, clarify directions
- Re-teach concepts using small groups
- Provide educational "breaks" as necessary
- Chunking Content
- Calculator
- Use mnemonic devices
- Provide a cueing system
- Untimed and/or extended test taking time
- Shorten assignments to focus on mastery concept
- Acronyms
- Graphic Organizers
- Notes Provided
- Check agenda book for parent(s) communication
- Read directions aloud
- Assignment, Project, and Assessment Modification Based on Individual Student Needs
- Speech to Text/Text to Speech Features in Google Apps
- Technology assisted instruction
- Preferential seating utilized
- Redirect student(s) as necessary
- Student choice for project or approach to assignment
- Inquiry-Based Learning

Math - Algebra

Unit #3	**Title:** Multiplying Polynominals and Factoring	**Pacing:** 30 days

Stage 1- Desired Results

Established Goals/NJSLS Standards

- N.RN.1 Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents.
- N.RN.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents.
- N.RN.3 Explain why sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a non-zero rational number and irrational number is irrational.
- A.SSE.1 Interpret expressions that represent a quantity in terms of its context.
- A.SSE.2 Use the structure of an expression to identify ways to rewrite.
- A.SSE.3 Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.
- A.APR.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.
- 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

Enduring Understandings ***Students will understand…***	**Essential Questions** ***Students will consider...***
• Polynomials are the basis of many real life applications. • The properties of integers apply to polynomials. • Factors are a subset of a product and with the distributive property allow options in solving polynomials. • The knowledge of polynomials is a basis for higher level mathematics.	• Where do we use polynomials in real life? • How can polynomials be simplified and applied to solve problems? • Can two algebraic expressions that appear to be different be equivalent? • How does explaining a process help me to better understand the idea?
Knowledge ***Students will know…***	**Academic Vocabulary**
• how to evaluate expressions with rational exponents. • the proper method to simplify polynomials and standard form of a polynomial. • how to simplify radical expressions. • the classifications of numbers and how classes of numbers interact. • how to identify the zeroes of a polynomial on a graph. • many polynomials can be factored. • how to solve a polynomial and find the zeroes of that polynomial.	• Polynomial • monomial • binomial • trinomial • linear • quadratic • cubic • like terms • square root • factor • GCF

Skills

Students will be able to…

- Perform operations on polynomials.
- Write expressions in equivalent forms to solve problems.
- Identify polynomials by degree and number of terms.
- Factor out common monomial factors, perfect-square trinomials and differences of squares.
- Interpret the structure of expressions.
- Solve polynomials in factored form.

21ST Century/ Interdisciplinary Themes	**21st Century Skills**
Global Awareness **Financial, Business, & Entrepreneurial Literacy** Civic Literacy Environmental Literacy Health Literacy	Creativity & Innovation **Communication & Collaboration** Media Literacy **Critical Thinking & Problem Solving** Information Literacy **Information, Communication, & Technology** **Life & Career Skills**

Stage 2- Assessment Evidence

Formative Assessments	***Student Self-Assessment***	***Common Assessments***
• Homework assignments. • In class assignments • Review games	• Exit tickets • Homework review	• Benchmark Assessments • Big Ideas Chapter Tests

Stage 3- Learning Plan

Suggested Learning Activities

- Teacher led practice
- Group practice and collaboration
- Application examples
- Graphing activities

Resources/Instructional Materials

(articles, novels, websites, books, magazines, art, media)

- Big Ideas Math text and web based instruction
- IXL
- Study Island

Technology Resources

- Desmos Graphing App
- IXL
- Web based tutorials/activities
- Socrative
- Study Island
- Geometer's Sketchpad
- Kahoot!
- Google Apps

Accommodations & Modifications
for Special Ed., At Risk, ELL, & Gifted Students

- Allow oral responses
- Allow verbalization before writing
- Use audio materials when necessary
- Modify homework assignments
- Read tests aloud
- Provide math manipulatives as necessary
- Restate, reword, clarify directions
- Re-teach concepts using small groups
- Provide educational "breaks" as necessary
- Chunking Content
- Calculator
- Use mnemonic devices
- Provide a cueing system
- Untimed and/or extended test taking time
- Shorten assignments to focus on mastery concept
- Acronyms
- Graphic Organizers
- Notes Provided
- Check agenda book for parent(s) communication
- Read directions aloud
- Assignment, Project, and Assessment Modification Based on Individual Student Needs
- Speech to Text/Text to Speech Features in Google Apps
- Technology assisted instruction
- Preferential seating utilized
- Redirect student(s) as necessary
- Student choice for project or approach to assignment
- Inquiry-Based Learning

Adapted from: Wiggins, Grant and J. McTighe. (1998). *Understanding by Design*, Association for Supervision and Curriculum Development

Math - Algebra

Unit #4	**Title:** Solving and Graphing Quadratics	**Pacing:** 30 days

Stage 1- Desired Results

Established Goals/NJSLS Standards

- F.BF.3 Identify the effect on the graph of replacing f(x) by f(x) + k, kf(x), f(kx), and f(x + k) for specific values of k; find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Including recognizing even and odd functions from their graphs and algebraic expressions of them.
- F.IF.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of quantities, and sketch graphs showing key features given a verbal description of the relationship.
- F.IF.6 Calculate and interpret the average rate of change of a function over a specific interval. Estimate the rate of change from the graph
- F.IF.7a Graph linear and quadratic functions and show intercepts, maxima, and minima
- F.LE.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or as a polynomial function.
- A.REI.4 Solve quadratic equations in one variable.
- A.CED.1 Create equations and inequalities in one variable and use them to solve problems.
- A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes
- with labels and scales.
- F.IF.7 Graph functions expressed symbolically and show key features of the graph.
- A.CED.2 - Create equations and inequalities in one variable and use them to solve problems.

Enduring Understandings ***Students will understand…***	**Essential Questions** ***Students will consider...***
• The graph of any quadratic function is a translation, rotations, stretch or shrink of the basic quadratic function $f(x) = x^2$. • The vertex of a quadratic function provides the maximum or minimum output value of the function and the input at which it occurs. • Every quadratic equation can be solved using the Quadratic formula. • Quadratic equations can be can be used to model real life situations. • There are many different methods to solve quadratic equations. • Quadratic equations often offer multiple solutions to a problem.	• What are the characteristics of the graph if the quadratic function $y=ax^2$. • How do the values of 'a' affect the graph of $y = ax^2$. • Why do satellite dishes and spotlights reflectors have parabolic shapes? • How does the value of c affect the graph of $y=ax^2+c$? • How can you find the vertex of the graph of $y=ax^2+bx+c$? • Where do quadratic patterns occur in the real world? • How do I apply the solutions to quadratic equations in terms of reality? • How do I choose which way to solve a quadratic equation? • How do the solutions to a quadratic equation relate to its graph?

Knowledge *Students will know…*	Academic Vocabulary
• quadratic equations form a parabola on the graph. • changing a, h, and k in vertex form will affect the shape and position of the graph. • how to solve a quadratic equation by using square roots. • how to solve a quadratic equation by completing the square. • how to solve a quadratic equation by using the quadratic formula • which methods are appropriate for each example. • how a quadratic equation can be used to model the path of a projectile. • quadratic equations can have one, two or no solutions.	• vertex • parabola • axis of symmetry • quadratic function • Focus • vertex form • minimum value • maximum value • Quadratic • Solutions • Factoring • Quadratic Formula • Completing the Square

Skills

Students will be able to…

- Identify the characteristics of a function.
- Graph quadratic functions.
- Find foci of parabolas
- Write equations of parabolas with vertices at the origin given the foci.
- Graph quadratic functions of the form $y=ax^2+c$ and compare the graph of $y=x^2$.
- Find the axis of symmetry and the vertices of parabolas.
- Find maximum and minimum values of parabolas.
- Solve quadratic equations by graphing.
- Solve quadratic equations using square roots.
- Solve quadratic equations by completing the square.
- Solve quadratic equations by using the quadratic formula.
- Apply the methods of solving quadratic equations to find solutions to real life examples.

21ST Century/ Interdisciplinary Themes	21st Century Skills
Global Awareness **Financial, Business, & Entrepreneurial Literacy** Civic Literacy Environmental Literacy Health Literacy	Creativity & Innovation **Communication & Collaboration** Media Literacy **Critical Thinking & Problem Solving** Information Literacy **Information, Communication, & Technology** **Life & Career Skills**

Stage 2- Assessment Evidence

Formative Assessments	*Student Self-Assessment*	*Common Assessments*
• Homework assignments. • In class assignments • Review games • 4 ways to solve project	• Exit tickets • Homework review	• Benchmark Assessments • Big Ideas Chapter Tests

Stage 3- Learning Plan

Suggested Learning Activities

- Teacher led practice
- Group practice and collaboration
- Application examples
- Graphing activities

Resources/Instructional Materials
(articles, novels, websites, books, magazines, art, media)

- Big Ideas Math text and web based instruction
- IXL
- Study Island

Technology Resources

- Desmos Graphing App
- IXL
- Web based tutorials/activities
- Socrative
- Study Island
- Geometer's Sketchpad
- Kahoot!
- Google Apps

Accommodations & Modifications
for Special Ed., At Risk, ELL, & Gifted Students

- Allow oral responses
- Allow verbalization before writing
- Use audio materials when necessary
- Modify homework assignments
- Read tests aloud
- Provide math manipulatives as necessary
- Restate, reword, clarify directions
- Re-teach concepts using small groups
- Provide educational "breaks" as necessary
- Chunking Content
- Calculator
- Use mnemonic devices
- Provide a cueing system
- Untimed and/or extended test taking time
- Shorten assignments to focus on mastery concept
- Acronyms
- Graphic Organizers
- Notes Provided
- Check agenda book for parent(s) communication
- Read directions aloud
- Assignment, Project, and Assessment Modification Based on Individual Student Needs
- Speech to Text/Text to Speech Features in Google Apps
- Technology assisted instruction
- Preferential seating utilized
- Redirect student(s) as necessary
- Student choice for project or approach to assignment
- Inquiry-Based Learning

Adapted from: Wiggins, Grant and J. McTighe. (1998). *Understanding by Design*, Association for Supervision and Curriculum Development

Math - Algebra

Unit #5	**Unit Title:** Exponential growth, applications and extensions.	**Pacing:** 30 days

Stage 1- Desired Results

Established Goals/NJSLS Standards

- F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.
- F.IF.9 Interpret the parameters in a linear or exponential function in terms of a context.
- F.BF.3 Identify the effect on the graph of replacing f(x) by f(x) +k, k f(x), f(kx), and f(x + k) for specific values of k; find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.
- F.LE.1 Distinguish between situations that can be modeled with linear functions and with exponential functions.
- F.LE.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).
- F.LE.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.
- F.LE.5 Interpret the parameters in a linear or exponential function in terms of a context.
- F.IF.9 Compare properties of two functions each represented in a different way
- F.IF.7 Graph functions expressed symbolically and show key features of the graph.
- S.ID.3 Interpret differences in shape, center, and spread in the context of the data sets.
- S.ID.5 Summarize categorical data for two categories in two-way frequency tables.
- S.ID.6a Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.
- S.ID.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.
- S.ID.8 Compute (using technology) and interpret the correlation coefficient of a linear fit.
- S.ID.9 Distinguish between correlation and causation.

Enduring Understandings ***Students will understand…***	**Essential Questions** ***Students will consider...***
• Graphs are used to depict and analyze patterns of non-linear change. • Mathematics models can be used to describe physical relationships; these are often non-linear. • Real world situations, involving exponential relationships can be solved using multiple representations. • Algebra can be used to solve problems and predict outcomes in a multitude of real world situations. • Algebraic representations of a single problem can take many forms.	• What characterizes exponential growth and decay? • How can one differentiate an exponential model from a linear model given a real world data set? • What are limitations of exponential growth models? • How can I represent a single algebraic situation in multiple ways? • When and how can I use algebra in my everyday life? • How do I determine what algebraic method to employ? • Is Algebra really this much fun?

Knowledge ***Students will know…***	**Academic Vocabulary**
• how to graph exponential equations. • many situations in reality are related to exponential growth. • how to create an exponential graph equation. • graph and tables can be used to predict outcomes to experiments. • data can be used to from equations. • graphing technology can be used to simplify predictions and determine outcomes.	• exponential function • exponential growth • exponential decay • domain • range • Nonlinear • Asymptote • Limit

Skills

Students will be able to…

- Construct graphs for exponential functions.
- Analyze and compare graphs between linear or nonlinear functions, including quadratic, exponential and other non-linear relationships.
- Find the solutions of nonlinear systems through graphing.
- Recognize when an exponential model is appropriate (growth or decay).
- Interpret expressions for functions in terms of the situation they model.
- Analyze a situation and determine how to apply algebraic reasoning.
- Use algebra to model real world situations.
- Create algebraic functions from experimental data.
- Connect Algebra to other subject areas.

21ST Century/ Interdisciplinary Themes	**21st Century Skills**
Global Awareness **Financial, Business, & Entrepreneurial Literacy** Civic Literacy Environmental Literacy Health Literacy	Creativity & Innovation **Communication & Collaboration** Media Literacy **Critical Thinking & Problem Solving** Information Literacy **Information, Communication, & Technology** **Life & Career Skills**

Stage 2- Assessment Evidence

Formative Assessments	***Student Self-Assessment***	***Common Assessments***
• Homework assignments. • In class assignments • Review games • Desmos graphing project	• Exit tickets • Homework review	• Benchmark Assessments • Big Ideas Chapter Tests

Stage 3- Learning Plan

Suggested Learning Activities

- Teacher led practice
- Group practice and collaboration
- Application examples
- Graphing activities

Resources/Instructional Materials
(articles, novels, websites, books, magazines, art, media)

- Big Ideas Math text and web based instruction
- IXL
- Study Island

Technology Resources

- Desmos Graphing App
- IXL
- Web based tutorials/activities
- Socrative
- Study Island
- Geometer's Sketchpad
- Kahoot!
- Google Apps

Accommodations & Modifications
for Special Ed., At Risk, ELL, & Gifted Students

- Allow oral responses
- Allow verbalization before writing
- Use audio materials when necessary
- Modify homework assignments
- Read tests aloud
- Provide math manipulatives as necessary
- Restate, reword, clarify directions
- Re-teach concepts using small groups
- Provide educational "breaks" as necessary
- Chunking Content
- Calculator
- Use mnemonic devices
- Provide a cueing system
- Untimed and/or extended test taking time
- Shorten assignments to focus on mastery concept
- Acronyms
- Graphic Organizers
- Notes Provided
- Check agenda book for parent(s) communication
- Read directions aloud
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- Speech to Text/Text to Speech Features in Google Apps
- Technology assisted instruction
- Preferential seating utilized
- Redirect student(s) as necessary
- Student choice for project or approach to assignment
- Inquiry-Based Learning

Adapted from: Wiggins, Grant and J. McTighe. (1998). *Understanding by Design*, Association for Supervision and Curriculum Development