

IAA Curriculum

Content Area	Mathematics	Grade	10/11
Course Name	Algebra 2		

Unit Number	Unit Topic	Instruction	Review/Reteach/Extension	Assessing	Buffer	Total
1	Linear Equations	14	2	2	1	19
2	Relations and Functions	14	2	2	1	19
3	Quadratic Functions	14	2	2	1	19
4	Polynomials & Polynomial Functions	18	2	2	1	23
5	Inverses and Radical Function	14	2	2	1	19
6	Rational Functions	20	2	2	1	25
7	Exponential & Log Functions	10	2	2	1	15
Extra Assessment Days/Days After Testing						35
Total Time		104	14	14	7	174
School Days	174					
Free Days	0					

Unit / Concept	Unit 1 - Linear Equations					
Big Ideas	Equations are mathematical sentences that state a relationship between two or more mathematical expressions. Solutions for equations can be found by isolating the variable on one side of the equal sign and using the Properties of Equality.					
Essential Q.	How are symbols useful in mathematics? How can you find the solution to a math problem?					
Competencies	Solve and write linear equations Solve and graph linear inequalities Solve systems of linear equations and linear inequalities					
Dates (estimates only)	Smart Objectives	Instructional Strategies and Activities	NCTM/PA/CC Standards	Keystone or PSSA Anchors	Keystone / PSSA Eligible Content	Vocabulary
2 Day	SWBAT Translate verbal expressions into algebraic expressions and equations and vice versa SWBAT Solve equations using the properties of equality	Section 1.1 Solving Linear Equations <ul style="list-style-type: none"> Day 1: 1 and 2 Step Day 2 Multistep Workbook 	CC.2.2.HS.D.9	A1.1.1.1 A1.1.2.1 A1.1.2.2	A1.1.2.1.1 A1.1.2.1.2 A1.1.2.1.3	Open Sentence Equation Solution Set-Builder Notation Rate of Change Slope Slope intercept form Point Slope form Parallel Perpendicular Linear Inequality Boundary Constant System of Equations Consistent Inconsistent Independent Dependent Substitution Method Elimination Method Systems of Inequalities
2 Day	SWBAT Solve one step inequalities SWBAT Solve multistep inequalities	Section 1.2 Solving Linear Inequalities <ul style="list-style-type: none"> Workbook 	CC.2.2.HS.D.10	A1.1.3.1	A1.1.3.1.2 A1.1.3.1.3	
2 Day	SWBAT Find rate of change SWBAT Determine the slope of a line	Section 1.3 Rate of change and Slope <ul style="list-style-type: none"> Workbook 	CC.2.2.HS.C.3	A1.2.2.1 A2.1.3.2	A2.1.3.2.1 A1.2.2.1.1 A1.2.2.1.2 A1.2.2.1.4	
2 Day	SWBAT Write an equation of a line given the slope and a point on the line Write an equation of a line parallel or perpendicular to a given line	Section 1.4 Writing Linear Equations <ul style="list-style-type: none"> Workbook 	CC.2.2.HS.C.3	A1.2.2.1	A1.2.2.1.3 A1.2.2.1.4	
2 Day	SWBAT Graph linear inequalities Apply linear inequalities	Section 1.5 Graphing Linear Inequalities <ul style="list-style-type: none"> Day 1: Slope intercept form Day 2: Standard Form 	CC.2.2.HS.D.10	A1.1.3.1	A1.1.3.1.2 A1.1.3.1.3	

		<ul style="list-style-type: none"> Workbook 				
2 Days	<p>SWBAT Solve systems of linear equations graphically</p> <p>SWBAT Solve systems of linear equations algebraically</p>	<p>Section 1.6 Solving Systems of Equations</p> <ul style="list-style-type: none"> Workbook 	<p>CC.2.2.HS.B.3 CC.2.2.HS.C.6 CC.2.2.HS.C.3</p>	A1.1.2.2	<p>A1.1.2.2.1 A1.1.2.2.2</p>	
2 Day	<p>SWBAT Solve systems of linear inequalities by graphing</p> <p>SWBAT Determine the coordinates of the vertices of a region formed by the graphs of systems of inequalities</p>	<p>Section 1.7 Solving Systems of Inequalities by Graphing</p> <ul style="list-style-type: none"> Workbook 	CC.2.2.HS.D.10	A1.1.3.1	<p>A1.1.3.1.2 A1.1.3.1.3</p>	
Resources	<p>Textbook, Calculator, Desmos.com, Connected-mgrawhill.com, Youtube.com, Kutasoftware.com, workbook, group sharing, teacher teaching/modeling, chromebooks, Assessment Masters, 21st Century Assessments, and Practice Masters & Perform. Tasks Keystone Finish Line Performance, MathGames.com and IXL.com - practice activities, Vocabulary flashcards - Quizlet ,Math Notes - Math Notes Helpful videos: Khan Academy, Math-antics,</p>					
Formative Assessments	Do Nows, exit tickets, student responses, classwork, homework, pair sharing/group discussions					
Summative Assessments	Homework, quizzes, test					
Strategies for ELL and IEP Support	Use of Calculators, Simplified directions, Translation tools, Reduction in required responses, Frequent check for understandings					

Unit / Concept	Unit 2 - Relations and Functions					
Big Ideas	Linear relations and functions have straight line graphs. The rate of change of a linear function is known as the slope and can be found using any two points of a line. The equation of a line can be written whenever two points or a point and the slope are known.					
Essential Q.	How are symbols useful in mathematics? How can mathematical ideas be represented?					
Competencies	Use equations of relations and functions. Determine the slope of a line. Use scatter plots to make predictions. Graph linear equations.					
Dates (estimates only)	Smart Objectives	Instructional Strategies and Activities	NCTM/PA/CC Standards	Keystone or PSSA Anchors	Keystone / PSSA Eligible Content	Vocabulary
2 Day	SWBAT determine whether functions are one-to-one and/or onto. SWBAT determine whether functions are discrete or continuous	Section 2.1 Functions and Continuity <ul style="list-style-type: none"> Day 1: Relations Functions, Vertical Line Test Day 2: Function Notation and Evaluation Workbook 	CC.2.2.HS.B.2 CC.2.2.HS.C.1	A2.2.1.1	A2.2.1.1.1 A2.2.1.1.3	One-to-one function, onto function, discrete relation, continuous relation, vertical line test, independent variable, dependent variable, function notation, codomain
2 Day	SWBAT identify linear and nonlinear functions by examining equations or graphs SWBAT determine whether graphs of functions have linear or point symmetry	Section 2.2 Linearity and Symmetry <ul style="list-style-type: none"> Workbook 	CC.2.2.HS.B.2 CC.2.2.HS.C.1	A2.2.1.1	A2.2.1.1.1 A2.2.1.1.3	
2 Day	SWBAT identify the end behavior of graphs SWBAT identify extrema of functions	Section 2.3 Extrema and End Behavior <ul style="list-style-type: none"> Day 1: End Behavior Day 2: Max's and Min's Workbook 	CC.2.2.HS.B.2 CC.2.2.HS.C.1	A2.2.1.1 A2.2.2.1	A2.2.1.1.1 A2.2.1.1.3 A2.2.1.1.4 A2.2.2.1.3	
2 Day	SWBAT use the key features of functions to sketch graphs of linear functions SWBAT use the key features of functions to sketch graphs of nonlinear functions.	Section 2.4 Sketching Graphs of Functions <ul style="list-style-type: none"> Graphing Calculator: Link Workbook 	CC.2.2.HS.B.2 CC.2.2.HS.C.1	A2.2.1.1 A2.2.2.1	A2.2.1.1.1 A2.2.1.1.3 A2.2.1.1.3 A2.2.2.1.3	

2 Day	SWBAT graph and analyze piecewise defined functions SWBAT graph and analyze step and absolute value functions	Section 2.5 Graphing Special Functions <ul style="list-style-type: none"> Desmos Activity: Piecewise Functions Desmos Activity: Absolute Value Workbook 	CC.2.2.HS.B.2 CC.2.2.HS.C.1	A2.2.1.1	A2.2.1.1.1 A2.2.1.1.3 A2.2.1.1.4	
2 Day	SWBAT identify the effects on the graphs of functions by replacing $f(x)$ with $f(x) + k$, and $f(x-h)$ for positive and negative values. SWBAT identify the effects on the graphs of functions by replacing $f(x)$ with $af(x)$ and $-f(x)$	Section 2.6 Transformations of Functions <ul style="list-style-type: none"> Workbook 	CC.2.2.HS.C.4	A2.1.3.1 A2.2.2.2	A2.1.3.1.1 A2.2.2.2.1	
2 Day	SWBAT find x- and y-intercepts of functions SWBAT solve equations by examining graphs of the related functions	Section 2.7 Solving Equations by Graphing <ul style="list-style-type: none"> Workbook 	CC.2.2.HS.C.2 CC.2.2.HS.C.3 CC.2.2.HS.D.10	A2.1.3.1	A2.1.3.1.1	
Resources	Textbook, Calculator, Desmos.com, Connected-mgrawhill.com, Youtube.com, Kutasoftware.com, workbook, group sharing, teacher teaching/modeling, chromebooks, Assessment Masters, 21st Century Assessments, and Practice Masters & Perform. Tasks Keystone Finish Line Performance, MathGames.com and IXL.com - practice activities, Vocabulary flashcards - Quizlet ,Math Notes - Math Notes Helpful videos: Khan Academy, Math-antics,					
Formative Assessments	Do Nows, exit tickets, student responses, classwork, homework, pair sharing/group discussions					
Summative Assessments	Homework, quizzes, test					
Strategies for ELL and IEP Support	Use of Calculators,Simplified directions,Translation tools,Reduction in required responses,Frequent check for understandings					

Unit / Concept	Unit 3 - Quadratic Functions					
Big Ideas	Quadratic Equations can be solved by graphing, factoring, and by using the quadratic formula.					
Essential Q.	Why do we use different methods to solve math problems?					
Competencies	Graph quadratic functions. Solve quadratic equations Perform operations with complex numbers					
Dates (estimates only)	Smart Objectives	Instructional Strategies and Activities	NCTM/PA/CC Standards	Keystone or PSSA Anchors	Keystone / PSSA Eligible Content	Vocabulary
2 Day	SWBAT Use the FOIL method to multiply binomials	Section 0.2 FOIL • Workbook	CC.2.2.HS.D.1	A2.1.2.2	A2.1.2.2.1	FOIL method Binomial Polynomial
2 Days	SWBAT Use various techniques to factor polynomials	Section 0.3 Factoring Polynomials Desmos Activity: Link • Workbook	CC.2.2.HS.D.1	A2.1.2.2	A2.1.2.2.1	Trinomial Factored Form Quadratic Function
2 Days	SWBAT Write quadratic equations in standard form. SWBAT Solve quadratic equations by factoring.	Section 3.4 Solving Quadratic Equations by Factoring • Workbook	CC.2.2.HS.D.1 CC.2.2.HS.D.2 CC.2.2.HS.D.10	A2.1.2.2	A2.1.2.2.1	Quadratic Term Constant Term Parabola Linear Term Axis of Symmetry
2 Day	SWBAT Graph quadratic functions SWBAT Find and interpret the maximum and minimum values of a quadratic function.	Section 3.1 Graphing Quadratic Equations Desmos Activity: Will It Hit the Hoop? • Workbook	CC.2.2.HS.C.2	A2.2.1.1 A2.2.2.1	A2.2.1.1.1 A2.2.1.1.3 A2.2.1.1.4 A2.2.2.2.1	Maximum Value Minimum Value Quadratic Equation Standard Form Root
2 Day	SWBAT Solve quadratic functions by graphing SWBAT Estimate solutions of quadratic equations by graphing	Section 3.2 Solving Quadratic Equations by Graphing • Workbook	CC.2.2.HS.C.2 CC.2.2.HS.D.10	A2.1.3.1	A2.1.3.1.1	Zero Imaginary Unit Pure Imaginary Number Complex Number Complex
2 Day	SWBAT Perform operations with	Section 3.3 Complex Numbers	CC.2.1.H.F.6	A2.1.1.1	A2.1.1.1.1	Conjugates Quadratic

	pure imaginary numbers SWBAT Perform operations with complex	<ul style="list-style-type: none"> Workbook 		A2.1.1.2	A2.1.1.1.2 A2.1.1.2.1 A2.1.1.2.2	Formula Discriminant
2 Day	SWBAT Solve quadratic equations by using the quadratic formula SWBAT Use the discriminant to determine the number and type of roots of a quadratic equation.	Section 3.6 The Quadratic Formula and the discriminant <ul style="list-style-type: none"> Workbook 	CC.2.2.HS.D.10	A2.1.3.1	A2.1.3.1.1	
Resources	Textbook, Calculator, Desmos.com, Connected-mgrawhill.com, Youtube.com, Kutasoftware.com, workbook, group sharing, teacher teaching/modeling, chromebooks, Assessment Masters, 21st Century Assessments, and Practice Masters & Perform. Tasks Keystone Finish Line Performance, MathGames.com and IXL.com - practice activities, Vocabulary flashcards - Quizlet ,Math Notes - Math Notes Helpful videos: Khan Academy, Math-antics,					
Formative Assessments	Do Nows, exit tickets, student responses, classwork, homework, pair sharing/group discussions					
Summative Assessments	Homework, quizzes, test					
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Unit / Concept	Unit 4 -Polynomials & Polynomial Functions					
Big Ideas	An expression made up of a sum of monomials that contain one variable is called a polynomial in one variable. Pascal's Triangle is an easy way to find the coefficients of the expansion of the powers of binomials. Tables of values can be used to explore graphs of polynomial functions. Factoring, synthetic division, and Descartes Rule of Signs can be used to solve equations or find the zeros of polynomial functions.					
Essential Q.	How are symbols useful in mathematics? Why is math used to solve real-world situations?					
Competencies	Add, subtract, multiply and factor polynomials Analyze and graph polynomial functions Evaluate polynomial functions and solve polynomial equations Find factors and zeros of polynomial functions.					
Dates (estimates only)	Smart Objectives	Instructional Strategies and Activities	NCTM/PA/CC Standards	Keystone or PSSA Anchors	Keystone / PSSA Eligible Content	Vocabulary
2 Day	SWBAT Multiply, divide, and simplify monomials, and expressions, involving powers SWBAT add, subtract, and multiply polynomials	Section 4.1 Operations with Polynomials • Workbook	CC.2.2.HS.D.3	A2.1.2.2	A2.1.2.2.2	Simplify, degree of a polynomial, Pascal's triangle, synthetic division, Location Principle, relative maximum, relative minimum, extrema, turning points, prime polynomials, quadratic form, polynomial identity, synthetic substitution, depressed polynomial
2 Day	SWBAT Use Pascal's Triangle to expand powers of binomials SWBAT Use the binomial theorem to expand powers of binomials.	Section 4.2 Powers of Binomials • Workbook	CC.2.2.HS.C.1 CC.2.4.HS.B.2	A2.2.1.1	A2.2.1.1.1	
3 Day	SWBAT Divide polynomials using long division SWBAT divide polynomials using synthetic division	Section 4.3 Dividing Polynomials • Day 1: Monomials and reinforce regular long division • Day 2: Long Division Polynomial • Day 3: Synthetic • Workbook	CC.2.2.HS.D.3	A2.1.2.2	A2.1.2.2.2	
2 Day	SWBAT Evaluate polynomial functions SWBAT Identify general shapes of graphs of polynomial functions.	Section 4.4 Graphing Polynomials Functions • Graphing Calculator: Link • Workbook	CC.2.2.HS.C.2	A2.1.3.1 A2.2.1.1 A2.2.2.1 A2.2.2.2	A2.1.3.1.1 A2.2.1.1.1 A2.2.1.1.3 A2.2.1.1.4 A2.2.2.1.1	

2 Day	SWBAT graph polynomial functions and locate their zeros SWBAT find the relative maxima and minima of polynomial functions.	Section 4.5 Analyzing the Graphs of Polynomial Functions <ul style="list-style-type: none"> • Workbook 	CC.2.2.HS.C.2	A2.1.3.1 A2.2.2.1	A2.1.3.1.1 A2.2.2.2.1	
2 Day	SWBAT factor polynomials SWBAT solve polynomial equations by factoring	Section 4.6 Solving Polynomial Equations <ul style="list-style-type: none"> • Workbook 	CC.2.2.HS.C.2 CC.2.2.HS.D.10	A2.1.3.1	A2.1.3.1.1	
3 Day	SWBAT evaluate functions by using synthetic substitution SWBAT determine whether a binomial is a factor of a polynomial by using synthetic division.	Section 4.8 The Remainder and Factor Theorem <ul style="list-style-type: none"> • Workbook 	CC.2.2.HS.D.1	A2.1.2.2	A2.1.2.2.2	
2 Day	SWBAT determine the number and type of roots for a polynomial equation SWBAT the zeros of a polynomial function.	Section 4.9 Roots and Zeros <ul style="list-style-type: none"> • Include Fundamental Theorem of Algebra • Workbook 	CC.2.2.HS.D.10	A2.1.3.1	A2.1.3.1.1	
Resources	Textbook, Calculator, Desmos.com, Connected-mgrawhill.com, Youtube.com, Kutasoftware.com, workbook, group sharing, teacher teaching/modeling, chromebooks, Assessment Masters, 21st Century Assessments, and Practice Masters & Perform. Tasks Keystone Finish Line Performance, MathGames.com and IXL.com - practice activities, Vocabulary flashcards - Quizlet ,Math Notes - Math Notes Helpful videos: Khan Academy, Math-antics,					
Formative Assessments	Do Nows, exit tickets, student responses, classwork, homework, pair sharing/group discussions					
Summative Assessments	Homework, quizzes, test					
Strategies for ELL and IEP Support	Use of Calculators, Simplified directions, Translation tools, Reduction in required responses, Frequent check for understanding					

Unit / Concept	Unit 5 - Inverses and Radical Functions					
Big Ideas	The inverse of a function can be found by exchanging the domain and range of the function. Functions with a variable under a radical symbol are allied radical functions.					
Essential Q.	How can you choose a model to represent a set of data?					
Competencies	Find compositions and inverses of functions Graph and analyze square root functions and inequalities Simplify and solve equations involving roots, radicals, and rational exponents					
Dates (estimates only)	Smart Objectives	Instructional Strategies and Activities	NCTM/PA/CC Standards	Keystone or PSSA Anchors	Keystone / PSSA Eligible Content	Vocabulary
2 Day	SWBAT Perform arithmetic operations with functions SWBAT Apply arithmetic operations with functions	Section 5.1 Operations with Functions <ul style="list-style-type: none"> • Workbook 	CC.2.2.HS.D.3	A2.1.2.2	A2.1.2.2.2	Composition of functions Inverse Relations Inverse Function Square Root Functions Radical Function Cube Root Function Inflection Point Radical Equation Extraneous Solution Radical Inequality
3 Day	SWBAT Perform compositions of functions SWBAT Apply compositions of functions	Section 5.2 Composition of Functions <ul style="list-style-type: none"> • Day 1: Only Numbers • Day 2: Mix in some variables • Day 3: Mostly expressions • Workbook 	CC.2.2.HS.D.3	A2.1.2.2	A2.1.2.2.2	
2 Days	SWBAT Find the inverse of a function or relation SWBAT Determine whether two functions or relations are inverses	Section 5.3 Inverse Functions and Relation <ul style="list-style-type: none"> • Workbook 	CC.2.2.HS.C.1	A2.2.1.1	A2.2.1.1.3	
2 Day	SWBAT Graph square root functions SWBAT Analyze square root functions	Section 5.4 Graphing Square Root Functions <ul style="list-style-type: none"> • Graphing Calculator: Link • Workbook 	CC.2.2.HS.C.2	A2.1.3.1 A2.2.1.1 A2.2.2.2	A2.1.3.1.2 A2.2.1.1.1 A2.2.1.1.3 A2.2.1.1.4 A2.2.2.2.1	
2 Day	SWBAT Graph cube root functions SWBAT Analyze cube root functions	Section 5.5 Graphing Cube Root Functions <ul style="list-style-type: none"> • Graphing Calculator: Link • Workbook 	CC.2.2.HS.C.2	A2.1.3.1 A2.2.1.1 A2.2.2.2	A2.1.3.1.2 A2.2.1.1.1 A2.2.1.1.3 A2.2.1.1.4 A2.2.2.2.1	

3 Day	SWBAT Solve equations containing radicals SWBAT Solve inequalities containing radicals	Section 5.6 Solving Rational Equations <ul style="list-style-type: none"> • Workbook 	CC.2.2.HS.C.2 CC.2.2.HS.D.10	A2.1.3.1	A2.1.3.1.2	
Resources	Textbook, Calculator, Desmos.com, Connected-mgrawhill.com, Youtube.com, Kutasoftware.com, workbook, group sharing, teacher teaching/modeling, chromebooks, Assessment Masters, 21st Century Assessments, and Practice Masters & Perform. Tasks Keystone Finish Line Performance, MathGames.com and IXL.com - practice activities, Vocabulary flashcards - Quizlet ,Math Notes - Math Notes Helpful videos: Khan Academy, Math-antics,					
Formative Assessments	Do Nows, exit tickets, student responses, classwork, homework, pair sharing/group discussions					
Summative Assessments	Homework, quizzes, test					
Strategies for ELL and IEP Support	Use of Calculators,Simplified directions,Translation tools,Reduction in required responses,Frequent check for understandings					

Unit / Concept	Unit 6 - Rational Functions					
Big Ideas	Rational expressions are ratios of two polynomial expressions. Operations with rational expressions are similar to operations with fractions. The graph of some rational functions have breaks in continuity and may have vertical and horizontal asymptotes. Rational equations can be solved as polynomial equations once the fractions are eliminated by the LCD.					
Essential Q.	Why are graphs useful?					
Competencies	Simplify rational expressions Graph rational functions Solve, direct, joint, and inverse variation problems Solve rational equations and inequalities					
Dates (estimates only)	Smart Objectives	Instructional Strategies and Activities	NCTM/PA/CC Standards	Keystone or PSSA Anchors	Keystone / PSSA Eligible Content	Vocabulary
2 Days	SWBAT Simplify rational expressions SWBAT Simplify complex fractions	Section 7.1 Multiplying and Dividing Rational Expressions <ul style="list-style-type: none"> • Workbook 	CC.2.2.HS.D.3	A2.1.2.2	A2.1.2.2.2	Rational Expression Complex Fraction
3 Days	SWBAT Determine the LCM of polynomials SWBAT Add and subtract rational expressions	Section 7.2 Adding and Subtracting Rational Expressions <ul style="list-style-type: none"> • Day 1: Add/Subtract fractions. • Day 2: Add/Subtract Rationals with common denominator • Day 3: Add/Subtract with uncommon denominator • Workbook 	CC.2.2.HS.D.3	A2.1.2.2	A2.1.2.2.2	Reciprocal Function Hyperbola Rational Function Vertical Asymptote Horizontal Asymptote
3 Days	SWBAT Determine properties of reciprocal functions SWBAT Graph transformations of reciprocal functions	Section 7.3 Graphing Reciprocal Functions <ul style="list-style-type: none"> • Graphing Calculator: Link • Workbook 	CC.2.2.HS.C.2	A2.1.3.1 A2.2.1.1 A2.2.2.2	A2.1.3.1.2 A2.2.1.1.1 A2.2.1.1.3 A2.2.1.1.4 A2.2.2.2.1	Oblique Asymptote Point Discontinuity Direct Variation Constant of Variation
3 Days	SWBAT Graph rational functions with vertical and horizontal asymptotes SWBAT Graph rational functions with oblique asymptotes and point discontinuity	Section 7.4 Graphing Rational Functions <ul style="list-style-type: none"> • Graphing Calculator: Link • Workbook 	CC.2.2.HS.C.2	A2.1.3.1 A2.2.1.1 A2.2.2.2	A2.1.3.1.2 A2.2.1.1.1 A2.2.1.1.3 A2.2.1.1.4 A2.2.2.2.1	Joint Variation Inverse Variation Combined Variation Rational Equation

3 Day	SWBAT Recognize and solve direct and joint variation SWBAT Recognize and solve inverse and combined variation problems	Section 7.5 Variation Functions <ul style="list-style-type: none"> Day 1: Direct and Joint Day 2: Indirect and Combined Day 3: Word Problems Workbook 	CC.2.2.HS.C.2	A2.1.3.2	A2.1.3.2.1	Weighted Average Rational Inequality
4 Day	SWBAT Solve Rational Equations SWBAT Solve Rational Inequalities	Section 7.6 Solving Rational Equations and Inequalities <ul style="list-style-type: none"> 2 Days Equations 2 Days Inequalities Workbook 	CC.2.2.HS.C.2 CC.2.2.HS.D.10	A2.1.3.1	A2.1.3.1.1	
Resources	Textbook, Calculator, Desmos.com, Connected-mgrawhill.com, Youtube.com, Kutasoftware.com, workbook, group sharing, teacher teaching/modeling, chromebooks, Assessment Masters, 21st Century Assessments, and Practice Masters & Perform. Tasks Keystone Finish Line Performance, MathGames.com and IXL.com - practice activities, Vocabulary flashcards - Quizlet ,Math Notes - Math Notes Helpful videos:Khan Academy, Math-antics,					
Formative Assessments	Do Nows, exit tickets, student responses, classwork, homework, pair sharing/group discussions					
Summative Assessments	Homework, quizzes, test					
Strategies for ELL and IEP Support	Use of Calculators,Simplified directions,Translation tools,Reduction in required responses,Frequent check for understandings					

Unit / Concept	Unit 7 - Exponential & Logarithmic Functions					
Big Ideas	An exponential equation is in the form $y = b^x$ where $b > 0$ and b does not equal 1. The equation represents exponential growth when $b > 1$ and exponential decay when $0 < b < 1$. The inverse of an exponential function is the logarithmic function.					
Essential Q.	How can you make good decisions? What factors can affect good decision making?					
Competencies	Graph exponential and logarithmic functions Solve exponential and exponential and logarithmic equations and inequalities Solve problems involving exponential growth and decay.					
Dates (estimates only)	Smart Objectives	Instructional Strategies and Activities	NCTM/PA/CC Standards	Keystone or PSSA Anchors	Keystone / PSSA Eligible Content	Vocabulary
2 Day	SWBAT graph exponential growth functions SWBAT graph exponential decay functions	Section 6.1 Graphing Exponential Functions <ul style="list-style-type: none"> Graphing Calculator: Link Workbook 	CC.2.2.HS.C.2	A2.2.1.1 A2.2.2.1 A2.2.2.2	A2.2.1.1.1 A2.2.1.1.3 A2.2.1.1.4 A2.2.2.1.2 A2.2.2.2.1	Exponential growth Asymptote Growth factor Exponential decay
2 Day	SWBAT solve exponential equations SWBAT Solve exponential inequalities	Section 6.2 Solving Exponential Equations and Inequalities <ul style="list-style-type: none"> Workbook 	CC.2.2.HS.C.2 CC.2.2.HS.D.1	A2.1.3.1	A2.1.3.1.3	Decay factor Exponential equation Exponential inequality
2 Day	SWBAT solve exponential equations SWBAT Solve exponential inequalities	Section 6.4 Logarithms and Logarithmic Functions <ul style="list-style-type: none"> Graphing Calculator: Link Workbook 	CC.2.2.HS.C.6	A2.2.2.1	A2.2.2.1.2	Logarithm Logarithmic function Change of base formula
2 Day	SWBAT simplify and evaluate expressions using the properties of logarithms SWBAT Solve logarithmic equations using the properties of logarithms	Section 6.6 Properties of Logarithms <ul style="list-style-type: none"> Workbook 	CC.2.2.HS.C.6	A2.2.2.1	A2.2.2.1.2	Natural base Natural log Rate of continuous growth
2 Day	SWBAT solve exponential equations and inequalities using common logarithms. SWBAT Solve logarithmic	Section 6.7 Common Logarithms <ul style="list-style-type: none"> Workbook 	CC.2.2.HS.C.6	A2.2.2.1	A2.2.2.1.2	

	expressions using the Change of Base Formula					
Resources	Textbook, Calculator, Desmos.com, Connected-mgrawhill.com, Youtube.com, Kutasoftware.com, workbook, group sharing, teacher teaching/modeling, chromebooks, Assessment Masters, 21st Century Assessments, and Practice Masters & Perform. Tasks Keystone Finish Line Performance, MathGames.com and IXL.com - practice activities, Vocabulary flashcards - Quizlet ,Math Notes - Math Notes Helpful videos: Khan Academy, Math-antics,					
Formative Assessments	Do Nows, exit tickets, student responses, classwork, homework, pair sharing/group discussions					
Summative Assessments	Homework, quizzes, test					
Strategies for ELL and IEP Support	Use of Calculators,Simplified directions,Translation tools,Reduction in required responses,Frequent check for understandings					

