

Standard(s)	Unit/Topic	Essential Skills: What do students absolutely need for the next level?	Resources Used	Assessment
<p>A.SSE Interpret the structure of expressions. Write expressions in equivalent forms to reveal their characteristics.</p> <p>A.REI (Equations only) Understand solving equations as a process of reasoning and explain the reasoning. Solve equations in one variable. Represent and solve equations graphically</p> <p>F.IF.C - Analyze functions using different representations.</p>	<p>Algebra 1 Review (September)</p>	<ul style="list-style-type: none"> • Represent explicit equations in 4 ways: <ul style="list-style-type: none"> -In words -equation form -graphically -In a table • Manipulate equations using a combination of: adding, subtracting, combining like terms, multiplying, dividing • Evaluate basic expressions following proper order of operations PEMDAS 	<ul style="list-style-type: none"> • Emathinstrction - Algebra 2 Curriculum • All Things Algebra – Algebra 2 Curriculum • Youtube videos by: Brian McLogan, The Organic Chemistry Tutor, others • Jmap - Algebra 1 Regents Exam Items • Delta Math • IXL • Desmos 	<ul style="list-style-type: none"> • Delta Math • IXL • Desmos • Formative in-class activities <p>Written / Multiple Choice exam</p>

<p>A.REI.A - Understand solving equations as a process of reasoning and explain the reasoning. A.REI.D - Represent and solve equations and inequalities graphically. A.SSE.B - Write expressions in equivalent forms to solve problems. A.SSE.A - Interpret the structure of expressions. F.BF.A - Build a function that models a relationship between two quantities. F.BF.B - Build new functions from existing functions. F.IF.B - Interpret functions that arise in applications in terms of the context. F.IF.C - Analyze functions using different representations.</p>	<p>Linear Functions and Applications (October)</p>	<p>-Manipulate equations and explain -Equation graph is set of all solutions -Key Features of graph -Solutions to sets of equations (different types) -Change forms of equations -Function notation -Equivalent forms of the equation</p>	<ul style="list-style-type: none"> • Emathinstrction - Algebra 2 Curriculum • All Things Algebra – Algebra 2 Curriculum • Youtube videos by: Brian McLogan, The Organic Chemistry Tutor, others • Jmap - Algebra 2 Regents Exam Items • Delta Math • IXL • Desmos • 	<ul style="list-style-type: none"> • Delta Math • IXL • Desmos • Formative in-class activities <p>Written / Multiple Choice exam</p>
<p>A.REI.A - Understand solving equations as a process of reasoning and explain the reasoning. A.REI.D - Represent and solve equations and inequalities graphically.</p>	<p>Quadratics (October – November)</p>	<p>-Explain steps when manipulating the equation -Find solutions to systems involving quadratics -Solve equations to find zeroes (factor, complete</p>	<ul style="list-style-type: none"> • Emathinstrction - Algebra 2 Curriculum • All Things Algebra – Algebra 2 Curriculum • Youtube videos by: Brian McLogan, The Organic Chemistry Tutor, others 	<ul style="list-style-type: none"> • Delta Math • IXL • Desmos • Formative in-class activities <p>Written / Multiple Choice exam</p>

<p>A.SSE.B - Write expressions in equivalent forms to solve problems. A.SSE.A - Interpret the structure of expressions. F.BF.A - Build a function that models a relationship between two quantities. F.IF.B - Interpret functions that arise in applications in terms of the context. F.IF.C - Analyze functions using different representations. F.BF.B - Build new functions from existing functions.</p>		<p>the square, graph, using square root) -Rewrite the function using its structure -Write equation from word problem -Combine/compose functions -Key features and meaning in application problems</p>	<ul style="list-style-type: none"> • Jmap - Algebra 2 Regents Exam Items • Delta Math • IXL • Desmos 	
<p>A.REI.A - Understand solving equations as a process of reasoning and explain the reasoning. A.REI.D - Represent and solve equations and inequalities graphically. A.SSE.B - Write expressions in equivalent forms to solve problems. A.SSE.A - Interpret the structure of expressions. F.IF.B - Interpret functions that arise in</p>	<p>Polynomials (November – December)</p>	<p>-Explain steps when manipulating -Graph is set of all solutions -Systems that intersect -Rewrite in equivalent forms -Key features -graph polynomials: Factors, zeroes, end behavior -Find zeroes. Use zeroes to sketch a graph -Compare polynomials in different forms</p>	<ul style="list-style-type: none"> • Emathinstrction - Algebra 2 Curriculum • All Things Algebra – Algebra 2 Curriculum • Youtube videos by: Brian McLogan, The Organic Chemistry Tutor, others • Jmap - Algebra 2 Regents Exam Items • Delta Math • IXL • Desmos 	<ul style="list-style-type: none"> • Delta Math • IXL • Desmos • Formative in-class activities <p>Written / Multiple Choice exam Project</p>

<p>applications in terms of the context. F.IF.C - Analyze functions using different representations. F.BF.B - Build new functions from existing functions. A.APR.B - Understand the relationship between zeros and factors of polynomials.</p>		<p>-Transformations and relationships between types of polynomials</p>		
<p>A.REI.D - Represent and solve equations and inequalities graphically. A.SSE.A - Interpret the structure of expressions. F.IF.B - Interpret functions that arise in applications in terms of the context. F.IF.C - Analyze functions using different representations. F.BF.B - Build new functions from existing functions. A.REI.A - Understand solving equations as a process of reasoning and explain the reasoning.</p>	<p>Rational Equations and Radicals (January)</p>	<p>-Solve/manipulate radical equations using inverse operations -Graph and analyze systems including radicals and rational equations -View parts of equation as single unit (ex: denominator, products) -Rewrite expressions and equations -Key features of radical graphs -Domain of equations -Solve Equations; explain extraneous solutions</p>	<ul style="list-style-type: none"> • Emathinstrction - Algebra 2 Curriculum • All Things Algebra – Algebra 2 Curriculum • Youtube videos by: Brian McLogan, The Organic Chemistry Tutor, others • Jmap - Algebra 2 Regents Exam Items • Delta Math • IXL • Desmos 	<ul style="list-style-type: none"> • Delta Math • IXL • Desmos • Formative in-class activities <p>Written / Multiple Choice exam Project</p>

<p>A.REI.D - Represent and solve equations and inequalities graphically. A.SSE.B - Write expressions in equivalent forms to solve problems. A.SSE.A - Interpret the structure of expressions. F.BF.A - Build a function that models a relationship between two quantities. F.BF.B - Build new functions from existing functions. F.IF.B - Interpret functions that arise in applications in terms of the context. F.IF.C - Analyze functions using different representations. F.BF.B - Build new functions from existing functions.</p>	<p>Exponentials and Logs (February)</p>	<p>-Graph equations -Systems of equations -Recognize pieces of the equations and their meaning in real world context -Rewrite using properties of exponents -Inverse relationships between Exponential and Log functions -Combine function types -Graph showing Key features of graph -Interpret expressions using properties of exponents to rewrite expression -Compare different forms</p>	<ul style="list-style-type: none"> • Emathinstrction - Algebra 2 Curriculum • All Things Algebra – Algebra 2 Curriculum • Youtube videos by: Brian McLogan, The Organic Chemistry Tutor, others • Jmap - Algebra 2 Regents Exam Items • Delta Math • IXL • Desmos 	<ul style="list-style-type: none"> • Delta Math • IXL • Desmos • Formative in-class activities <p>Written / Multiple Choice exam Project – Real world examples</p>
<p>F.IF.B - Interpret functions that arise in applications in terms of the context. F.IF.C - Analyze functions using different representations.</p>	<p>Trig Functions (March)</p>	<p>-Unit circle basics -Measure angles in Degrees and Radians -Properties of Triangles -Identify key features of graphs -Transformations</p>	<ul style="list-style-type: none"> • Emathinstrction - Algebra 2 Curriculum • All Things Algebra – Algebra 2 Curriculum • Youtube videos by: Brian McLogan, The Organic Chemistry Tutor, others 	<ul style="list-style-type: none"> • Delta Math • IXL • Desmos • Formative in-class activities <p>Written / Multiple Choice exam Project – modeling trig functions</p>

<p>F.BF.B - Build new functions from existing functions.</p>			<ul style="list-style-type: none"> • Jmap - Algebra 2 Regents Exam Items • Delta Math • IXL • Desmos 	
<p>S.IC.B - Make inferences and justify conclusions from sample surveys, experiments, and observational studies</p>	<p>Statistics and Probability (April)</p>	<p>-Basic Probability rules (Conditional, etc.) -Probability in real life -Bell curve and standard deviation percentages -Vocabulary -Analyze sample data using bell curve -Identify statistical significance</p>	<ul style="list-style-type: none"> • Emathinstrction - Algebra 2 Curriculum • All Things Algebra – Algebra 2 Curriculum • Youtube videos by: Brian McLogan, The Organic Chemistry Tutor, others • Jmap - Algebra 2 Regents Exam Items • Delta Math • IXL • Desmos 	<ul style="list-style-type: none"> • Delta Math • IXL • Desmos • Formative in-class activities <p>Written / Multiple Choice exam Project – conducting a data study</p>
<p>F.BF.A - Build a function that models a relationship between two quantities.</p>	<p>Series (April – May)</p>	<p>-Arithmetic and Geometric definitions -Different forms: function, explicit, recursive, sigma -Identify patterns</p>	<ul style="list-style-type: none"> • Emathinstrction - Algebra 2 Curriculum • All Things Algebra – Algebra 2 Curriculum • Youtube videos by: Brian McLogan, The Organic Chemistry Tutor, others • Jmap - Algebra 2 Regents Exam Items • Delta Math • IXL • Desmos 	<ul style="list-style-type: none"> • Delta Math • IXL • Desmos • Formative in-class activities <p>Written / Multiple Choice exam Project – Modeling series</p>

Subject: Algebra 2

Grade: 11th grade, 10th grade accelerated

Month : Full Year class

<p>Algebra 2 State Standards for NYS (pg 139 – 156)</p>	<p>Regents Review (May – June)</p>	<p>-Key Regents topics -Regents strategies -Calculator use</p>	<ul style="list-style-type: none">• Emathinstrction - Algebra 2 Curriculum• All Things Algebra – Algebra 2 Curriculum• Youtube videos by: Brian McLogan, The Organic Chemistry Tutor, others• Jmap - Algebra 2 Regents Exam Items• Delta Math• IXL	<p>Algebra 2 Regents Exam (examples)</p>
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