Grade 8 Math Curriculum Map

Standards	**Content**	**Skills/Practices**	**Materials/ Resources**	**Assessments (All)** Daily/Weekly/Benchmarks	**Timeline** (Months/ Weeks/ Days)

8.EE.7 MP.1 MP.2 MP.3 MP.4 MP.7	Solving Equations	**-1 Step/2 Step Equations** ● I can solve linear equations in one variable. ● I can check the solution to an equation. -**Variables on Both Sides/Classify Solutions** ● I can explain the differences between one solution, no solution, and infinitely many. ● I can solve a linear equation with infinitely many solutions, no solutions, and one solution. -**Distributive Property** ● I can simplify equations using the distributive property and inverse operations. -**Combining Like Terms** ● I can simplify equations by combining like terms and inverse operations. -**Translating and Solving Equations** ● I can translate and solve multi-step linear equations with rational number coefficients.	**Eureka Math Grade 8 Module 4 - Linear Equations**	**Formative:** -Bell-Ringers/Do-Nows, Exit Tickets, Observation of Class Work **Summative:** -1 Quiz, 1 Test	8 Days

<table>
<tr>
<td>8.EE.5,
8.EE.6,
8.EE.8

MP.1
MP.2
MP.3
MP.4
MP.7</td>
<td>Linear Equations</td>
<td>-Constant Rates
I can compare two different proportional relationships represented in different ways (graph vs. table vs. equation vs. verbal description).
-Slope
I can describe unit rate as the slope of a graph.
I can identify the slope of a linear relationship from equations, tables, and graphs.
-Graphing (Table of Values; y=mx+b)
I can determine the slope of a line by counting the rise over the run of the given line.
I can explain slope as a constant rate of change (rise over run).
I can explain why the slope of a line is the same for any two points on the graph using rise over run.
I can, given a line that passes the vertical axis at point other than the origin, write the equation for the line in the form y = mx + b, where the slope is found using rise over run and b is where the line intercepts the vertical axis.
I can, given a line that passes through the origin, write the equation for the line in the form y =mx, where the slope is found using rise over run.</td>
<td>Eureka Math Grade 8 Module 4 - Linear Equations</td>
<td>Formative:
-Bell-Ringers/Do-Nows, Exit Tickets, Observation of Class Work

Summative:
-2 Quizzes, 1 Test</td>
<td>13 Days</td>
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		-Slope Intercept Form (solve for y) ● I can write the equation for the line in the form y =mx+b **-Identifying Graphs** ● I can, given a line that passes the vertical axis at a point other than the origin, write the equation for ● the line in the form y = mx + b, where the slope is found using rise over run and b is where the line intercepts the vertical axis. **-Identifying Lines Given 2 Points**	**Eureka Math Grade 8 Module 4 - Linear Equations**		
8.EE.8a 8.EE.8b 8.EE.8c MP.1 MP.2 MP.3 MP.4 MP.7	Systems of Equations	**-Graphing** ● I can define the solution to a linear system of equations as the intersection point on a graph. ● I can graph a system of linear equations. ● I can identify the point of intersection to a system of linear equations. **-Solving (Substitution/Elimination)** ● I can solve a system of linear equations algebraically with one solution. **-Translating (Word**	**Eureka Math Grade 8 Module 4 - Linear Equations** **Eureka Math**	**Formative:** -Bell-Ringers/Do-Nows, Exit Tickets, Observation of Class Work **Summative:** -2 Assessments	10 Days

		Problems/Situations) ● I can solve a system of linear equations created from a word problem. ● I can write a system of linear equations from a word problem. -**Classifying Solutions (One/None/Infinite)** ● I can solve a system of linear equations algebraically with infinitely many solutions, no solution, and one solution. ● I can solve simple systems of linear equations by inspection.	**Grade 8 Module 4 - Linear Equations**		
CFA #1 (Date Determined by BOCES Regional Collaboration)- 1 Day					
8.G.5 MP.2 MP.3 MP.5 MP.6	Angles	**-Angle Pairs** **-Parallel Lines** ● I can prove/explain why alternate exterior, alternate interior, and corresponding angles are congruent. **-Triangles (Sum and Exterior)** ● I can prove/explain the exterior angle theorem of a triangle. ● I can prove/explain why the three angles of a triangle equal 180	**Eureka Math Grade 8 Module 2 - The Concept of Congruence**	**Formative:** -Bell-Ringers/Do-Nows, Exit Tickets, Observation of Class Work **Summative:** -1 Quiz	5 Days

8.G.1, 8.G.2, 8.G.3, 8.G.4 MP.2 MP.3 MP.5 MP.6	Rigid Motions	**-Reflections, Rotations, Translations, Sequences** ● I can explain the preservation of the sides of a figure through a given transformation. ● I can identify corresponding parts between a figure and its image using prime notation. ● I can show that lines are taken to lines and line segments are taken to line segments. ● I can translate, rotate, and reflect lines and line segments. ● I can identify corresponding parts between a figure and its image using prime notation. ● I can measure angles using a protractor. ● I can show that angles are taken to angles of the same measure. ● I can translate, rotate, and reflect geometric shapes on a coordinate plane. ● I can describe the sequence of transformations that occurred from the original 2D figure to the ● image.	**Eureka Math Grade 8 Module 2 - The Concept of Congruence**	**Formative:** -Bell-Ringers/Do-Nows, Exit Tickets, Observation of Class Work **Summative:** -1 Quiz, 1 Test	10 Days
8.G.1, 8.G.2,	Similarity	**-Dilations** ● I can describe the effect of	**Eureka Math Grade 8**	**Formative:** -Bell-Ringers/Do-Nows,	6 Days

8.G.3, 8.G.4 MP.3 MP.4 MP.6 MP.8		dilating a two-dimensional figure using coordinates. ● I can dilate a two-dimensional figure using coordinates. -**Sequences** ● I can describe the sequence of transformations that occurred from the original 2D figure to the image to show the similarity. ● I can explain the preservation of similarity when a figure is dilated, rotated, reflected, and/or translated	**Module 3 - Similarity Eureka Math Grade 8 Module 3 - Similarity**	Exit Tickets, Observation of Class Work **Summative:** -1 Quiz, 1 Test	
8.EE.1 MP.2 MP.3 MP.6 MP.7 MP.8	Exponents	-**Multiply and Divide** ● I can divide the numerical expressions with integer exponents with like bases by subtracting the exponents. ● I can evaluate numerical expressions with integer exponents. ● I can multiply numerical expressions with integer exponents with like bases by adding the exponents. -**Power Raised to a Power** ● I can evaluate numerical expressions by multiplying powers and exponents -**Negative/Zero Power** ● I can write a numerical	**Eureka Math Grade 8 Module 1 - Integer Exponents and Scientific Notation** **Eureka Math Grade 8**	**Formative:** -Bell-Ringers/Do-Nows, Exit Tickets, Observation of Class Work **Summative:** -1 Quiz, 1 Test	6 Days

		expression with a negative exponent as an equivalent numerical expression with a positive exponent (write the base as a fraction).	**Module 1 - Integer Exponents and Scientific Notation**		
CFA #2 (Date Determined by BOCES Regional Collaboration)- 1 Day					
8.EE.3 8.EE.4 MP.2 MP.3 MP.6 MP.7 MP.8	Scientific Notation	**-Add, Subtract, Multiply and Divide** ● I can expand numbers written in scientific notation into standard form. ● I can rewrite numbers in standard form in scientific notation. ● I can add, subtract, multiply, and divide numbers written in scientific notation, applying laws of exponents. **-Word Problems** **-Ordering/Comparing** ● I can compare the magnitude (size) of 2 or more numbers written in scientific notation. ● I can divide numbers in scientific notation to compare their sizes.	**Eureka Math Grade 8 Module 1 - Integer Exponents and Scientific Notation**	**Formative:** -Bell-Ringers/Do-Nows, Exit Tickets, Observation of Class Work **Summative:** -2 Quizzes, 1 Test (CFA)	11 Days
8.F.1 8.F.2	Functions	**-What it is/is not** ● I can define the x-coordinate	**Eureka Math Grade 8**	**Formative:** -Bell-Ringers/Do-Nows,	14 Days

8.F.3 8.F.4 8.F.5 MP.2 MP.4 MP.6 MP.7 MP.8		as the input (domain) and the y-coordinate as the output (range). ● I can find the input/output of function given a value from the domain or a value from the range. ● I can identify a function as a one-to-one correspondence. ● I can identify a function as a set of ordered pairs on a graph. ● I can identify a relation as a function from a graph, equation, or set of ordered pairs. ● I can plot an ordered pair on a coordinate axis. ● can compare/contrast linear vs. nonlinear functions represented as equations, tables, and graphs. ● I can identify a linear function as y=mx + b. ● I can identify functions that are not linear from equations, tables, and graphs. ● I can identify linear functions as having graphs that are straight lines. ● I can identify linear functions in tables. ● Use functions to model	**Modules 5 - Examples of Functions from Geometry and 6 - Linear Functions** **Eureka Math Grade 8**	Exit Tickets, Observation of Class Work **Summative:** -2 Quizzes, 1 Test	(+1 Snow Day)

		relationships between quantities. -**Rate of Change** ● I can calculate the initial value/y-intercept from a table, graph, equation, or two points. ● I can calculate the slope/rate of change from a table, graph, equation, or two points. ● I can describe the slope and y-intercept from a graph or table in terms of the situation. ● I can write a linear function rule for a given relationship. -**Graphs/Multiple Representations** ● I can compare the properties of two functions represented in different ways (algebraically vs. table ● vs. equation vs. verbal description). ● I can identify the different properties of a function (slope/rate of change, y-intercept, x-intercept, ● point of intersection, parallel, overlapping). ● I can write the linear function from a graph. ● I can write the linear function from a table of values. ● I can write the linear function from a verbal description.	**Modules 5 - Examples of Functions from Geometry and 6 - Linear Functions** **Eureka Math Grade 8**		

		-Comparing: Translating vs. increasing/decreasing ● I can describe the features of a graph (increasing/decreasing, linear/nonlinear, or constant). ● I can describe the qualitative functional relationship given a graph. ● I can identify the type of function given a graph. ● I can sketch a graph that has been described verbally. **-Linear vs. nonlinear** **-Rules**	**Modules 5 - Examples of Functions from Geometry and 6 - Linear Functions**		
8.G.9	Volume	**-Sphere** ● I can write and solve using the	**Eureka Math Grade 8**	**Formative:** -Bell-Ringers/Do-Nows,	7 Days

MP.2 MP.4 MP.6 MP.7 MP.8		formula for the volume of a sphere. -**Cone** ● I can write and solve using the formula for the volume of a cone. -**Cylinder** ● I can write and solve using the formula for the volume of a cylinder. -**Composite Figures** ● I can write and solve using the formula for the volume of a cylinder. ● I can write and solve using the formula for the volume of a cone. ● I can write and solve using the formula for the volume of a sphere. -**Word Problems** ● I can solve word problems involving the volume of cones, cylinders, and spheres. -**Solving for Other Variables** ● I can solve a multi-step equation for a missing variable. -**Surface Area**	**Module 5 - Examples of Functions from Geometry and 6 - Linear Functions** **Eureka Math Grade 8**	Exit Tickets, Observation of Class Work **Summative:** -1 Quiz or Test	

		• I can solve a multi-step equation for a missing variable.	**Modules 5 - Examples of Functions from Geometry and 6 - Linear Functions**		
CFA #3 (Date Determined by BOCES Regional Collaboration)- 1 Day					
8.SP.1 8.SP.2 8.SP.3 8.SP4 MP.2 MP.4 MP.6	Statistics	**-Types of Correlation** • I can describe linear/nonlinear association of data. • I can describe patterns for clustering of data. • I can describe patterns for outliers of data. • I can describe positive/negative association of data. • I can interpret scatter plots for bivariate data. **-Line of Best Fit** • I can describe the slope and intercept from the equation of a linear model to solve a problem. **-Two-Way Frequency Tables** • I can draw conclusions about the association between the data (positive association/negative association).	**Eureka Math Grade 8 Module 6 - Linear Functions** **Eureka Math Grade 8**	**Formative:** -Bell-Ringers/Do-Nows, Exit Tickets, Observation of Class Work **Summative:** -1 Quiz	8 Days

		-Interpret Graphs and Equations ● I can describe the slope and intercept from the equation of a linear model to solve a problem. ● I can draw logical conclusions using slope and y-intercept of the line. ● I can identify the slope and intercept from the equation of a linear model in the context of a problem.	**Module 6 - Linear Functions**		
		-Review for NYS Test			4 Days
NYS Math Assessment- 2 Days					
8.NS.1 8.NS.2 8.EE.2 MP.6 MP.7 MP.8	Rational and Irrational Numbers	**-Rational vs. Irrational** ● I can determine if a number is rational or irrational. ● I can use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). **-Solving Equations with Radicals** ● I can use square root and cube root symbols to find solutions to the equations of the form $x^2 = p$ and $x^3 = p$,	**Eureka Math Grade 8 Module 7 - Introduction to Irrational Numbers Using Geometry**	**Formative:** -Bell-Ringers/Do-Nows, Exit Tickets, Observation of Class Work **Summative:** -1 Quiz	7 Days

		where p is a positive rational number. ● I can evaluate square roots of small perfect squares and cube roots of small perfect cubes and know that √2 is irrational.			
8.G.6 8.G.7 8.G.8 MP.6 MP.7 MP.8	Pythagorean Theorem	**-Formula** ● I can explain the Pythagorean Theorem and its converse. **-Application** ● I can apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. ● I can apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	**Eureka Math Grade 8 Module 7 - Introduction to Irrational Numbers Using Geometry**	**Formative:** -Bell-Ringers/Do-Nows, Exit Tickets, Observation of Class Work **Summative:** -1 Quiz	7 Days
8.G.9 MP.6 MP.7 MP.8	Volume	**-Solving Volume Problems with Radicals** ● I can use the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. Problems will now include radicals.	**Eureka Math Grade 8 Module 7 - Introduction to Irrational Numbers Using Geometry**	**Formative:** -Bell-Ringers/Do-Nows, Exit Tickets, Observation of Class Work, Group Work Problems/Projects **Summative:** -1 Quiz	6 Days

	Pre-Topics for Algebra next year	**-With time remaining in the school year we pre-teach topics that will show up in Algebra in 9th grade** **Topics we try to cover:** ● Polynomials (identifying, classifying, standard form) ● Operations with Polynomials (add, subtract, multiply and divide) ● Factoring Binomials and Polynomials (GCF, difference of 2 perfect squares, trinomial) ● Inequalities (Solving multi-step and graphing solutions) ● Simplifying Radicals			Remaining days - as available
		-Review for Final Exam			3 Days
Math Final Exam- 2 Day					