[redacted] - SCOPE & SEQUENCE CHART: INTENDED UNITS OF STUDY, 2022-2023

CONTENT AREA: Math (Algebra 1) - GRADE LEVEL: 8 - ACCELERATED

NOTE: THERE WILL BE A PROJECT ASSOCIATED WITH EACH UNIT OF STUDY UNLESS TIME PROHIBITS

UNIT	APPROXIMATE TIME FRAME	TEXT(S)/RESOURCES	TARGETED UNDERSTANDING (PURPOSE)	CONTENT STANDARD(S) (*CCSS for Mass.*)
1. Equations	**TRIMESTER 1** **1 ½ weeks: proposed**	Big Ideas! Math Grade 8: MRL CC 2022	• Write and solve one-step equations. • Write and solve multi-step equations. • Write and solve equations with variables on both sides. • Solve literal equations for given variables and convert temperatures.	8.EE.C.7, 8.EE.C.7a, 8.EE.C.7b
2. Transformations	**TRIMESTER 1** **3 weeks: proposed**	Big Ideas! Math Grade 8: MRL CC 2022	• Translate figures in the coordinate plane. • Reflect figures in the coordinate plane. • Rotate figures in the coordinate plane. • Understand the concept of congruent figures. • Dilate figures in the coordinate plane. • Understand the concept of similar figures. • Find perimeters and areas of similar figures.	8.G.A.1, 8.G.A.2, 8.G.A.3, 8.G.A.4
3. Angles & Triangles	**TRIMESTER 1** **2 weeks: proposed**	Big Ideas! Math Grade 8: MRL CC 2022	• Find missing angle measures created by the intersections of lines. • Understand properties of interior and exterior angles of triangles. • Find interior angle measures of polygons. • Use similar triangles to find missing measures.	8.G.A.5

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4. Graphing & Writing Linear Equations	**TRIMESTER 1** **3 weeks: proposed**	Big Ideas! Math Grade 8: MRL CC 2022	• Graph linear equations. • Find and interpret the slope of a line. • Graph proportional relationships. • Graph linear equations in slope-intercept form. • Graph linear equations in standard form. • Write equations of lines in slope-intercept form. • Write equations of lines in point-slope form.	8.EE.B.5, 8.EE.B.6, 8.F.B.4
5. Systems of Linear Equations	**TRIMESTER 1** **2 weeks: proposed**	Big Ideas! Math Grade 8: MRL CC 2022	• Understand how to solve systems of linear equations by graphing. • Understand how to solve systems of linear equations by substitution. • Understand how to solve systems of linear equations by elimination. • Solve systems with different numbers of solutions.	8.EE.C.8a, 8.EE.C.8b, 8.EE.C.8c
6. Data Analysis & Displays	**TRIMESTER 1- 2** **2 weeks: proposed**	Big Ideas! Math Grade 8: MRL CC 2022	• Use scatter plots to describe patterns and relationships between two quantities. • Use lines of fit to model data. • Use two-way tables to represent data. • Use appropriate data displays to represent situations.	8.SP.A.1, 8.SP.A.2, 8.SP.A.3, 8.SP.A.4
7. Functions	**TRIMESTER 2** **2 weeks: proposed**	Big Ideas! Math Grade 8: MRL CC 2022	• Understand the concept of a function. • Represent functions in a variety of ways. • Use functions to model linear relationships. • Understand differences between linear and nonlinear functions. • Use graphs of functions to describe relationships between quantities.	8.F.A.1, 8.F.A.2, 8.F.A.3, 8.F.B.4, 8.F.B.5

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8. Exponents & Scientific Notation	**TRIMESTER 2** **3 weeks: proposed**	Big Ideas! Math Grade 8: MRL CC 2022	• Use exponents to write and evaluate expressions. • Generate equivalent expressions involving products of powers. • Generate equivalent expressions involving quotients of powers. • Understand the concepts of zero and negative exponents. • Round numbers and write the results as the product of a single digit and a power of 10. • Understand the concept of scientific notation. • Perform operations with numbers written in scientific notation.	8.EE.A.1, 8.EE.A.3, 8.EE.A.4
9. Real Numbers & the Pythagorean Theorem	**TRIMESTER 2** **2 ½ weeks: proposed**	Big Ideas! Math Grade 8: MRL CC 2022	• Understand the concept of a square root of a number. • Understand the Pythagorean Theorem. • Understand the concept of a cube root of a number. • Convert between different forms of rational numbers. • Understand the concept of irrational numbers. • Understand the converse of the Pythagorean Theorem.	8.NS.A.1, 8.NS.A.2, 8.EE.A.2, 8.G.B.6, 8.G.B.7, 8.G.B.8
10. Volume & Similar Solids	**TRIMESTER 3** **2 weeks: proposed**	Big Ideas! Math Grade 8: MRL CC 2022	• Find the volume of a cylinder. • Find the volume of a cone. • Find the volume of a sphere. • Find the surface areas and volumes of similar solids.	8.G.C.9

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11. Polynomial Equations & Factoring This is the jump to the accelerated book - Chapter 7.	**TRIMESTER 3** **3 weeks: proposed**	Big Ideas! Math Algebra I: AGA CC 2022	• Classify polynomials by degree and number of terms. • Add, subtract, multiply, and divide polynomials. • Solve polynomial equations. • Factor polynomials and use factoring to solve real-life problems.	HSA-SSE.A.1a, HSA-SSE.A.2, HSA-SSE.B.3a, HSA-APR.A.1, HSA-APR.B.3, HSA-REI.A.1, HSA-REI.B.4b
12. Graphing Quadrataic Equations Accelerated book - Chapter 8.	**TRIMESTER 3** **3 weeks: proposed**	Big Ideas! Math Algebra I: AGA CC 2022	• Identify characteristics of quadratic functions. Describe how to graph quadratic functions in different forms. • Find zeros of functions using intercept form. • Choose an appropriate function to model data.	HSA-CED.A.2, HSF-BF.A.1a, HSF-IF.C.7a, HSF-BF.B.3, HSF-IF.B.4, HSF-BF.A.1b, HSF-IF.C.9, HSA-SSE.B.3a, HSA-APR.B.3, HSF-IF.C.8a, HSA-CED.A.2, HSA-APR.B.3, HSF-BF.A.1a, HSF-IF.B.6, HSF-IF.B.6, HSF-IF.C.9, HSF-LE.A.3
13. Solving Quadratic Equations Accelerated book - Chapter 9.	**TRIMESTER 3** **4 weeks: proposed**	Big Ideas! Math Algebra I: AGA CC 2022	• Simplify expressions using properties of radicals. Describe different methods for solving quadratic equations. • Solve quadratic equations. • Solve nonlinear systems of equations graphically and algebraically.	HSN-RN.A.2, HSN-RN.B.3, HSF-IF.B.4, HSA-REI.B.4a, HSA-REI.B.4b, HSF-IF.B.4, HSF-IF.C.7a, HSS-ID.B.6aHSA-CED.A.1, HSA-CED.A.4, HSA-SSE.B.3b, HSF-IF.C.8a, HSA-REI.C.7, HSA-REI.D.11
14. Radical Functions & Equations Accelerated book - Chapter 10.	**TRIMESTER 3** **2 weeks: proposed**	Big Ideas! Math Algebra I: AGA CC 2022	• Identify domains and ranges of radical functions. Graph square root and cube root functions. • Solve radical equations. • Find inverses of relations and functions.	HSA-CED.A.2, HSF-IF.C.7b, HSF-BF.B.3, HSF-IF.B.6, HSF-IF.B.6, HSF-IF.C.9, HSA-CED.A.1, HSF-BF.B.4a