

2021-2022 - SCOPE & SEQUENCE CHART: INTENDED UNITS OF STUDY, 2021-2022
CONTENT AREA: Math (Algebra 1) - GRADE LEVEL: 8

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.)
Equations	TRIMESTER 1 3 weeks: proposed	Big Ideas! Math	<ul style="list-style-type: none"> • 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
Transformations	TRIMESTER 1 - 2 4 weeks: proposed	Big Ideas! Math	<ul style="list-style-type: none"> • 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
Angles & Triangles	TRIMESTER 2 2 ½ weeks: proposed	Big Ideas! Math	<ul style="list-style-type: none"> • 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

UNIT	APPROXIMATE TIME FRAME	TEXT(S)/RESOURCES	TARGETED UNDERSTANDING (PURPOSE)	CONTENT STANDARD(S) (CCSS for Mass.)
Graphing & Writing Linear Equations	TRIMESTER 2 4 weeks: proposed	Big Ideas! Math	<ul style="list-style-type: none"> • 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
Systems of Linear Equations	TRIMESTER 2 2 ½ weeks: proposed	Big Ideas! Math	<ul style="list-style-type: none"> • 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
Data Analysis & Displays	TRIMESTER 2 2 ½ weeks: proposed	Big Ideas! Math	<ul style="list-style-type: none"> • 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
Functions	TRIMESTER 3 3 weeks: proposed	Big Ideas! Math	<ul style="list-style-type: none"> • 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

UNIT	APPROXIMATE TIME FRAME	TEXT(S)/RESOURCES	TARGETED UNDERSTANDING (PURPOSE)	CONTENT STANDARD(S) (CCSS for Mass.)
Exponents & Scientific Notation	TRIMESTER 3 4 weeks: proposed	Big Ideas! Math	<ul style="list-style-type: none"> • 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
Real Numbers & the Pythagorean Theorem	TRIMESTER 3 3 weeks: proposed	Big Ideas! Math	<ul style="list-style-type: none"> • 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
Volume & Similar Solids	TRIMESTER 3 2 ½ weeks: proposed	Big Ideas! Math	<ul style="list-style-type: none"> • 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