Hamilton Heights School Corporation
Math 8 Curriculum Map

Course Title: Pre-Algebra	Quarter 1	Academic Year: **2025-26**

Essential Questions: What is my understanding of utilizing equations to solve complex problems? How do I represent two sets of data and how they relate to one another as represented on a coordinate plane?

Unit Name	Total Days	Standards Number	Skills Objectives	Knowledge Objectives	Specific Assessments	Specific Resources
Intro Unit	4 days	n/a	Establish Growth Mindset Create Classroom "Number Talk" Culture Understand how to add/sub/mult/div with integers. [Complete Diagnostic testing during this time.]	■ I can have a growth mindset. ■ I can successfully participate in number talks. ■ I can add and subtract integers. ■ I can multiply and divide integers.	IXL Diagnostic	IXL
Equations	13-15 days	8.AF.1, 8.AF.2	I can successfully solve multi-step equations.	■ I can identify key words and phrases to solve equations. ■ I can write word sentences as equations. ■ I can explain how to solve equations. ■ I can model different types of equations to solve real-life problems.	Assessment	IXL

Real Numbers	10-12 days	8.NS.1 8.NS.2 8.NS.3 8.NS.4	I can successfully understand irrational and rational numbers.	■ I can describe a square root. ■ I can find the square root(s) of a number. ■ I can approximate the value of the square root of a number.	Assessment	IXL

Course Title: Pre-Algebra	Quarter 2	

Essential Questions: How do I represent two sets of data and how they relate to one another on a coordinate plane? How do I relate those sets of data with one another? How can I understand that one set of data can affect the outcome of another set of data? What are the best ways to organize and represent the data I look at?

Unit Name	Total Days	Standards Number	Skills Objectives	Knowledge Objectives	Specific Assessments	Specific Resources
Graphing and Writing Linear Equations	16-18 days	8.AF.3, 8.AF.4, 8.AF.5, 8.AF.6, 8.AF.7	I can successfully understand graphing linear equations.	■ I can identify key features of a graph. ■ I can explain the meaning of different forms of linear equations. ■ I can interpret the slope and intercepts of a line. ■ I can create graphs of linear equations.	Assessment	IXL
Systems of Equations	2 days	8.AF.8	I can successfully graph a system of equations and identify the solution.	● Graph a linear equation. ● Find the point where two lines intersect. ● Solve a system of linear equations by graphing.	Assessment	IXL

Functions	12-14 days	8.AF.3, 8.AF.4, 8.AF.5, 8.AF.6, 8.AF.7	I can successfully understand functions.	■ I can identify functions. ■ I can represent functions in a variety of ways. ■ I can evaluate functions. ■ I can solve problems using function rules.	Assessment	IXL
Semester Review	2 days		Revisit semester content and assess student understanding			

Course Title: Pre-Algebra	Quarter 3	

Essential Questions: How can two -dimensional objects be moved in various ways on a two-dimensional plane? How can I effectively represent very large and small numbers in a way that can be understood, and how do I perform basic operations with those numbers? How do I understand the use of exponents as representations for numbers and utilize those when solving problems such as those involving the Pythagorean Theorem? How do I make sense of three-dimensional objects and the space they take up, and can I solve problems involving volume?

Unit Name	Total Days	Standards Number	Skills Objectives	Knowledge Objectives	Specific Assessments	Specific Resources
Transformations	16-18 days	8.GM.1	I can successfully understand transformations.	■ I can identify a translation. ■ I can describe a transformation. ■ I can describe a sequence of rigid motions between two congruent figures. ■ I can solve real-life problems involving transformations.	Assessment	IXL

Pythagorean Theorem	14-16 days	8.GM.2 8.NS.2, 8.NS.4	I can successfully understand square roots and the Pythagorean Theorem.	■ I can explain the Pythagorean Theorem.	Assessment	IXL
Volume	12-14 days	8.GM.2	I can successfully understand volume.	■ I can explain how to find the volumes of cylinders, cones, and spheres. ■ I can use formulas to find volumes of solids. ■ I can find missing dimensions of solids. ■ I can find surface areas and volumes of similar solids.	Assessment	
Probability	12 days	8.DSP.3, 8.DSP.4, 8.DSP.5	I can successfully apply and understand the probability of different events.	■ I can identify opposite, mutually exclusive, and overlapping events. ■ I can identify independent and dependent events. ■ I can find the probability of independent and dependent events. ■ I can find the number of outcomes and the number of sums for compound events. ■ I can apply the counting principle to solve real world problems.	Assessment	IXL
Data Analysis and Displays	10 days	8.DSP.1, 8.DSP.2,	I can successfully understand data displays.	■ I can identify a data set. ■ I can use appropriate data displays to represent a situation. ■ I can	Assessment	IXL

				interpret a data set. ■ I can compare different data sets.		

Course Title: Pre-Algebra	Quarter 4	

Essential Questions: How do I make sense of probability and what that means in a way that I can make better choices? How do I take my understanding further and apply my knowledge to the concepts I have learned throughout this year? How is this content meaningful to me and/or those around me?

Unit Name	Total Days	Standards Number	Skills Objectives	Knowledge Objectives	Specific Assessments	Specific Resources
Review and Application of Functions	8 days	8.AF.3, 8.AF.4, 8.AF.5, 8.AF.6, 8.AF.7	I can successfully understand functions.	■ I can identify functions. ■ I can represent functions in a variety of ways. ■ I can evaluate functions. ■ I can solve problems using function rules.		IXL
Review and Application of Transformations	8 days	8.GM.1	I can successfully understand transformations.	■ I can identify a translation. ■ I can describe a transformation. ■ I can describe a sequence of rigid motions between two congruent figures. ■ I can solve real-life problems involving transformations.		IXL
Review and Applications of Linear Equations	8 days	8.AF.3, 8.AF.4, 8.AF.5,	I can successfully understand graphing linear equations.	■ I can identify key features of a graph. ■ I can explain the meaning of different		IXL

		8.AF.6, 8.AF.7		forms of linear equations. ■ I can interpret the slope and intercepts of a line. ■ I can create graphs of linear equations.		
Review and Applications of Pythagorean Theorem and Volume	8 days	8.GM.2 8.NS.2, 8.NS.4	I can successfully understand square roots and the Pythagorean Theorem.	■ I can describe a square root. ■ I can find the square root(s) of a number. ■ I can approximate the value of the square root of a number. ■ I can explain the Pythagorean Theorem.		IXL
Review and Applications of Volume	8 days	8.GM.2	I can successfully understand volume.	■ I can explain how to find the volumes of cylinders, cones, and spheres. ■ I can use formulas to find volumes of solids. ■ I can find missing dimensions of solids. ■ I can find surface areas and volumes of similar solids.		IXL

Resources:

Grade 8 Math Talks Document