ENRY LEARNING PROGRESSIONS

GSE Algebra I
Math

Quarter 1		Quarter 2	
Unit 1	**Unit 2**	**Unit 3**	**Unit 4**
4 Weeks	*2 Weeks*	*5 Weeks*	*7 Weeks*
Relationships Between Quantities and Expressions	**Function Fundamentals** *Revisit these standards throughout Units 2, 3, 4, and 5*	**Reasoning with Linear Equations and Inequalities**	**Modeling and Analyzing Quadratic Functions**
Extend the properties of exponents to rational exponents. MGSE9-12.N.RN.2 (Properties of rational & irrational numbers) Use properties of rational and irrational numbers. MGSE9-12.N.RN.3 (Properties of rational & irrational numbers) Reason quantitatively and use units to solve problems. MGSE9-12.N.Q.1 MGSE9-12.N.Q.1a MGSE9-12.N.Q.1b MGSE9-12.N.Q.1c MGSE9-12.N.Q.2 MGSE9-12.N.Q.3 (Reason quantitatively & use units to solve problems) Interpret the structure of expressions MGSE9-12.A.SSE.1 (Interpret expressions in context) MGSE9-12.A.SSE.1a MGSE9-12.A.SSE.1b (Interpret formulas & expressions in context) Perform arithmetic operations on polynomials MGSE9-12.A.APR.1 (Add, subtract & multiply polynomials)	Understand the concept of a function and use function notation MGSE9-12.F.IF.1 (Input vs. output) MGSE9-12.F.IF.2 (Function notation) Interpret functions that arise in applications in terms of the context MGSE9-12.F.IF.4 (Characteristics) MGSE9-12.F.IF.5 MGSE9-12.F.IF.6 (Rate of change) Analyze functions using different representations MGSE9-12.F.IF.9 (Compare functions) **Note: Expose students to various types of graphs to explore the various characteristics of functions without naming them.* *Once you have started naming the functions in Units 3, 4, and 5, continue to compare the new functions with previous functions learned.*	Create equations that describe numbers or relationships MGSE9-12.A.CED.1 (Create equations & inequalities in one variable) MGSE9-12.A.CED.2 (Linear equations in two or more variables) MGSE9-12.A.CED.3 (Represent constrains with equations, inequalities, and systems) MGSE9-12.A.CED.4 (Rearrange formulas to highlight a quantity of interest) Understand solving equations as a process of reasoning and explain the reasoning MGSE9-12.A.REI.1 (Justify one-solution equations) Solve equations and inequalities in one variable. MGSE9-12.A.REI.3 Solve systems of equations MGSE9-12.A.REI.5 (Show and explain elimination) MGSE9-12.A.REI.6 (Solve systems of linear equations) Represent and solve equations and inequalities graphically MGSE9-12.REI.10 (Connecting graphs & solutions of equations) MGSE9-12.REI.11 (Show f(x)=g(x) using graphs, tables, or successive approximations) MGSE9-12.REI.12	Interpret the structure of expressions MGSE9-12.A.SSE.2 (Equivalent forms of expressions) Write expressions in equivalent forms to solve problems MGSE9-12. A.SSE.3 (Equivalent form of expressions) MGSE9-12. A.SSE.3a (Factor quadratic to reveal zeroes) MGSE9-12.A.SSE.3b (Completing the square) Create equations that describe numbers or relationships. MGSE9-12.A.CED.1 (Create quadratic equations to solve problems) MGSE9-12.A.CED.2 (Quadratic equations in 2 variables) MGSE9-12.A.CED.4 (Rearrange formulas to highlight a quantity of interest) Solve equations and inequalities in one variable MGSE9-12.A.REI.4 (Solve quadratics in one variable) MGSE9-12.A.REI.4a (Completing the square) MGSE9-12.A.REI.4b (Solve quadratics by inspection) Build a function that models a relationship between two quantities MGSE9-12.F.BF.1 (Write a function explaining relationship between two quantities) Build new functions from existing functions

		(Graph solution set to linear inequality in 2 variables) Build a function that models a relationship between two quantities MGSE9-12.F.BF.1 (Write a function) MGSE9-12.F.BF.1a (Explicit expression & recursive process MGSE9-12.F.BF.2 (arithmetic sequences) Understand the concept of a function and use function notation MGSE9-12.F.IF.3 (Sequences & functions) Analyze functions using different representations. MGSE9-12.F.IF.7 (Graph linear functions) MGSE9-12.F.IF.7a (Characteristics of linear functions)	MGSE9-12.F.BF.3 (Write a function & build new functions) Understand the concept of a function and use function notation MGSE9-12.F.IF.6 (Average rate of change) Analyze functions using different representations MGSE9-12.F.IF.7 (Graph quadratic functions) MGSE9-12.F.IF.7a (Characteristics of linear functions) MGSE9-12.F.IF.8 (Equivalent forms of functions) MGSE9-12.F.IF.8a (Factoring & completing the square to show zeroes, extremes and symmetry)

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Quarter 3		Quarter 4	
Unit 5	**Unit 6**	**Unit 7**	**Unit 8**
6 Weeks	*4 Weeks*	*4 Weeks*	*4 Weeks*
Modeling and Analyzing Exponential Functions	**Comparing and Contrasting Functions**	**Describing Data**	**All**
Create equations that describe numbers or relationships MGSE9-12.A.CED.1 (Create equations & inequalities in one variable) MGSE9-12.A.CED.2 (Exponential equations in two or more variables) Build a function that models a relationship between two quantities MGSE9-12.F.BF.1 (Write a function explaining relationship between two quantities) MGSE9-12.F.BF.1a (Explicit expression & recursive process) MGSE9-12.F.BF.2 (Geometric sequences) Build new functions from existing functions MGSE9-12.F.BF.3 (Write a function & build new functions) Understand the concept of a function and use function notation MGSE9-12.F.IF.6 (Average rate of change) Analyze functions using different representations MGSE9-12.F.IF.7 (Graph exponential functions) MGSE9-12.4.3f (Compare exponential functions)	Construct and compare linear, quadratic, and exponential models and solve problems MGSE9-12.F.LE.1 (Linear vs exponential) MGSE9-12. F.LE.1a (Growth of linear v. exponential functions) MGSE9-12. F.LE.1b (Constant rate per unit) MGSE9-12. F.LE.1c (Growth or decay by constant percent rate per unit) MGSE9-12.F.LE.2 MGSE9-12.F.LE.3 (Changes in rate and relating to context) Interpret expressions for functions in terms of the situation they model MGSE9-12.F.LE.5 (Interpret parameters) Build new functions from existing functions MGSE9-12.F.BF.3 (Build new functions)	Summarize, represent, and interpret data on a single count or measurement variable MGSE9-12.S.ID.1 (Dot plots, histograms & box plots) MGSE9-12.S.ID.2 (Compare data distribution) MGSE9-12.S.ID.3 (Shape, center & spread) Summarize, represent, and interpret data on two categorical and quantitative variables MGSE9-12.S.ID.5 MGSE9-12.S.ID.6 (Bivariate data) MGSE9-12.S.ID.6a MGSE9-12.S.ID.6c (Function of best fit) Interpret linear models MGSE9-12.S.ID.7 MGSE9-12.S.ID.8 MGSE9-12.S.ID.9 (Slope, correlation coefficient, causation & correlation)	1 Week Review of Standards 3 Weeks Continue to provide data-driven, personalized enrichment experiences to meet the needs of learners.