



## 8th Grade Correlation to Mathematics Content Standards

	Mathematics Curriculum Framework	I CAN Learn <sup>®</sup> Lesson Number	I CAN Learn <sup>®</sup> Lesson Title
<b>COMPUTATION AND ESTIMATION</b>			
M8.CES.1	The learner will be able to use estimation to determine the reasonableness of a calculation.	MPA-005	Estimating Products and Quotients Using Patterns
		MPA-033	Estimating Computations with Fractions and Mixed Numbers
		MPA-006	Determining Reasonableness of Answers and Appropriate Method of Computation
M8.CES.2	The learner will be able to apply appropriate computation techniques to obtain solutions to multi-step real world problems involving fractions, decimals, and integers.	Throughout	This standard is demonstrated throughout. For examples see:
		MPA-003	Using Four-Step Plan for Problem Solving
		MPA-116	Solving Real-Life Problems by Using Guess-and-Check and Working Backwards
M8.CES.3	The learner will be able to evaluate the reasonableness of a given solution.	MPA-006	Determining Reasonableness of Answers and Appropriate Method of Computation
<b>DATA ANALYSIS, PROBABILITY, STATISTICS</b>			
M8.DPS.1	The learner will be able to create data displays, including circle graphs, line graphs, bar graphs, and box-and-whisker graphs.	MPA-092	Reading and Interpreting Bar, Line, and Circle Graphs
		MPA-097	Constructing Box-and-Whisker Plots
		MPA-094	Interpreting and Constructing Line Plots
		MPA-096	Constructing Stem-and-Leaf Plots
		MPA-131	Interpreting and Creating Histograms
		MPA-132	Interpreting and Creating Scatterplots
M8.DPS.2	The learner will be able to conduct a study and gather, arrange, and present the data.	MM1-385	Collecting Data
		MPA-129	Choosing Appropriate Scales and Intervals for Data
		MPA-840	Interpreting Data
M8.DPS.3	The learner will be able to read and determine information presented in various forms, including histograms.	MPA-092	Reading and Interpreting Bar, Line, and Circle Graphs
		MPA-094	Interpreting and Constructing Line Plots
		MPA-131	Interpreting and Creating Histograms
		MPA-132	Interpreting and Creating Scatterplots
M8.DPS.4	The learner will be able to determine suitable measures of central tendency of a specific scenario or data set.	MPA-095	Find the Mean, Median, and Mode
		HA1-541	Analyzing Data Using the Measures of Central Tendency and the Range
M8.DPS.5	The learner will be able to determine whether a sample is biased.	MPA-840	Interpreting Data
M8.DPS.6	The learner will be able to predict the odds for and against a particular outcome in a specific real world scenario.	MPA-114	Finding the Odds of Events and Experimental Probability from a Math Model
M8.DPS.7	The learner will be able to identify the combinations in a given situation (total outfits that can be made from 3 shirts and 3 pairs of pants).	MPA-091	Finding the Number of Combinations of a Set of Objects
M8.DPS.8	The learner will be able to identify the permutations in a given situation (how many ways can 5 people seat themselves on a bench).	HA1-879	Applying Counting Techniques to Permutations and Combinations

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M8.DPS.9	The learner will be able to compute simple mathematical probabilities for dependent and independent events.	MPA-112	Constructing Sample Spaces for Compound Events (Dependent and Independent)
		MPA-113	Finding the Probability of Compound Events Through Experimentation
M8.DPS.10	The learner will be able to analyze and interpret statistics and graphs.	MPA-098	Making Predictions from Graphs and Choosing the Correct Graph
		MPA-099	Recognizing Misleading Statistics and Graphs
<b>GEOMETRY</b>			
M8.GEO.1	The learner will be able to draw the perpendicular bisector of a line segment.	*Activity	
M8.GEO.2	The learner will be able to explain the properties of two-dimensional and three-dimensional shapes.	MPA-058	Identifying Polygons
		MPA-059	Classifying Triangles and Quadrilaterals
		MPA-106	Identifying a Solid Figure From a Net
		MPA-107	Constructing Three-Dimensional Figures and Examining Their Dimensions
M8.GEO.3	The learner will be able to identify the basic concepts of right triangle trigonometry.	Content under review	
M8.GEO.4	The learner will be able to develop and use the principles of the Pythagorean Theorem to solve real world problems.	HA1-515	Using the Pythagorean Theorem
		HA1-516	Applications of the Pythagorean Theorem
M8.GEO.5	The learner will be able to identify types and properties of angles created by parallel lines cut by transversal.	MPA-105	Determining the Measure of Angles Made by Parallel Lines and a Transversal
M8.GEO.6	The learner will be able to recognize congruence in geometric figures and describe the relationship among corresponding parts.	MPA-121	Identifying Similar and Congruent Polygons Using Proportions
M8.GEO.7	The learner will be able to formulate, and test conjectures with respect to geometric properties and relationships among regular and irregular figures of two and three dimensions.	HA1-130	Identifying Postulates, Theorems, and Properties
		MPA-068	Finding the Area of Irregular Figures
		MPA-160	Plotting Polygons and Finding the Area
M8.GEO.8	The learner will be able to observe, describe, and formulate conjectures with respect to geometric properties and relationships among angles, lines, regular and irregular polygons.	HA1-889	Complementary and Supplementary Angles
		HA1-890	Using Models to Derive Formulas for Two-Dimensional Geometric Figures
<b>MEASUREMENT</b>			
M8.MEA.1	The learner will be able to solve real world or mathematical problems that involve the effects of changes to the dimensions of a shape or the volume, surface area, area, perimeter, or circumference of the shape.	MPA-111	Comparing Perimeters, Areas, and Volumes of Similar Geometric Figures and Solids
M8.MEA.2	The learner will be able to explain and apply rates of change and other derived measures.	MPA-155	Comparing and Converting Rates
M8.MEA.3	The learner will be able to use models to investigate and develop formulas for surface area and volume of three-dimensional figures including prisms, pyramids, cylinders, and cones.	HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
		MPA-073	Finding the Surface Area of Rectangular Prisms
		MPA-074	Finding the Surface Area of Cylinders
		MPA-075	Finding the Volume of Rectangular Prisms
		MPA-115	Finding the Volumes of Prisms, Cylinders, Pyramids, and Cones Using Models
M8.MEA.4	The learner will be able to use proportional relationships and properties of similar geometric shapes to determine measures of length, weight/mass, and capacity/volume.	MPA-061	Converting Metric Units of Length, Capacity, and Mass
M8.MEA.5	The learner will be able to convert measurements within the metric system to solve problems.	MPA-061	Converting Metric Units of Length, Capacity, and Mass
M8.MEA.6	The learner will be able to state the number of significant digits as it relates to the least precise measurement unit.	MPA-134	Calculating with Precision, Accuracy, and Significant Digits

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M8.MEA.7	The learner will be able to explain the way in which a change in the perimeter, area, circumference, surface area, or volume of a figure affect the figure's dimensions.	MPA-111	Comparing Perimeters, Areas, and Volumes of Similar Geometric Figures and Solids
M8.MEA.8	The learner will be able to solve real world problems that involve surface area and volume of three-dimensional figures and the volume and solve real world or mathematical problems that involve the effects of changes to the dimensions of a shape involving area, perimeter, or circumference.	*Activity	
M8.MEA.9	The learner will be able to use formulas for determining rates; distance; and time.	MPA-155	Comparing and Converting Rates
		HA1-160	Writing an Equation to Solve Distance, Rate, and Time Problems
		HA1-362	Solving Work Problems
M8.MEA.10	The learner will be able to apply the Pythagorean Theorem and trigonometric ratios to determine the measure of the sides and angles of a right triangle.	HA1-516	Applications of the Pythagorean Theorem
		HGM-215	Investigating Properties of the 30°-60°-90° Triangle (Future release)
		HGM-220	Investigating Properties of the 45°-45°-90° Triangle (Future release)
M8.MEA.11	The learner will be able to develop formulas for surface area of cylinders and surface area of prisms using physical and graphic models.	HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
M8.MEA.12	The learner will be able to solve real world or mathematical problems that involve surface area or volume and how they are affected by altering the dimensions of the figure.	HA1-891	Using Models to Derive Formulas for Three-Dimensional Solids
		MPA-111	Comparing Perimeters, Areas, and Volumes of Similar Geometric Figures and Solids
<b>NUMBER SENSE AND NUMERATION</b>			
M8.NSN.1	The learner will be able to express fractions, decimals, and percents in appropriate form as needed for solving problems presented in a real world context.	Throughout	
M8.NSN.2	The learner will be able to apply appropriate computation techniques to obtain solutions to multi-step real world problems involving fractions, decimals, and integers.	Throughout	This standard is demonstrated throughout. For examples see:
		MPA-003	Using Four-Step Plan for Problem Solving
		MPA-007	Solving Problems Using Logical Reasoning Skills
		MPA-116	Solving Real-Life Problems by Using Guess-and-Check and Working Backwards
M8.NSN.3	The learner will be able to compute using operations involving roots and powers.	MPA-013	Using Powers and Exponents in Expressions
		MPA-064	Finding Square Roots of Perfect Squares
		MPA-065	Estimating Square Roots
M8.NSN.4	The learner will be able to use negative exponents when expressing rational numbers in exponential notation.	MPA-013	Using Powers and Exponents in Expressions
		HA1-815	Simplifying Expressions with Negative and Zero Exponents
M8.NSN.5	The learner will be able to solve problems through the use of ratios or proportions.	MPA-079	Unit rates
		MPA-080	Solving Proportions
		MPA-155	Comparing and Converting Rates (dimensional analysis)
		MPA-142	Solving Problems With Linear Functions and Direct Variation
		MPA-120	Applying Dilations in the Coordinate Plane (scale factor)
M8.NSN.6	The learner will be able to determine whether two numbers are relatively prime.	HA1-265	Writing a Number in Prime Factorization and Finding the Greatest Common Factor
M8.NSN.7	The learner will be able to use percents to solve real world problems.	HA1-165	Using Equations to Solve Percent Problems
		HA1-170	Solving Percent of Change Problems
		MPA-126	Solving Real-World Problems Involving Sales Tax
		MPA-127	Solving Real-World Problems Involving Discounts, Markup, and Commission
		MPA-128	Solving Real-World Problems Involving Simple and Compound Interest

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M8.NSN.8	The learner will be able to determine the percent of increase or percent of decrease.	MPA-087	Finding Percent Increase and Decrease
M8.NSN.9	The learner will be able to choose the appropriate operation to obtain solutions to real world problems involving integers, ratios, rates, proportions, percents, decimals and fractions.	Throughout	
M8.NSN.10	The learner will be able to find the absolute value of a rational number.	HA1-030	Using Opposites and Absolute Values
M8.NSN.11	The learner will be able to represent rational numbers in equivalent forms.	HA1-015	Graphing Real Numbers Using a Number Line
		HA1-020	Classifying Numbers into Subsets of Real Numbers
<b>PATTERNS, FUNCTIONS, ALGEBRA</b>			
M8.PFA.1	The learner will be able to recognize the inverse relationships between exponentiation and root extraction (square root of 36 is 6 squared).	MPA-064	Finding Square Roots of Perfect Squares
		MM1-565	Finding Squares and Square Roots
M8.PFA.2	The learner will be able to combine like terms and use the properties of real numbers to simplify algebraic expressions that illustrate real world situations.	HA1-075	Simplifying Algebraic Expressions by Combining Like Terms
		HA1-085	Simplifying Expressions Using the Properties of Real Numbers
M8.PFA.3	The learner will be able to graph linear equations and inequalities on the number line.	HA1-180	Graphing Equations and Inequalities on the Number Line
M8.PFA.4	The learner will be able to use the order of operations to write expressions from real world scenarios	HA1-003	Order of Operations
M8.PFA.5	The learner will be able to simplify expressions containing integers, exponents, and roots.	HA1-810	Simplifying Expressions Using the Multiplication Properties of Exponents
		HA1-818	Simplifying Expressions Using the Division Properties of Exponents
		HA1-075	Simplifying Algebraic Expressions by Combining Like Terms
		HA1-076	Basic Distributive Property
		HA1-085	Simplifying Expressions Using the Properties of Real Numbers
		HA1-079	Using a Concrete Model to Simplify Algebraic Expressions
		HA1-090	Simplifying Expressions Using the Property of -1
		HA1-080	Simplifying and Evaluating Algebraic Expressions Containing Grouping Symbols
M8.PFA.6	The learner will be able to translate word expressions into algebraic expressions.	HA1-095	Translating Word Phrases into Algebraic Expressions
M8.PFA.7	The learner will be able to convey relationships by writing equations or inequalities.	HA1-104	Translating Word Statements into Equations
		HA1-105	Translating Word Statements into Inequalities
M8.PFA.8	The learner will be able to make translations of verbal sentences into algebraic equations and inequalities.	HA1-104	Translating Word Statements into Equations
		HA1-105	Translating Word Statements into Inequalities
M8.PFA.9	The learner will be able to solve single-step and multi-step linear equations that illustrate real world scenarios.	HA1-115	Using the Addition and Subtraction Properties for Equations
		HA1-120	Using the Multiplication and Division Properties for Equations
		HA1-124	Using a Concrete Model to Solve One- and Two-Step Equations
		HA1-125	Solving Equations Using More Than One Property
		HA1-140	Solving Equations by Combining Like Terms
		HA1-144	Using a Concrete Model to Solve Equations with Variables on Both Sides
		HA1-145	Solving Equations with Variables on Both Sides
M8.PFA.10	The learner will be able to use a table of values to graph linear equations on a coordinate plan.	MPA-102	Graphing Equations by Plotting Points
		MPA-103	Distinguishing Between Relations and Functions
		MPA-135	Determining the Slope of a Line (Future release)
		MPA-140	Examining Linear Equations in Slope-Intercept Form
		MPA-142	Solving Problems With Linear Functions and Direct Variation

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		MPA-150	Identifying and Graphing Linear and Nonlinear Functions
M8.PFA.11	The learner will be able to determine the slope of a line given the graph of the line, including vertical and horizontal lines.	MPA-135	Determining the Slope of a Line (Future release)
M8.PFA.12	The learner will be able to interpret the meaning of the slope of a line from a graph representing a real world situation.	MPA-135	Determining the Slope of a Line (Future release)
M8.PFA.13	The learner will be able to explain and illustrate patterns and functional relationships using tables, charts, graphs, algebraic expressions, rules, and oral descriptions.	MPA-140	Examining Linear Equations in Slope-Intercept Form
		MPA-150	Identifying and Graphing Linear and Nonlinear Functions
M8.PFA.14	The learner will be able to determine a function rule to explain tables of related input-output variables.	MPA-140	Examining Linear Equations in Slope-Intercept Form
M8.PFA.15	The learner will be able to apply the information given in a table, graph, or rule to decide whether a function is linear and justify the reasoning behind the decision.	MPA-150	Identifying and Graphing Linear and Nonlinear Functions

\*Activities include open-response Journal questions and Problem Sets of the Day.

MM1-Fundamentals of Mathematics

MPA- Pre-Algebra

HA1-Algebra 1

Note: Standards were taken from the U.S. Virgin Islands Grade 8 Mathematics Content Standards document adopted by the U.S. Virgin Islands Department of Education in 2008.