I CAN Learn®
EDUCATION SYSTEMS

8th Grade Correlation to Mathematics Performance Standards

	Mathematics Curriculum Framework	I CAN Learn® Lesson #	I CAN Learn® Lesson Title
	NUMERATION		
N-1	The student demonstrates understanding of real numbers by ordering real numbers (M1.3.1)	HA1-025	Comparing and Ordering Real Numbers
		HA1-020	Classifying Numbers into Subsets of Real Numbers
N-2	The student demonstrates understanding of real numbers by distinguishing between a whole number in scientific notation and real numbers in standard form (M1.3.1)	MPA-021	Converting Between Standard and Scientific Notation
N-3	The student demonstrates understanding of real numbers by converting between expanded notation (multiples of ten with exponents) and standard form (M1.3.3)	MPA-021	Converting Between Standard and Scientific Notation
		HA1-235	Applying Scientific Notation
N-4	The student demonstrates understanding of rational numbers (fractions, decimals, or percents including integers) by identifying, describing, or illustrating equivalent representations (M1.3.4 & M3.3.5)	MPA-081	Converting Fractions, Decimals, and Percents I
		MPA-082	Converting Fractions, Decimals, and Percents II
N-5	The student demonstrates understanding of rational numbers (fractions, decimals, or percents including integers) by expressing products of numbers using exponents (M1.3.1 & M1.3.3)	MPA-026	Using Prime Factorization
		MPA-013	Using Powers and Exponents in Expressions
N-6	The student demonstrates conceptual understanding of mathematical operations by [using models, explanations, number lines, real-life situations L] describing or illustrating the effects of arithmetic operations on rational numbers (percents) (M1.2.3)	MPA-081	Converting Fractions, Decimals, and Percents I
		MPA-082	Converting Fractions, Decimals, and Percents II
		MPA-083	Finding Number Given Percent and Total
		MPA-084	Finding Percent Given Number and Total
		MPA-085	Finding Total Given Number and Percent
		MPA-086	Solving Problems Using Percent
		MPA-087	Finding Percent Increase and Decrease
		MPA-126	Solving Real-World Problems Involving Sales Tax
		MPA-127	Solving Real-World Problems Involving Discounts, Markups, and Commission
		MPA-128	Solving Real-World Problems Involving Simple and Compound Interest
N-7	The student demonstrates conceptual understanding of mathematical operations by using models, explanations, number lines, real-life situations, describing, or illustrating the use of inverse operations (addition/subtraction or multiplication/division) (M1.2.3)	MPA-043	Reading and Writing Integers
		MPA-045	Comparing and Ordering Integers
		MPA-044	Finding Opposite and Absolute Values of Integers

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		MPA-046	Graphing Points on a Coordinate Plane
		MPA-047	Adding Integers with Like Signs
		MPA-048	Adding Integers with Unlike Signs
		MPA-050	Subtracting Integers with Unlike Signs
		MPA-051	Multiplying Integers with Like and Unlike Signs
		MPA-052	Dividing Integers with Like and Unlike Signs
		MPA-053	Adding, Subtracting, Multiplying, and Dividing Integers
		MPA-117	Modeling Algebraic Expressions and Equations Using Cups and Counters
		MPA-010	Solving One-Step Equations of Whole Numbers Using Addition and Subtraction
		MPA-011	Solving One-Step Equations of Whole Numbers Using Multiplication and Division
		MPA-012	Solving One-Step Equations of Whole Numbers Using All Operations
		MPA-054	Solving One-Step Equations with Integers Using all Four Operations
N-8	The student demonstrates conceptual understanding of number theory by applying the rules for order of operations to rational numbers (M1.3.5)	MPA-008	Order of Operations
N-9	The student demonstrates conceptual understanding of number theory by identifying or writing the prime factorization of a number using exponents (M1.3.5)	MPA-026	Using Prime Factorization
N-10	The student demonstrates conceptual understanding of number theory by [using distributive property with real numbers (L) (M1.3.6)	MPA-002	Adding, Subtracting, Multiplying, and Dividing Whole Numbers (using properties)
		HA1-076	Basic Distributive Property
	MEASUREMENT		
MEA-1	The student demonstrates understanding of measurable attributes by converting measurements within the same system (English or metric) (M2.3.2)	MPA-062	Converting Units in Customary System
		MPA-061	Converting Metric Units of Length, Capacity, and Mass
MEA-2	The student demonstrates understanding of measurement techniques by using scale drawings involving indirect measurement (determining the scale factor and applying it to find missing dimension) (M2.3.4)	MPA-110	Solving Problems Using Proportions, Scale Drawings, Models, and Maps
		MPA-155	Comparing and Converting Rates
		MPA-111	Comparing Perimeters, Areas, and Volumes of Similar Geometric Figures and Solids
MEA-3	The student demonstrates understanding of measurement techniques by[modeling the conversion within the same system L] (M2.3.2)	MPA-130	Developing a Sense of Relative Sizes of Measures
		MPA-133	Distinguishing Between Exact and Approximate Answers
		MPA-134	Calculating with Precision, Accuracy, and Significant Digits
	ESTIMATION & COMPUTATION		
**E&C-1	The student solves problems (including real-world situations) using estimation by applying and assessing the appropriateness of a variety of estimation strategies (L) (M3.3.1)	MPA-004	Using Rounding to Estimate
		MPA-005	Estimating Products and Quotients Using Patterns
		MPA-006	Determining Reasonableness of Answers and Appropriate Method of Computation
		MPA-017	Rounding Decimals and Estimating Computations Using Decimals
		MPA-023	Rounding Quotients Involving Decimals
		MPA-033	Estimating Computations with Fractions and Mixed Numbers
E&C-2	The student accurately solves problems (including real-world situations) by adding, subtracting, multiplying or dividing integers or positive rational numbers (M3.3.3 & M3.3.4)	MPA-047	Adding Integers with Like Signs
		MPA-048	Adding Integers with Unlike Signs
		MPA-050	Subtracting Integers with Unlike Signs
		MPA-051	Multiplying Integers with Like and Unlike Signs
		MPA-052	Dividing Integers with Like and Unlike Signs

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		MPA-053	Adding, Subtracting, Multiplying, and Dividing Integers
		MPA-018	Adding and Subtracting Decimals
		MPA-019	Multiplying Decimals
		MPA-020	Multiplying Decimals by Powers of Ten
		MPA-119	Dividing Decimals
		MPA-034	Adding and Subtracting Fractions
		MPA-035	Adding and Subtracting Mixed Numbers with Unlike Denominators
		MPA-036	Multiplying Fractions and Mixed Numbers and Simplifying
		MPA-037	Dividing Fractions and Mixed Numbers and Simplifying
E&C-3	The student accurately solves problems (including real-world situations) by using percents and percentages (e.g., tax, discount) (M3.3.3 & M3.3.4)	MPA-083	Finding Number Given Percent and Total
		MPA-084	Finding Percent Given Number and Total
		MPA-085	Finding Total Given Number and Percent
		MPA-086	Solving Problems Using Percent
		MPA-087	Finding Percent Increase and Decrease
		MPA-126	Solving Real-World Problems Involving Sales Tax
		MPA-127	Solving Real-World Problems Involving Discounts, Markups, and Commission
		MPA-128	Solving Real-World Problems Involving Simple and Compound Interest
E&C-4	The student accurately solves problems (including real-world situations) by converting between equivalent fractions, decimals, or percents (M3.3.5)	MPA-081	Converting Fractions, Decimals, and Percents I
		MPA-082	Converting Fractions, Decimals, and Percents II
E&C-5	The student accurately solves problems (including real-world situations) by using ratio and proportion (M3.3.6)	MPA-078	Expressing Ratios as Fractions and Determining Equivalency
		MPA-079	Unit rates
		MPA-080	Solving Proportions
		MPA-110	Solving Problems Using Proportions, Scale Drawings, Models, and Maps
		MPA-155	Comparing and Converting Rates (including dimensional analysis)
		MPA-110	Solving Problems Using Proportions, Scale Drawings, Models, and Maps
		MPA-121	Identifying Similar and Congruent Polygons Using Proportions
	FUNCTIONS AND RELATIONSHIPS		
F&R-1	The student demonstrates conceptual understanding of functions, patterns, or sequences including those represented in real-world situations by describing or extending patterns (linear) up to the nth term, represented in tables, sequences, graphs, or in problem situations (M4.3.1)	MPA-104	Recognizing Patterns
		MPA-270	Generating Algebraic Expressions from Patterns of Models
		HA1-447	Identifying Number Patterns
		HA1-448	Finding the nth Term of a Pattern
		MPA-142	Solving Problems With Linear Functions and Direct Variation
F&R-2	The student demonstrates conceptual understanding of functions, patterns, or sequences including those represented in real-world situations by generalizing relationships (linear) using a table of ordered pairs, a graph, or an equation (M4.3.4)	MPA-102	Graphing Equations by Plotting Points
		MPA-103	Distinguishing Between Relations and Functions
		MPA-135	Determining the Slope of a Line
		MPA-140	Examining Linear Equations in Slope-Intercept Form
		MPA-142	Solving Problems With Linear Functions and Direct Variation
		MPA-150	Identifying and Graphing Linear and Nonlinear Functions
		MPA-104	Recognizing Patterns
		MPA-270	Generating Algebraic Expressions from Patterns of Models
		HA1-402	Translating Among Multiple Representations of Functions

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F&R-3	The student demonstrates conceptual understanding of functions, patterns, or sequences including those represented in real-world situations by describing in words how a change in one variable in a formula affects the remaining variables (how changing the length affects the area of quadrilaterals or volume of a rectangular prism) (M4.3.2)	MPA-077	Solving Problems Using a Formula
		MPA-111	Comparing Perimeters, Areas, and Volumes of Similar Geometric Figures and Solids
		MPA-142	Solving Problems With Linear Functions and Direct Variation
		MPA-125	Formulating a Possible Problem Situation Given an Equation
F&R-4	The student demonstrates conceptual understanding of functions, patterns, or sequences including those represented in real-world situations by using a calculator as a tool when describing, extending, or representing patterns (L) (M4.3.3)	MPA-013	Using Powers and Exponents in Expressions (opening and closing videos)
		MPA-065	Estimating Square Roots
		HA1-382	Solving Linear Equations Using the Graphing Calculator
F&R-5	The student demonstrates algebraic thinking by translating a written phrase to an algebraic expression (M4.3.5)	MPA-041	Writing Simple Algebraic Expressions from Phrases
		MPA-117	Modeling Algebraic Expressions and Equations Using Cups and Counters
		MPA-118	Modeling Algebraic Expressions and Equations Using Algebra Tiles
F&R-6	The student demonstrates algebraic thinking by solving or identifying solutions to two-step linear equations of the form $ax \pm b = c$, where a, b, and c are rational numbers, and $a \neq 0$; translating a story problem into an equation of similar form; or translating a story problem into an equation of similar form and solving it (M4.3.5)	MPA-100	Solving Two-Step Equations with Positive Coefficients
		MPA-165	Solving Two-Step Equations with Negative Coefficients
		MPA-101	Solving Two-Step Equations by Combining Like Terms
		MPA-170	Solving Equations Using the Distributive Property
		MPA-175	Solving Equations with Variables on Both Sides
		MPA-117	Modeling Algebraic Expressions and Equations Using Cups and Counters
		MPA-118	Modeling Algebraic Expressions and Equations Using Algebra Tiles
		MPA-125	Formulating a Possible Problem Situation Given an Equation
	GEOMETRY		
G-1	The student demonstrates an understanding of geometric relationships by using the attributes and properties of regular polygons to sketch regular or irregular polygons (L) (M5.3.1)	MPA-058	Identifying Polygons
		MPA-059	Classifying Triangles and Quadrilaterals
		MPA-121	Identifying Similar and Congruent Polygons Using Proportions
		MPA-060	Determining Which Figures Tessellate
G-2	The student demonstrates an understanding of geometric relationships by using the attributes and properties of solid figures (vertices, length and alignment of edges, shape and number of bases) to identify and describe cylinders and cones (M5.3.2)	MPA-072	Identifying 3-D Figures
		MPA-106	Identifying a Solid Figure From a Net
		MPA-107	Constructing Three-Dimensional Figures and Examining Their Dimensions
G-3	The student demonstrates an understanding of geometric relationships by using 2-dimensional nets to create 3-dimensional objects (prisms and cylinders) (M5.3.2)	MPA-106	Identifying a Solid Figure From a Net
G-4	The student demonstrates conceptual understanding of similarity, congruence, symmetry, or transformations of shapes by using proportionality to solve real-world problems involving similar shapes (e.g., two real-world objects casting shadows) (M5.3.3)	MPA-121	Identifying Similar and Congruent Polygons Using Proportions
		MPA-111	Comparing Perimeters, Areas, and Volumes of Similar Geometric Figures and Solids

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		MPA-180	Examining Line and Rotational Symmetry
		MPA-108	Graphing Translations and Reflections on the Coordinate Plane
G-5	The student demonstrates conceptual understanding of similarity, congruence, symmetry, or transformations of shapes by identifying the results of applying transformations (translations, rotations, reflections, dilations) to figures on a coordinate plane (M5.3.5)	MPA-180	Examining Line and Rotational Symmetry
		MPA-108	Graphing Translations and Reflections on the Coordinate Plane
		MPA-120	Applying Dilations in the Coordinate Plane
G-6	The student solves problems (including real-world situations) by determining the volume of right triangular prisms or cylinders (M5.3.4)	MPA-075	Finding the Volume of Rectangular Prisms
		MPA-076	Finding the Volume of Cylinders
		MPA-115	Finding the Volumes of Prisms, Cylinders, Pyramids, and Cones Using Models
G-7	The student solves problems (including real-world situations) by determining the surface area of cylinders or triangular prisms (M5.3.4)	MPA-073	Finding the Surface Area of Rectangular Prisms
		MPA-074	Finding the Surface Area of Cylinders
G-8	The student solves problems (including real-world situations) by determining the circumference and area of a circle (M5.3.4)	MPA-070	Finding the Circumference of a Circle
		MPA-071	Finding the Area of a Circle
G-9	The student demonstrates understanding of position and direction by graphing or identifying relationships of variables on a coordinate plane (e.g., length/width, area/diameter, cost/pound) (M5.3.6)	MPA-046	Graphing Points on a Coordinate Plane
		MPA-160	Plotting Polygons and Finding the Area
		MPA-140	Examining Linear Equations in Slope-Intercept Form
		MPA-142	Solving Problems With Linear Functions and Direct Variation
**G-10	The student demonstrates a conceptual understanding of geometric drawings or constructions by drawing, measuring, or constructing geometric figures (polygons, perpendicular bisectors, or perpendicular or parallel lines) (L) (M5.3.7)	MPA-107	Constructing Three-Dimensional Figures and Examining Their Dimensions
	STATISTICS AND PROBABILITY		
S&P-1	The student demonstrates an ability to classify and organize data by [designing, collecting L], organizing, displaying, or explaining the classification of data in realworld problems (e.g., science or humanities, peers or community), using histograms, scatter plots, or box and whisker plots with appropriate scale [or with technology L] (M6.3.1)	MPA-097	Constructing Box-and-Whisker Plots
		MPA-131	Interpreting and Creating Histograms
		MPA-132	Interpreting and Creating Scatterplots
S&P-2	The student demonstrates an ability to analyze data (comparing, explaining, interpreting, evaluating, making predictions, describing trends; drawing, formulating, or justifying conclusions) by using information from a variety of displays or analyzing the validity of statistical conclusions found in the media (M6.3.2)	MPA-098	Making Predictions from Graphs and Choosing the Correct Graph
		MPA-099	Recognizing Misleading Statistics and Graphs
		MPA-840	Interpreting Data
S&P-3	The student demonstrates an ability to analyze data (comparing, explaining, interpreting, evaluating, making predictions, describing trends; drawing, formulating, or justifying conclusions) by determining or justifying a choice of range, mean, median, or mode as the best representation of data for a practical situation (M6.3.3)	MPA-095	Find the Mean, Median, and Mode
		MPA-129	Choosing Appropriate Scales and Intervals for Data
		HA1-541	Analyzing Data Using the Measures of Central Tendency and the Range

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S&P-4	The student demonstrates a conceptual understanding of probability and counting techniques by determining or comparing the experimental and/or theoretical probability of simple events (M6.3.5)	MPA-090	Finding the Probability of Simple Real-Life Events
		MPA-112	Constructing Sample Spaces for Compound Events (Dependent and Independent)
		MPA-113	Finding the Probability of Compound Events Through Experimentation
		MPA-114	Finding the Odds of Events and Experimental Probability from a Math Model
S&P-5	The student demonstrates a conceptual understanding of probability and counting techniques by using a systematic approach to finding sample spaces or to making predictions about the probability of independent events and using the information to solve real-world problems (M6.3.5)	MPA-090	Finding the Probability of Simple Real-Life Events
		MPA-112	Constructing Sample Spaces for Compound Events (Dependent and Independent)
		MPA-113	Finding the Probability of Compound Events Through Experimentation
		MPA-114	Finding the Odds of Events and Experimental Probability from a Math Model
S&P-6	The student demonstrates a conceptual understanding of probability and counting techniques by designing and conducting a simulation to study a problem and communicate the results (L) (M6.3.6)	MPA-090	Finding the Probability of Simple Real-Life Events
		MPA-112	Constructing Sample Spaces for Compound Events (Dependent and Independent)
		MPA-113	Finding the Probability of Compound Events Through Experimentation
		MPA-114	Finding the Odds of Events and Experimental Probability from a Math Model
	PROBLEM SOLVING		
PS-1	The student demonstrates an ability to problem solve by selecting, modifying, and applying a variety of problem-solving strategies (e.g., inductive and deductive reasoning, Venn diagrams, making a simpler problem) and verifying the results (M7.3.2)	Throughout	Standard is demonstrated throughout. For examples, please see the following:
		MPA-003	Using Four-Step Plan for Problem Solving
		MPA-116	Solving Real-Life Problems by Using Guess-and-Check and Working Backwards
		MPA-007	Solving Problems Using Logical Reasoning Skills
PS-2	The student demonstrates an ability to problem solve by evaluating, interpreting, and justifying solutions to problems (M7.3.3)	Throughout	Standard is demonstrated throughout. For examples, please see the following:
		MPA-014	Evaluating Expressions for Given Variables
		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
		MPA-098	Making Predictions from Graphs and Choosing the Correct Graph
		MPA-099	Recognizing Misleading Statistics and Graphs
		MPA-840	Interpreting Data
PS-3	The student communicates his or her mathematical thinking by representing mathematical problems numerically, graphically, and/or symbolically, translating among these alternative representations; or using appropriate vocabulary, symbols, or technology to explain, justify, and defend strategies and solutions (M8.3.1, M8.3.2, & M8.3.3)	Throughout	Standard is demonstrated throughout. For examples, please see the following:
		MPA-117	Modeling Algebraic Expressions and Equations Using Cups and Counters
		MPA-109	Solving and Graphing Linear Inequalities on a Number Line
		MPA-125	Formulating a Possible Problem Situation Given an Equation
		MPA-118	Modeling Algebraic Expressions and Equations Using Algebra Tiles
		MPA-041	Writing Simple Algebraic Expressions from Phrases

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PS-4	The student demonstrates an ability to use logic and reason by generalizing from patterns of observations (inductive reasoning) about mathematical problems and testing using a logical verification (deductive reasoning); or justifying and defending the validity of mathematical strategies and solutions using examples and counterexamples (M9.3.1, M9.3.2, & M9.3.3)	Throughout	Standard is demonstrated throughout. For examples, please see the following:
		MPA-007	Solving Problems Using Logical Reasoning Skills
		MPA-104	Recognizing Patterns
		MPA-270	Generating Algebraic Expressions from Patterns of Models
		MPA-150	Identifying and Graphing Linear and Nonlinear Functions
PS-5	The student demonstrates the ability to apply mathematical skills and processes across the content strands by using real-world contexts such as science, humanities, peers, community, and careers (M10.3.1 & M10.4.2)	Throughout	Standard is demonstrated throughout. All opening and closing videos include real-world contexts. For examples, please see the following:
		MPA-116	Solving Real-Life Problems by Using Guess-and-Check and Working Backwards
		MPA-126	Solving Real-World Problems Involving Sales Tax
		MPA-127	Solving Real-World Problems Involving Discounts, Markups, and Commission
		MPA-128	Solving Real-World Problems Involving Simple and Compound Interest
		MPA-088	Solving Real-World Problems Involving Percent

** Indicates the benchmark standards that are assessed at the local district level.

MM1-Fundamentals of Mathematics

MPA- Pre-Algebra

HA1-Algebra 1

Note: Standards were taken from the Grade 8 Alaska Mathematics Performance Standards K-12 document adopted by the Alaska State Board of Education and Early Development on June 10, 2005.