



8th Grade Mathematics Framework Correlation

	Mathematics Curriculum Framework	Lesson Number	Lesson Title
ALGEBRAIC REASONING: PATTERNS AND FUNCTIONS			
1.1.	Understand and describe patterns and functional relationships.		
1.1.a	Analyze physical phenomena, functions and patterns to identify relationships and make generalizations.	MPA-104	Recognizing Patterns
1.2.	Represent and analyze quantitative relationships in a variety of ways.		
1.2.a	Describe the effects of characteristics of linear relationships on the way the relationships are represented verbally and in tables, graphs and equations.	MPA-042	Solving Problems Using an Equation
		MPA-102	Graphing Equations by Plotting Points
		MPA-103	Distinguishing Between Relations and Functions
		HA1-104	Translating Word Statements into Equations
		HA1-150	Writing an Equation to Solve Word Problems
		HA1-380	Graphing Linear Equations
		HA1-436	Identifying Relations
		HA1-437	Identifying Relations as Functions
		HA1-438	Finding the Domain and Range of Functions
		HA1-439	Using Function Notation
1.3.	Use operations, properties and algebraic symbols to determine equivalence and solve problems.		
1.3.a	Solve problems using various algebraic methods and properties.	MPA-007	Solving Problems Using Logical Reasoning Skills
		MPA-009	Solving One-Step Equations Using a Box
		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-014	Evaluating Expressions for Given Variables
		MPA-038	Solving One-Step Equations with Fractions Using Addition and Subtraction
		MPA-039	Solving One-Step Equations with Fractions Using Multiplication and Division
		MPA-040	Solving One-Step Equations with Decimals Using All Four Operations
		MPA-041	Writing Simple Algebraic Expressions from Phrases
		MPA-042	Solving Problems Using an Equation
		MPA-054	Solving One-Step Equations with Integers Using all Four Operations
		MPA-077	Solving Problems Using a Formula
		MPA-100	Solving Two-Step Equations
		MPA-116	Solving Real-Life Problems by Using Guess-and-Check and Working Backwards
		MPA-125	Formulating a Possible Problem Situation Given an Equation
		HA1-005	Evaluating Algebraic Expressions
		HA1-065	Evaluating Expressions Containing Exponents

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		HA1-070	Evaluating Formulas for Given Values of the Variables
		HA1-075	Simplifying Algebraic Expressions by Combining Like Terms
		HA1-076	Basic Distributive Property
		HA1-080	Simplifying and Evaluating Algebraic Expressions Containing Grouping Symbols
		HA1-085	Simplifying Expressions Using the Properties of Real Numbers
		HA1-090	Simplifying Expressions Using the Property of -1
		HA1-095	Translating Word Phrases into Algebraic Expressions
		HA1-104	Translating Word Statements into Equations
		HA1-115	Using the Addition and Subtraction Properties for Equations
		HA1-120	Using the Multiplication and Division Properties for Equations
		HA1-125	Solving Equations Using More Than One Property
		HA1-135	Evaluating Formulas
		HA1-150	Writing an Equation to Solve Word Problems
NUMERICAL AND PROPORTIONAL REASONING			
2.1.	Understand that a variety of numerical representations can be used to describe quantitative relationships.		
2.1.a	Compare and order integers, powers and roots using number lines and grids.	MPA-045	Comparing and Ordering Integers
		HA1-015	Graphing Real Numbers Using a Number Line
		HA1-025	Comparing and Ordering Real Numbers
2.1.b	Extend the understanding of scientific notation to very small numbers.	MPA-021	Converting Between Standard and Scientific Notation
2.2.	Use numbers and their properties to compute flexibly and fluently, and to reasonably estimate measures and quantities.		
2.2.a	Solve problems involving fractions, decimals, ratios and percents.	MPA-016	Comparing and Ordering Decimals
		MPA-017	Rounding Decimals and Estimating Computations Using Decimals
		MPA-018	Adding and Subtracting Decimals
		MPA-019	Multiplying Decimals
		MPA-020	Multiplying Decimals by Powers of Ten
		MPA-022	Dividing Decimals
		MPA-023	Rounding Quotients Involving Decimals
		MPA-028	Reducing Fractions to Lowest Terms/Simplest Form
		MPA-029	Converting Fractions and Decimals
		MPA-031	Comparing and Ordering Fractions and Decimals
		MPA-032	Converting Improper Fractions and Mixed Numbers
		MPA-033	Estimating Computations with Fractions and Mixed Numbers
		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
		MPA-078	Expressing Ratios as Fractions and Determining Equivalency
		MPA-079	Unit rates
		MPA-080	Solving Proportions
		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-088	Solving Real-World Problems Involving Percent

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		MPA-110	Solving Problems Using Proportions, Scale Drawings, Models, and Maps
		MPA-119	Dividing Decimals (an Introduction)
		MPA-122	Modeling Multiplication and Division of Decimals
		MPA-123	Modeling Multiplication and Division of Fractions
		MPA-126	Solving Real-World Problems Involving Sales Tax
		MPA-127	Solving Real-World Problems Involving Discounts
		MPA-128	Solving Real-World Problems Involving Simple Interest
2.2.b	Make generalizations about operations with very large and very small numbers.	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
2.2.c	Connect the exponential growth and decay models to repeated multiplication by the same factor.		
GEOMETRY AND MEASUREMENT			
3.1.	Use properties and characteristics of two- and three-dimensional shapes and geometric theorems to describe relationships, communicate ideas and solve problems.		
3.1.a	Explore the relationships among sides, angles, perimeters, areas, surface areas and volumes of congruent and similar polygons and solids.	MPA-055	Finding the Perimeter of a Figure
		MPA-056	Classifying Angles
		MPA-057	Identifying and Applying Supplementary and Complementary Angles
		MPA-058	Identifying Polygons
		MPA-059	Classifying Triangles and Quadrilaterals
		MPA-060	Determining Which Figures Tessellate
		MPA-067	Finding the Area of Rectangles and Parallelograms
		MPA-068	Finding the Area of Irregular Figures
		MPA-069	Finding the Area of Triangles and Trapezoids
		MPA-070	Finding the Circumference of a Circle
		MPA-071	Finding the Area of a Circle
		MPA-072	Identifying 3-D Figures
		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-076	Finding the Volume of Cylinders
		MPA-105	Determining the Measure of Angles Made by Parallel Lines and a Transversal
		MPA-106	Identifying a Solid Figure From a Net
		MPA-107	Constructing Three-Dimensional Figures and Examining Their Dimensions
		MPA-111	Comparing Perimeters, Areas, and Volumes of Similar Geometric Figures and Solids
		MPA-115	Finding the Volumes of Prisms, Cylinders, Pyramids, and Cones Using Models
		MPA-121	Identifying Similar and Congruent Polygons Using Proportions
		HA1-893	Constructing Solids from Different Perspectives
3.2.	Use spatial reasoning, location and geometric relationships to solve problems.		
3.2.a	Model geometric relationships in a variety of ways.	MM1-500	Using Translations, Rotations and Reflections to Transform Shapes
		MPA-106	Identifying a Solid Figure From a Net
		MPA-107	Constructing Three-Dimensional Figures and Examining Their Dimensions
		MPA-108	Graphing Translations and Reflections on the Coordinate Plane
		MPA-115	Finding the Volumes of Prisms, Cylinders, Pyramids, and Cones Using Models
		HA1-893	Constructing Solids from Different Perspectives

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3.3.	Develop and apply units, systems, formulas and appropriate tools to estimate and measure.		
3.3.a	Use a variety of concrete methods, including displacement, to find volumes of solids.	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
3.3.b	Solve problems involving measurement through the use of appropriate tools, techniques and strategies	MPA-055	Finding the Perimeter of a Figure
		MPA-056	Classifying Angles
		MPA-057	Identifying and Applying Supplementary and Complementary Angles
		MPA-060	Determining Which Figures Tessellate
		MPA-061	Converting Metric Units of Length, Capacity, and Mass
		MPA-062	Converting Units in Customary System
		MPA-067	Finding the Area of Rectangles and Parallelograms
		MPA-068	Finding the Area of Irregular Figures
		MPA-069	Finding the Area of Triangles and Trapezoids
		MPA-070	Finding the Circumference of a Circle
		MPA-071	Finding the Area of a Circle
		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-076	Finding the Volume of Cylinders
		MPA-105	Determining the Measure of Angles Made by Parallel Lines and a Transversal
		MPA-107	Constructing Three-Dimensional Figures and Examining Their Dimensions
		MPA-111	Comparing Perimeters, Areas, and Volumes of Similar Geometric Figures and Solids
		MPA-115	Finding the Volumes of Prisms, Cylinders, Pyramids, and Cones Using Models
		MPA-121	Identifying Similar and Congruent Polygons Using Proportions
		MPA-130	Developing a Sense of Relative Sizes of Measures
WORKING WITH DATA: PROBABILITY AND STATISTICS			
4.1.	Collect, organize and display data using appropriate statistical and graphical methods.		
4.1.a	Construct appropriate representations of data based on the size and kind of data set and the purpose for their use.	MM1-405	Interpreting and Constructing Circle Graphs
		MPA-092	Reading and Interpreting Bar, Line, and Circle Graphs
		MPA-094	Interpreting and Constructing Line Plots
		MPA-094	Interpreting and Constructing Line Plots
		MPA-095	Find the Mean, Median, and Mode
		MPA-096	Constructing Stem-and-Leaf Plots
		MPA-097	Constructing Box-and-Whisker Plots
		MPA-129	Choosing Appropriate Scales and Intervals for Data (an Introduction)
		MPA-132	Interpreting and Creating Scatter Plots
		HA1-886	Unions and Intersections of Sets Using Venn Diagrams
4.2.	Analyze data sets to form hypotheses and make predictions.		
4.2.a	Make and evaluate statistical claims and justify conclusions with evidence.	MPA-092	Reading and Interpreting Bar, Line, and Circle Graphs
		MPA-098	Making Predictions from Graphs and Choosing the Correct Graph
		MPA-099	Recognizing Misleading Statistics and Graphs
4.3.	Understand and apply basic concepts of probability.		
4.3.a	Determine possible outcomes using a variety of counting techniques.	MPA-089	Using Tree Diagrams
		MPA-091	Finding the Number of Combinations of a Set of Objects

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		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

MM1-Fundamentals of Mathematics
 MPA- Pre-Algebra
 HA1-Algebra 1

Note: Standards were taken from the Connecticut Mathematics Curriculum Framework document for Mathematics Grades PreK-12 adopted by the Connecticut State Department of Education in September 2005.