



7th Grade Correlation to Mathematics Framework

	Mathematics Curriculum Framework	Lesson Number	Lesson Title
NUMBER SENSE AND OPERATIONS			
7.N.1	Compare, order, estimate, and translate among integers, fractions and mixed numbers (i.e., rational numbers), decimals, and percents. <i>This standard is intentionally the same as standard 8.N.1.</i>	MPA-043	Reading and Writing Integers
		MPA-045	Comparing and Ordering Integers
		MPA-016	Comparing and Ordering Decimals
		MPA-017	Rounding Decimals and Estimating Computations Using Decimals
		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-081	Converting Fractions, Decimals, and Percents I
		MPA-082	Converting Fractions, Decimals, and Percents II
7.N.2	Use ratios and proportions in the solution of problems involving unit rates, scale drawings, and reading of maps.	MPA-110	Solving Problems Using Proportions, Scale Drawings, Models, and Maps
7.N.3	Represent numbers in scientific notation (positive powers of ten only) and use that notation in problem situations.	MPA-021	Converting Between Standard and Scientific Notation
7.N.4	Demonstrate an understanding of absolute value, e.g., $ -3 = 3 = 3$. <i>This standard is intentionally the same as standard 8.N.6.</i>	MPA-044	Finding Opposite and Absolute Values of Integers
7.N.5	Apply the rules of positive integer exponents to the solution of problems. Extend the Order of Operations to include positive integer exponents.	MPA-008	Order of Operations
7.N.6	Use the inverse relationships of addition and subtraction, and of multiplication and division, to simplify computations and solve problems, e.g., multiplying by $1/2$ or 0.5 is the same as dividing by 2 .	MPA-005	Estimating Products and Quotients Using Patterns
		MPA-117	Modeling Integer Arithmetic Using Cups and Counters
		MM1-190	Finding the Fraction of a Given Number
		MPA-020	Multiplying Decimals by Powers of Ten
		MPA-033	Estimating Computations with Fractions and Mixed Numbers
7.N.7	Estimate and compute with fractions (including simplification of fractions), integers, decimals, and percents (including those greater than 100 and less than 1). <i>This standard is intentionally the same as standard 8.N.10.</i>	MPA-028	Reducing Fractions to Lowest Terms/Simplest Form
		MPA-032	Converting Improper 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-033	Estimating Computations with Fractions and Mixed Numbers
		MPA-117	Modeling Integer Arithmetic Using Cups and Counters
		MPA-047	Adding Integers with Like Signs
		MPA-048	Adding Integers with Unlike Signs

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		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-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
7.N.8	Determine when an estimate rather than an exact answer is appropriate and apply in problem situations. <i>This standard is intentionally the same as standard 8.N.11.</i>	MPA-006	Determining Reasonableness of Answers and Appropriate Method of Computation
7.N.9	Select and use appropriate operations—addition, subtraction, multiplication, division, and positive integer exponents—to solve problems with rational numbers (including negatives). <i>This standard is intentionally the same as standard 8.N.12.</i>	MPA-133	Distinguishing Between Exact and Approximate Answers
			Select and use appropriate operations to solve problems exists throughout the lessons. For examples, see the following:
		MPA-116	Solving Real-Life Problems by Using Guess-and-Check and Working Backwards
		MPA-007	Solving Problems Using Logical Reasoning Skills
		MPA-088	Solving Real-World Problems Involving Percent
		MPA-125	Formulating a Possible Problem Situation Given an Equation
		MPA-155	Comparing and Converting Rates
		MPA-270	Generating Algebraic Expressions from Patterns of Models
		MPA-840	Interpreting Data
PATTERNS, RELATIONS, AND ALGEBRA			
7.P.1	Extend, represent, analyze, and generalize a variety of patterns with tables, graphs, words, and, when possible, symbolic expressions. Include arithmetic and geometric progressions, e.g., compounding. <i>This standard is intentionally the same as standard 8.P.1.</i>	MPA-104	Recognizing Patterns
7.P.2	Evaluate simple algebraic expressions for given variable values, e.g., $3a^2 - b$ for $a = 3$ and $b = 7$. <i>This standard is intentionally the same as standard 8.P.2.</i>	MPA-007 MPA-014	Solving Problems Using Logical Reasoning Skills Evaluating Expressions for Given Variables
7.P.3	Create and use symbolic expressions for linear relationships and relate them to verbal, tabular, and graphical representations.	MPA-041	Writing Simple Algebraic Expressions from Phrases
		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-042	Solving Problems Using an Equation
		MPA-054	Solving One-Step Equations with Integers Using all Four Operations
		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-125	Formulating a Possible Problem Situation Given an Equation
7.P.4	Solve linear equations using tables, graphs, models, and algebraic methods.	MPA-041	Writing Simple Algebraic Expressions from Phrases
		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-042	Solving Problems Using an Equation
		MPA-054	Solving One-Step Equations with Integers Using all Four Operations
		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-125	Formulating a Possible Problem Situation Given an Equation
7.P.5	Identify, describe, and analyze linear relationships between two variables. Compare positive rate of change, e.g., $y = 3x + 1$, to negative rate of change, e.g., $y = -3x + 1$.	MPA-140	Examining Linear Equations in Slope-Intercept Form

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7.P.6	Use linear equations to model and analyze problems involving proportional relationships. Use technology as appropriate.	MPA-142	Solving Problems With Linear Functions
	<i>This standard is intentionally the same as standard 8.P.9.</i>	MPA-150	Identifying and Graphing Linear and Nonlinear Functions
GEOMETRY			
7.G.1	Analyze, apply, and explain the relationship between the number of sides and the sums of the interior angle measures of polygons.	MPA-060	Determining Which Figures Tessellate
7.G.2	Classify figures in terms of congruence and similarity, and apply these relationships to the solution of problems.	MPA-121	Identifying Similar and Congruent Polygons Using Proportions
	<i>This standard is intentionally the same as standard 8.G.2.</i>		
7.G.3	Demonstrate an understanding of the relationships of angles formed by intersecting lines, including parallel lines cut by a transversal.	MPA-105	Determining the Measure of Angles Made by Parallel Lines and a Transversal
	<i>This standard is intentionally the same as standard 8.G.3.</i>		
7.G.4	Graph points and identify coordinates of points on the Cartesian coordinate plane (all four quadrants).	MPA-046	Graphing Points on a Coordinate Plane
7.G.5	Use a ruler, protractor, and compass to draw polygons and circles.	<i>Grade-level content under review</i>	
7.G.6	Predict the results of translations and reflections of figures on unmarked or coordinate planes and draw the transformed figure.	MPA-108	Graphing Translations and Reflections on the Coordinate Plane
7.G.7	Identify three-dimensional figures (e.g., prisms, pyramids) by their physical appearance, distinguishing attributes, and spatial relationships such as parallel faces.	MPA-072	Identifying 3-D Figures
	<i>This standard is intentionally the same as standard 8.G.7.</i>	MPA-106	Identifying a Solid Figure From a Net
		MPA-107	Constructing Three-Dimensional Figures and Examining Their Dimensions
MEASUREMENT			
7.M.1	Select, convert (within the same system of measurement), and use appropriate units of measurement or scale.	MPA-062	Converting Units in Customary System
	<i>This standard is intentionally the same as standard 8.M.1.</i>	MPA-061	Converting Metric Units of Length, Capacity, and Mass
7.M.2	Given the formulas, convert from one system of measurement to another. Use technology as appropriate.	MPA-063	Converting Units Between Metric and Customary System
	<i>This standard is intentionally the same as standard 8.M.2.</i>		
7.M.3	Demonstrate an understanding of the concepts and apply formulas and procedures for determining measures, including those of area and perimeter/circumference of parallelograms, trapezoids, and circles. Given the formulas, determine the surface area and volume of rectangular prisms and cylinders. Use technology as appropriate.	MPA-055	Finding the Perimeter of a Figure
		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-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-160	Plotting Polygons and Finding the Area

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DATA ANALYSIS, STATISTICS, AND PROBABILITY			
7.D.1	Select, create, interpret, and utilize the following tabular and graphical representations of data: circle graphs, Venn diagrams, stem-and-leaf plots, tables, and charts.	MPA-092	Reading and Interpreting Bar, Line, and Circle Graphs
		MPA-096	Constructing Stem-and-Leaf Plots
		MPA-129	Choosing Appropriate Scales and Intervals for Data
7.D.2	Find, describe, and interpret appropriate measures of central tendency (mean, median, and mode) and spread (range) that represent a set of data. Use these notions to compare different sets of data. <i>This standard is intentionally the same as standard 8.D.3.</i>	MPA-095	Finding the Mean, Median, and Mode
		MPA-129	Choosing Appropriate Scales and Intervals for Data
		MPA-840	Interpreting Data
7.D.3	Use tree diagrams, tables, organized lists, and area models to compute probabilities for simple compound events, e.g., multiple coin tosses or rolls of number cubes.	MPA-089	Using Tree Diagrams
		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

MM1-Fundamentals of Mathematics

MPA- Pre-Algebra

HA1-Algebra 1

Note: Standards were taken from the Supplement to the Massachusetts Mathematics Curriculum Framework for Grade 7 for Massachusetts Department of Education - Grades 3, 5, and 7 Grade-Level Standards document adopted by the Massachusetts State Board of Education in May, 2004.