



6th Grade Correlation to Mathematics Frameworks

	Mathematics Curriculum Framework	Lesson Number	Lesson Title
NUMBER SENSE			
6.1.1	Understand and apply the basic concept of negative numbers (e.g., on a number line, in counting, in temperature, in "owing").	MM1-570	Identifying Integers and Absolute Value
		MPA-043	Reading and Writing Integers
		MPA-045	Comparing and Ordering Integers
6.1.2	Interpret the absolute value of a number as the distance from zero on a number line and find the absolute value of real numbers.	MM1-570	Identifying Integers and Absolute Value
		MPA-044	Finding Opposite and Absolute Values of Integers
6.1.3	Compare and represent on a number line positive and negative integers, fractions, decimals (to hundredths), and mixed numbers.	MM1-575	Comparing and Ordering Integers
		MPA-031	Comparing and Ordering Fractions and Decimals
		MPA-045	Comparing and Ordering Integers
6.1.4	Convert between any two representations of numbers (fractions, decimals, and percents) without the use of a calculator.	MM1-365	Converting Decimals to Fractions and Fractions to Decimals
		MM1-370	Converting Decimals to Percents and Percents to Decimals
		MM1-375	Converting Fractions to Percents and Percents to Fractions
		MM1-380	Converting Fractions to Decimals and Percents
6.1.5	Recognize decimal equivalents for commonly used fractions without the use of a calculator.	MM1-365	Converting Decimals to Fractions and Fractions to Decimals
		MPA-029	Converting Fractions and Decimals
6.1.6	Use models to represent ratios.	MM1-205	Writing a Ratio to Compare Two Objects
		MM1-360	Expressing Percent as a Ratio
6.1.7	Find the least common multiple and the greatest common factor of whole numbers. Use them to solve problems with fractions (e.g., to find a common denominator to add two fractions or to find the reduced form for a fraction).	MM1-105	Identifying the Greatest Common Factor and the Least Common Multiple
		MM1-115	Writing Fractions in Simplest Form
		MM1-130	Identifying the Least Common Denominator
		MM1-135	Comparing and Ordering Fractions with Like and Unlike Denominators
		MM1-145	Adding and Subtracting Fractions with Like and Unlike Denominators
		MM1-160	Adding and Subtracting Mixed Numbers with Unlike Denominators
		MPA-027	Finding the Greatest Common Factor
		MPA-030	Finding Least Common Multiple of Two or More Numbers
		MPA-028	Reducing Fractions to Lowest Terms/Simplest Form
		MPA-035	Adding and Subtracting Mixed Numbers with Unlike Denominators
COMPUTATION			
6.2.1	Add and subtract positive and negative integers.	MM1-580	Adding Integers with Like and Unlike Signs
		MM1-585	Subtracting Integers with Like and Unlike Signs
		MPA-117	Modeling Integer Arithmetic Using Cups and Counters

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		MPA-047	Adding Integers with Like Signs
		MPA-048	Adding Integers with Unlike Signs
		MPA-050	Subtracting Integers with Unlike Signs
6.2.2	Multiply and divide positive and negative integers.	MM1-590	Multiplying Integers with Like and Unlike Signs
		MM1-595	Dividing Integers with Like and Unlike Signs
		MPA-051	Multiplying Integers with Like and Unlike Signs
		MPA-052	Dividing Integers with Like and Unlike Signs
6.2.3	Multiply and divide decimals.	MM1-310	Multiplying Decimals
		MM1-311	Using a One-Digit Divisor, Express the Remainder as a Decimal
		MM1-313	Using a Two-Digit Divisor, Express the Remainder as a Decimal
		MM1-315	Dividing Decimals by Whole Number Divisors
		MM1-325	Dividing with Decimal Divisors
		MM1-330	Dividing with a Decimal Divisor and Dividend
		MM1-335	Using Zeros as Placeholders when Dividing with Decimal Numbers in the Dividend
		MPA-019	Multiplying Decimals
		MPA-020	Multiplying Decimals by Powers of Ten
		MPA-022	Dividing Decimals
		MPA-119	Dividing Decimals (an Introduction)
		MPA-122	Modeling Multiplication and Division of Decimals
6.2.4	Explain how to multiply and divide positive fractions and perform the calculations.	MM1-165	Multiplying Fractions
		MM1-170	Multiplying Fractions by Simplifying the Problem
		MM1-175	Multiplying Mixed Numbers
		MM1-180	Dividing Fractions
		MM1-185	Dividing Mixed Numbers
		MPA-036	Multiplying Fractions and Mixed Numbers and Simplifying
		MPA-037	Dividing Fractions and Mixed Numbers and Simplifying
6.2.5	Solve problems involving addition, subtraction, multiplication, and division of positive fractions and explain why a particular operation was used for a given situation.	MM1-145	Adding and Subtracting Fractions with Like and Unlike Denominators
		MM1-150	Adding Mixed Numbers with Like Denominators
		MM1-155	Subtracting Mixed Numbers with Like Denominators
		MM1-160	Adding and Subtracting Mixed Numbers with Unlike Denominators
		MM1-165	Multiplying Fractions
		MM1-170	Multiplying Fractions by Simplifying the Problem
		MM1-175	Multiplying Mixed Numbers
		MM1-180	Dividing Fractions
		MM1-185	Dividing 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-123	Modeling Multiplication and Division of Fractions
6.2.6	Interpret and use ratios to show the relative sizes of two quantities. Use the notations: a/b , a to b , $a:b$.	MM1-205	Writing a Ratio to Compare Two Objects
		MM1-210	Identifying and Writing Equal Ratios
		MPA-078	Expressing Ratios as Fractions and Determining Equivalency
6.2.7	Understand proportions and use them to solve problems.	MM1-220	Writing and Forming Proportions
		MM1-225	Solving Proportions
		MPA-080	Solving Proportions
		MPA-110	Solving Problems Using Proportions, Scale Drawings, Models, and Maps
6.2.8	Calculate given percentages of quantities and solve problems	MM1-610	Finding Simple Interest

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	involving discounts at sales, interest earned, and tips.		
		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-088	Solving Real-World Problems Involving Percent
		MPA-127	Solving Real-World Problems Involving Discounts
		MPA-128	Solving Real-World Problems Involving Simple Interest
6.2.9	Use estimation to decide whether answers are reasonable in decimal problems.	MM1-305	Estimating Products by Rounding to the Nearest Whole Number
		MM1-340	Rounding Quotients
		MPA-017	Rounding Decimals and Estimating Computations Using Decimals
		MPA-023	Rounding Quotients Involving Decimals
6.2.10	Use mental arithmetic to add or subtract simple fractions and decimals.	MPA-017	Rounding Decimals and Estimating Computations Using Decimals
		MPA-033	Estimating Computations with Fractions and Mixed Numbers
ALGEBRA AND FUNCTIONS			
6.3.1	Write and solve one-step linear equations and inequalities in one variable and check the answers.	MM1-625	Solving Algebraic Equations Using the Inverse Operations of Addition and Subtraction
		MM1-630	Solving Algebraic Equations Using the Inverse Operations of Multiplication and Division
		MM1-640	Solving Algebraic Word Problems
		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-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-054	Solving One-Step Equations with Integers Using all Four Operations
		MPA-109	Solving and Graphing Linear Inequalities on a Number Line
6.3.2	Write and use formulas with up to three variables to solve problems.	MM1-505	Determining the Perimeter of Any Polygon
		MM1-510	Determining the Area of Parallelograms and Triangles
		MM1-515	Defining a Circle
		MM1-520	Finding the Surface Area of a Rectangular Prism
		MM1-525	Finding the Volume of Rectangular and Triangular Prisms
		MM1-530	Finding the Volume of a Cylinder
		MM1-605	Converting Fahrenheit and Celsius
		MM1-610	Finding Simple Interest
		MM1-635	Calculating Distance, Rate, or Time by Solving Equations
		MPA-077	Solving Problems Using a Formula
6.3.3	Interpret and evaluate mathematical expressions that use grouping symbols such as parentheses.	MM1-080	Identifying the Order of Operations Using Multiplication, Addition, and Subtraction
		MM1-085	Identifying the Order of Operations for Multiplication, Addition, and Subtraction Using Parentheses and Exponents
		MPA-008	Order of Operations
6.3.4	Use parentheses to indicate which operation to perform first when writing expressions containing more than two terms and different operations.	MPA-041	Writing Simple Algebraic Expressions from Phrases
6.3.5	Use variables in expressions describing geometric quantities.	MM1-505	Determining the Perimeter of Any Polygon
		MM1-510	Determining the Area of Parallelograms and Triangles
		MM1-515	Defining a Circle
		MM1-520	Finding the Surface Area of a Rectangular Prism

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		MM1-525	Finding the Volume of Rectangular and Triangular Prisms
		MM1-530	Finding the Volume of a Cylinder
6.3.6	Apply the correct order of operations and the properties of real numbers (e.g., identity, inverse, commutative*, associative*, and distributive* properties) to evaluate numerical expressions. Justify each step in the process.	MM1-040	Using the Inverse Operations of Addition and Subtraction to Solve Problems Related to Number Sentences
		MM1-045	Identifying and Using Properties of Multiplication to Solve Problems
		MM1-082	Identifying the Order of Operations Using Multiplication, Addition, and Subtraction
		MM1-085	Identifying the Order of Operations for Multiplication, Addition, and Subtraction Using Parentheses and Exponents
		MPA-008	Order of Operations
6.3.7	Identify and graph ordered pairs in the four quadrants of the coordinate plane.	MM1-642	Exploring the Coordinate Plane and Graphing Ordered Pairs
		MPA-046	Graphing Points on a Coordinate Plane
6.3.8	Solve problems involving linear functions with integer values. Write the equation and graph the resulting ordered pairs of integers on a grid.	MPA-102	Graphing Equations by Plotting Points
6.3.9	Investigate how a change in one variable relates to a change in a second variable.	MPA-102	Graphing Equations by Plotting Points
GEOMETRY			
6.4.1	Identify and draw vertical, adjacent, complementary, and supplementary angles and describe these angle relationships.	MM1-460	Measuring and Classifying Angles
		MPA-056	Classifying Angles
		MPA-057	Identifying and Applying Supplementary and Complementary Angles
		MPA-105	Determining the Measure of Angles Made by Parallel Lines and a Transversal
6.4.2	Use the properties of complementary, supplementary, and vertical angles to solve problems involving an unknown angle. Justify solutions.	MM1-460	Measuring and Classifying Angles
		MPA-057	Identifying and Applying Supplementary and Complementary Angles
		MPA-105	Determining the Measure of Angles Made by Parallel Lines and a Transversal
6.4.3	Draw quadrilaterals and triangles from given information about them.	MM1-465	Naming and Classifying Polygons by Characteristics
		MM1-480	Identifying and Labeling Triangles According to Their Sides and Angles
		MPA-058	Identifying Polygons
		MPA-059	Classifying Triangles and Quadrilaterals
6.4.4	Understand that the sum of the interior angles of any triangle is 180° and that the sum of the interior angles of any quadrilateral is 360° . Use this information to solve problems.	MPA-057	Identifying and Applying Supplementary and Complementary Angles
		MPA-060	Determining Which Figures Tessellate
6.4.5	Identify and draw two-dimensional shapes that are similar.	MM1-470	Using Ratios to Identify Similar Figures
		MM1-475	Using Proportions to Solve for Unknown Lengths of Sides of Similar Figures
		MPA-059	Classifying Triangles and Quadrilaterals
		MPA-121	Identifying Similar and Congruent Polygons Using Proportions
6.4.6	Draw the translation (slide) and reflection (flip) of shapes.	MM1-500	Using Translations, Rotations and Reflections to Transform Shapes
6.4.7	Visualize and draw two-dimensional views of three-dimensional objects made from rectangular solids.	MPA-106	Identifying a Solid Figure From a Net
MEASUREMENT			
6.5.1	Select and apply appropriate standard units and tools to measure length, area, volume, weight, time, temperature, and the size of angles.	MM1-460	Measuring and Classifying Angles
		MPA-130	Developing a Sense of Relative Sizes of Measures
6.5.2	Understand and use larger units for measuring length by comparing miles to yards and kilometers to meters.	MPA-130	Developing a Sense of Relative Sizes of Measures
6.5.3	Understand and use larger units for measuring area by comparing acres and square miles to square yards and square kilometers to	MPA-130	Developing a Sense of Relative Sizes of Measures

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	square meters.		
6.5.4	Understand the concept of the constant as the ratio of the circumference to the diameter of a circle. Develop and use the formulas for the circumference and area of a circle.	MM1-515	Defining a Circle
		MPA-070	Finding the Circumference of a Circle
		MPA-071	Finding the Area of a Circle
6.5.5	Know common estimates of π (3.14, 22/7) and use these values to estimate and calculate the circumference and the area of circles. Compare with actual measurements.	MM1-515	Defining a Circle
		MPA-070	Finding the Circumference of a Circle
		MPA-071	Finding the Area of a Circle
6.5.6	Understand the concept of significant figures and round answers to an appropriate number of significant figures	Future Lesson in Development	MPA-134 Distinguishing Between Precision and Accuracy and Use Significant Digits in Computational Problems
6.5.7	Construct a cube and rectangular box from two-dimensional patterns and use these patterns to compute the surface area of these objects.	MM1-520	Finding the Surface Area of a Rectangular Prism
		MPA-106	Identifying a Solid Figure From a Net
6.5.8	Use strategies to find the surface area and volume of right prisms and cylinders using appropriate units.	MM1-520	Finding the Surface Area of a Rectangular Prism
		MM1-525	Finding the Volume of Rectangular and Triangular Prisms
		MPA-073	Finding the Surface Area of Rectangular Prisms
		MPA-075	Finding the Volume of Rectangular Prisms
6.5.9	Use a formula to convert temperatures between Celsius and Fahrenheit.	MM1-605	Converting Fahrenheit and Celsius
		MPA-077	Solving Problems Using a Formula
6.5.10	Add, subtract, multiply, and divide with money in decimal notation.	MPA-018	Adding and Subtracting Decimals
		MPA-019	Multiplying Decimals
		MPA-020	Multiplying Decimals by Powers of Ten
		MPA-022	Dividing Decimals
DATA AND PROBABILITY			
6.6.1	Organize and display single-variable data in appropriate graphs and stem-and-leaf plots, and explain which types of graphs are appropriate for various data sets.	MM1-390	Understanding Data in Bar Graphs, Line Graphs, and Stem-and-Leaf Plots
		MM1-400	Interpreting Double Bar Graphs
		MM1-405	Interpreting and Constructing Circle Graphs
		MPA-092	Reading and Interpreting Bar, Line, and Circle Graphs
		MPA-096	Constructing Stem-and-Leaf Plots
6.6.2	Make frequency tables for numerical data, grouping the data in different ways to investigate how different groupings describe the data. Understand and find relative and cumulative frequency for a data set. Use histograms of the data and of the relative frequency distribution, and a broken line graph for cumulative frequency, to interpret the data.	MPA-129	Choosing Appropriate Scales and Intervals for Data (an Introduction)
		MPA-131	Interpreting and Creating Histograms
		HA1-545	Making a Frequency Distribution Table
6.6.3	Compare the mean, median, and mode for a set of data and explain which measure is most appropriate in a given context.	MM1-415	Defining and Calculating the Range and the Mean
		MM1-420	Defining and Calculating the Median and the Mode
		MPA-095	Find the Mean, Median, and Mode
6.6.4	Show all possible outcomes for compound events in an organized way and find the theoretical probability of each outcome.	MPA-112	Constructing Sample Spaces for Compound Events (Dependent and Independent)
6.6.5	Use data to estimate the probability of future events.	MM1-230	Finding the Probability of Simple Events
		MM1-235	Finding Experimental Probability
		MPA-090	Finding the Probability of Simple Real-Life Events

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6.6.6	Understand and represent probabilities as ratios, measures of relative frequency, decimals between 0 and 1, and percentages between 0 and 100 and verify that the probabilities computed are reasonable.	MM1-230	Finding the Probability of Simple Events
		MM1-235	Finding Experimental Probability
		MPA-090	Finding the Probability of Simple Real-Life Events
PROBLEM SOLVING			
6.7.1	Analyze problems by identifying relationships, telling relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns.	MPA-099	Recognizing Misleading Statistics and Graphs
		MPA-104	Recognizing Patterns
		MM1-425	Classifying Information from a Mathematical Story
		Throughout	
6.7.2	Make and justify mathematical conjectures based on a general description of a mathematical question or problem.	HA1-881	Completing and Validating Algebraic Proofs
		Throughout	
6.7.3	Decide when and how to divide a problem into simpler parts.	Throughout	
6.7.4	Apply strategies and results from simpler problems to solve more complex problems.	Throughout	
6.7.5	Express solutions clearly and logically using the appropriate mathematical terms and notation. Support solutions with evidence in both verbal and symbolic work.	Throughout	
6.7.6	Recognize the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy.	MPA-006	Determining Reasonableness of Answers and Appropriate Method of Computation
		Throughout	
6.7.7	Select and apply appropriate methods for estimating results of rational-number computations.	Throughout	
6.7.8	Use graphing to estimate solutions and check the estimates with analytic approaches.	Throughout	
6.7.9	Make precise calculations and check the validity of the results in the context of the problem.	Throughout	
6.7.10	Decide whether a solution is reasonable in the context of the original situation.	MPA-006	Determining Reasonableness of Answers and Appropriate Method of Computation
		Throughout	
6.7.11	Note the method of finding the solution and show a conceptual understanding of the method by solving similar problems.	Throughout	

MM1-Fundamentals of Mathematics

MPA-Pre-Algebra

HA1-Algebra 1

Note: Standards were taken from the Indiana Mathematics Curriculum Framework document adopted by the Indiana State Board of Education in September 2000.