



## 8<sup>th</sup> Grade Correlation to Illinois Learning Standards

	Illinois Learning Standard	Lesson Number	Lesson Title
<b>NUMBER SENSE</b>			
6.A.3a.	Represent fractions, decimals, percentages, exponents and scientific notation in equivalent forms.	MPA-021	Converting Between Standard and Scientific Notation
		MPA-029	Converting Fractions and Decimals
		MPA-032	Converting Improper Fractions and Mixed Numbers
		MPA-081	Converting Decimals, Fractions, and Percents I
		MPA-082	Converting Decimals, Fractions, and Percents II
6.B.3a.	Solve practical computation problems involving whole numbers, integers and rational numbers.	MPA-002	Adding, Subtracting, Multiplying, and Dividing Whole Numbers
		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-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-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-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-047	Adding Integers with Like Signs
		MPA-048	Adding Integers with Unlike Signs
		MPA-050	Subtracting Integers
		MPA-051	Multiplying Integers
		MPA-052	Dividing Integers
		MPA-053	Adding, Subtracting, Multiplying, and Dividing Integers
		MPA-054	Solving One-Step Equations with Integers Using all Four Operations
		MPA-119	Division of Decimals
6.B.3b.	Apply primes, factors, divisors, multiples, common factors and common multiples in solving problems.	MPA-025	Identifying Prime and Composite Numbers
		MPA-026	Using Prime Factorization
		MPA-027	Finding Greatest Common Factor
		MPA-030	Finding Least Common Multiple of Two or More Numbers
6.B.3c.	Identify and apply properties of real numbers including pi, squares, and square roots.	MPA-064	Finding Square Roots of Perfect Squares

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6.C.3a.	Select computational procedures and solve problems with whole numbers, fractions, decimals, percents and proportions.	MPA-065	Estimating Square Roots		
		MPA-037	Dividing Fractions and Mixed Numbers and Simplifying		
		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-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-080	Solving Proportions		
		MPA-110	Solving Problems Using Proportions, Scale Drawings, Models and Maps		
		MPA-119	Division of Decimals		
6.C.3b.	Show evidence that computational results using whole numbers, fractions, decimals, percents and proportions are correct and/or that estimates are reasonable.	MPA-006	Determining Reasonableness of Answers and Appropriate Methods of Computation		
6.D.3a.	Apply ratios and proportions to solve practical problems.	MPA-078	Expressing Ratios as Fractions and Determining Equivalency		
		MPA-080	Solving Proportions		
		MPA-110	Solving Problems Using Proportions, Scale Drawings, Models and Maps		
		MPA-078	Expressing Ratios as Fractions and Determining Equivalency		
		MPA-080	Solving Proportions		
		MPA-110	Solving Problems Using Proportions, Scale Drawings, Models and Maps		
<b>ESTIMATION AND MEASUREMENT</b>					
7.A.3a.	Measure length, capacity, weight/mass and angles using sophisticated instruments (e.g., compass, protractor, trundle wheel).	MPA-105	Determining the Measure of Angles made by Parallel Lines and a Transversal		
		MPA-130	Developing a Sense of the Relative Sizes of Common Units		
		MPA-062	Converting Units in Customary System		
		MPA-061	Converting Metric Units of Length, Capacity, and Mass		
		MPA-063	Converting Units Between Metric and Customary System		
		MPA-056	Classifying Angles		
		MPA-057	Identifying and Applying Supplementary and Complementary Angles		
		MPA-058	Identifying Polygons		
		7.A.3b.	Apply the concepts and attributes of length, capacity, weight/mass, perimeter, area, volume, time, temperature and angle measures in practical situations.	MPA-055	Finding the Perimeter of a Figure
				MPA-067	Finding the Area of Rectangles and Parallelograms
7.B.3a.	Select and apply instruments including rulers and protractors and units of measure to the degree of accuracy required.	MPA-068	Finding the Area of Irregular Figures		
		MPA-069	Finding the Area of Triangles and Trapezoids		
		MPA-070	Finding the Circumference of Circles		
		MPA-071	Finding the Area of Circles		
		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		
		MM1-460	Classifying and Measuring Angles		
7.C.3a.	Construct a simple scale drawing for a given situation.	MPA-130	Developing a Sense of the Relative Sizes of Common Units		
7.C.3b.	Use concrete and graphic models and appropriate formulas to find perimeters, areas, surface areas and volumes of two- and three-dimensional	MPA-110	Solving Problems Using Proportions, Scale Drawings, Models and Maps		
		MPA-055	Finding the Perimeter of a Figure		

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	regions.	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 Circles
		MPA-071	Finding the Area of Circles
		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-115	Finding the Volumes of Prisms, Cylinders, Pyramids, and Cones Using Models
<b>ALGEBRA AND ANALYTICAL METHODS</b>			
8.A.3a.	Apply the basic properties of commutative, associative, distributive, transitive, inverse, identity, zero, equality and order of operations to solve problems.	MPA-008	Determining the Correct Order of Operations when Multiple Operations are Performed
		MPA-002	Adding, Subtracting, Multiplying, and Dividing Whole Numbers
		MPA-003	Using the 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
		HA1-076	Basic Distributive Property
8.A.3b.	Solve problems using linear expressions, equations and inequalities.	MPA-013	Using Powers and Exponents in Expressions
		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-042	Solving Problems Using an Equation
		MPA-009	Solving One-Step Equations Using a Box
		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-100	Solving Two-Step Equations
		MPA-101	Solving Equations by Combining Like Terms
8.B.3a.	Use graphing technology and algebraic methods to analyze and predict linear relationships and make generalizations from linear patterns.	MPA-103	Distinguishing Between Relations and Functions
		MPA-104	Recognizing Patterns
		HA1-382	Solving Linear Equations Using A Graphing Calculator
8.C.3a.	Apply the properties of numbers and operations including inverses in algebraic settings derived from economics, business and the sciences.	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
		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
		MPA-086	Solving Problems Using Percent
		MPA-087	Finding Percent Increase and Decrease
		<i>Journal Questions</i>	
8.D.3a.	Solve problems using numeric, graphic or symbolic representations of variables, expressions, equations and inequalities.	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-013	Using Powers and Exponents in Expressions

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		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
8.D.3b.	Propose and solve problems using proportions, formulas and linear functions.	MPA-077	Solving Problems Using a Formula
		MPA-080	Solving Proportions
		MPA-110	Solving Problems Using Proportions, Scale Drawings, Models and Maps
		MPA-102	Graphing Equations by Plotting Points
		MPA-103	Distinguishing Between Relations and Functions
8.D.3c.	Apply properties of powers, perfect squares and square roots.	MPA-013	Using Powers and Exponents in Expressions
		MPA-064	Finding Square Roots of Perfect Squares
		MPA-065	Estimating Square Roots
<b>GEOMETRY</b>			
9.A.3a.	Draw or construct two- and three- dimensional geometric figures including prisms, pyramids, cylinders and cones.	MPA-107	Constructing Three-Dimensional Figures and Examining Their Dimensions
		MPA-072	Identifying 3-D Figures
9.A.3b.	Draw transformation images of figures, with and without the use of technology.	MPA-060	Determining Which Figures Tessellate
		MPA-108	Graphing Translations and Reflections on the Coordinate Plane
		MPA-120	Applying Dilations in the Coordinate Plane
9.A.3c.	Use concepts of symmetry, congruency, similarity, scale, perspective, and angles to describe and analyze two- and three-dimensional shapes found in practical applications (e.g., geodesic domes, A-frame houses, basketball courts, inclined planes, art forms, blueprints).	MPA-056	Classifying Angles
		MPA-057	Identifying and Applying Supplementary and Complementary Angles
		MPA-058	Identifying Polygons
		MPA-059	Classifying Triangles and Quadrilaterals
		MPA-121	Comparing Similar and Congruent Polygons
9.B.3a.	Identify, describe, classify and compare two- and three- dimensional geometric figures and models according to their properties.	MPA-056	Classifying Angles
		MPA-058	Identifying Polygons
		MPA-059	Classifying Triangles and Quadrilaterals
		MPA-072	Identifying 3-D Figures
		MPA-107	Constructing Three-Dimensional Figures and Examining Their Dimensions
9.C.3b.	Develop and solve problems using geometric relationships and models, with and without the use of technology.	MPA-057	Identifying and Applying Supplementary and Complementary Angles
		MPA-111	Comparing Perimeters, Areas and Volumes of Similar Geometric Figures and Solids
		MPA-117	Modeling Integer Arithmetic Using Cups and Counters
		MPA-122	Modeling Multiplication and Division of Decimals
		MPA-125	Formulating a Possible Problem Situation Given an Equation
		MPA-118	Modeling Integer Arithmetic Using Algebra Tiles
		Throughout	
9.D.3a.	Compute distances, lengths and measures of angles using proportions, the Pythagorean theorem and its converse.	MPA-066	Solving Problems Using the Pythagorean Theorem
		MPA-068	Finding the Area of Irregular Figures
		MPA-069	Finding the Area of Triangles and Trapezoids
<b>DATA ANALYSIS AND PROBABILITY</b>			
10.A.3a.	Construct, read and interpret tables, graphs (including circle graphs) and charts to organize and represent data.	MPA-089	Using Tree Diagrams
		MPA-092	Reading and Interpreting Bar, Line, and Circle Graphs

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		MPA-093	Choosing Appropriate Scales and Intervals for Data
		MPA-094	Interpreting and Constructing Line Plots
		MPA-096	Constructing Stem-and-Leaf Plots
		MPA-097	Constructing Box-and-Whisker Plots
		MPA-098	Making Predictions for Graphs and Choosing the Best Graph
		MPA-129	Choosing Appropriate Scales and Intervals for Data (An Introduction)
10.A.3b.	Compare the mean, median, mode and range, with and without the use of technology.	MPA-095	Finding Mean, Median, and Mode
10.A.3c.	Test the reasonableness of an argument based on data and communicate their findings.	MPA-099	Recognizing Misleading Statistics and Graphs
10.B.3a.	Formulate questions (e.g., relationships between car age and mileage, average incomes and years of schooling), devise and conduct experiments or simulations, gather data, draw conclusions and communicate results to an audience using traditional methods and contemporary technologies.	MPA-092	Reading and Interpreting Bar, Line, and Circle Graphs
		MPA-094	Interpreting and Constructing Line Plots
		MPA-095	Finding Mean, Median, and Mode
		MPA-096	Constructing Stem-and-Leaf Plots
		MPA-097	Constructing Box-and-Whisker Plots
		MPA-098	Making Predictions for Graphs and Choosing the Best Graph
10.C.3a.	Determine the probability and odds of events using fundamental counting principles.	MM1-230	Finding the Probability of Simple Events
		MPA-090	Finding the Probability of Simple Real-Life Events
		MPA-113	Finding the Probability of Compound Events Through Experimentation
		MPA-114	Finding the Odds of Events and Experimental Probability from a Math Model
10.C.3b.	Analyze problem situations (e.g., board games, grading scales) and make predictions about results.	MM1-445	Interpreting and Making Predictions from Predictions from Graphs
		MPA-098	Making Predictions for Graphs and Choosing the Best Graph

MM1-Fundamentals of Mathematics

MPA- Pre-Algebra

HA1-Algebra 1

Note: Standards were taken from the Illinois Learning Standards - Goals 6 - 10 Middle/Junior High School document adopted by the Illinois State Board of Education in 1997.