

Florida Sunshine State Standards, Grade 6,
Correlated to *Glencoe Mathematics: Applications and Concepts*, Course 1

Sunshine State Standards and Grade Level Expectations, Grade 6	Student Edition Lesson
Strand A: Number Sense, Concepts, and Operations	
Standard 1: The student understands the different ways numbers are represented and used in the real world.	
Benchmark MA.A.1.3.1: The student associates verbal names, written word names, and standard numerals with integers, fractions, decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios.	
1. knows word names and standard numerals for whole numbers, fractions, decimals (through hundred-thousandths), and percents.	3-1a, 3-1, 3-3, 5-5, 10-4, 10-5
2. reads and writes whole numbers and decimals in expanded form.	3-1
Benchmark MA.A.1.3.2: The student understands the relative size of integers, fractions, and decimals; numbers expressed as percents; numbers with exponents; numbers in scientific notation; radicals; absolute value; and ratios.	
1. compares and orders fractions and decimals using graphic models, number lines, and symbols.	3-1a, 3-2
2. compares and orders fractions, decimals, and common percents.	3-2, 5-5
Benchmark MA.A.1.3.3: The student understands concrete and symbolic representations of rational numbers and irrational numbers in real-world situations	
1. knows examples of positive rational numbers in real-world situations.	8-1
2. describes the meanings of positive rational numbers using part/whole relationships and relative size comparisons in real-world situations.	10-1, 10-1b, 10-4
3. constructs models to represent positive rational numbers.	3-2, 5-2a, 5-3, 7-2a, 7-4a, 10-4, 10-7a
Benchmark MA.A.1.3.4: The student understands that numbers can be represented in a variety of equivalent forms, including integers, fractions, decimals, percents, scientific notation, exponents, radicals, and absolute value.	
1. knows the relationships among fractions, decimals, and percents	5-2, 5-3, 5-6, 5-7, 10-5, 10-6, 10-7, 10-8
2. expresses a given quantity in a variety of ways, such as fractions, decimals, or numbers expressed as percents.	3-1, 5-3, 5-6, 5-7, 10-5, 10-6, 10-7, 10-8
3. knows whether numbers expressed in different forms are equal.	1-4, 5-2, 5-3, 5-5, 5-6, 5-7, 10-5, 10-6, 10-7, 10-8
4. converts a number expressed in one form to its equivalent in another form.	1-4, 3-1, 3-2, 5-2a, 5-2, 5-3, 5-6, 5-7, 10-1, 10-5, 10-6, 10-7, 10-8
Standard 2: The student understands number systems.	
Benchmark MA.A.2.3.1: The student understands and uses exponential and scientific notation.	
1. knows the meaning and use of exponential notation (for example $2^3 = 2 \times 2 \times 2 = 8$).	1-4, 1-5, 4-1, 14-3

2. expresses whole numbers in exponential notation or in factored form.	1-4
3. evaluates numerical expressions that contain exponential notation.	1-4, 1-5, 14-3
Benchmark MA.A.2.3.2: The student understands the structure of number systems other than the decimal number system.	
1. compares the decimal number system to systems that do not use place value (for example, Roman numeral, ancient Egyptian).	3-1b
Standard 3: The student understands the effects of operations on numbers and the relationships among these operations, selects appropriate operations, and computes for problem solving.	
Benchmark MA.A.3.3.1: The student understands and explains the effects of addition, subtraction, multiplication, and division on whole numbers, fractions, including mixed numbers, and decimals, including the inverse relationships of positive and negative numbers.	
1. knows the effects of the four basic operations on whole numbers, fractions, mixed numbers, and decimals.	1-5, 1-6, 3-1a, 3-4, 3-5, 3-5B, 4-1a, 4-1, 4-2a, 4-2, 4-3, 4-4a, 4-4, 4-4B, 6-3, 6-4a, 6-4, 6-5, 6-6, 7-1, 7-2a, 7-2, 7-3, 7-4a, 7-4, 7-5, 10-8
2. uses models or pictures to show the effects of addition, subtraction, multiplication, and division, on whole numbers, decimals, fractions, and mixed numbers.	3-1a, 4-1a, 4-2a, 4-3, 4-4a, 6-3, 6-4a, 7-1, 7-2a, 7-2, 7-3, 7-4a, 9-1a, 10-6, 10-7a, 10-7
3. knows and applies the commutative, associative, and distributive properties in the addition and multiplication of rational numbers.	9-1a, 9-1
4. uses concrete models and real-world examples to explore the inverse relationship of positive and negative numbers.	8-1, 8-2a, 8-2, 8-3, 8-4, 8-5, 9-2a, 9-2, 9-3a, 9-3, 9-4, 9-5
Benchmark MA.A.3.3.2: The student selects the appropriate operation to solve problems involving addition, subtraction, multiplication, and division of rational numbers, ratios, proportions, and percents, including the appropriate application of the algebraic order of operations.	
1. knows the appropriate operations to solve real-world problems involving whole numbers, decimals, and fractions.	1-1, 1-5, 1-6, 1-7a, 3-4, 3-5, 3-5b, 4-1, 4-2, 4-3, 4-4, 4-4b, 4-6, 5-4a, 5-6, 5-7, 6-2b, 6-3, 6-4, 6-5, 6-6, 7-1, 7-2, 7-3, 7-4, 7-5, 8-5a, 10-7, 10-8a, 10-8, 11-5a, 14-5a
2. solves real-world problems involving whole numbers, fractions, decimals, and common percents using one or two-step problems.	1-1, 1-5, 1-6, 1-7a, 3-2, 3-4, 3-5, 3-5b, 4-1, 4-2, 4-3, 4-4, 4-4b, 4-6, 5-4a, 5-6, 5-7, 6-2b, 6-3, 7-2, 7-3, 7-4, 7-5, 8-5a, 9-2, 9-3, 9-4, 9-5, 10-7, 10-8a, 10-8, 11-5a, 14-5a
3. applies order of operations when solving problems (parentheses, multiplication, division, addition, and subtraction).	1-6, 9-1
4. knows proportional relationships and describes such relationships in words, tables, or graphs.	10-2, 10-2b, 10-3
Benchmark MA.A.3.3.3: The student adds, subtracts, multiplies, and divides whole numbers, decimals, and fractions, including mixed numbers, to solve real-world problems, using appropriate methods of computing, such as mental mathematics, paper and pencil, and calculator.	
1. solves one- or two-step real-world problems involving whole numbers and decimals using appropriate methods of computation (for example, mental computation, paper and pencil, and calculator).	1-1, 1-5, 3-4, 3-5, 3-5b, 4-1, 4-2, 4-3, 4-4, 4-4b, 4-6, 5-4a, 5-6, 5-7, 9-5, 10-8a, 13-4a, 14-5a
2. justifies the choice of method for calculations, such as mental computation, concrete materials, algorithms, or calculators.	3-5b, 9-1, 10-8a, 13-4a, 14-5a

Standard 4: The student uses estimation in problem solving and computation.	
Benchmark MA.A.4.3.1: The student uses estimation strategies to predict results and to check the reasonableness of results.	
1. knows an appropriate estimation technique for a given situation using whole numbers (for example, clustering, compatible number, front-end).	3-4, 3-5b, 10-8
2. estimates to predict results and to check reasonableness of results.	1-1, 3-4, 3-5b, 4-4b
3. determines whether an exact answer is needed or an estimate would be sufficient.	1-1, 3-4, 3-5b, 4-4b
Standard 5: The student understands and applies theories related to numbers.	
Benchmark MA.A.5.3.1: The student uses concepts about numbers, including primes, factors, and multiples, to build number sequences.	
1. knows if numbers (less than or equal to 100) are prime or composite.	1-3
2. finds the greatest common factor and least common multiple of two or more numbers.	5-1, 5-2, 5-4, 5-5, 6-4, 6-5, 6-6, 7-2, 7-3, 7-4, 7-5
3. determines the prime factorization of a number less than or equal to 100.	1-3
4. uses divisibility rules.	1-2
Strand B: Measurement	
Standard 1: The student measures quantities in the real world and uses the measures to solve problems.	
Benchmark MA.B.1.3.1: The student uses concrete and graphic models to derive formulas for finding perimeter, area, surface area, circumference, and volume of two- and three-dimensional shapes, including rectangular solids and cylinders.	
1. uses concrete and graphic models to create formulas for finding the perimeter and area of plane figures and the volume of rectangular solids.	1-8, 4-5, 12-1b, 14-2a, 14-1, 14-2, 14-2b, 14-3, 14-5, 14-6
2. uses concrete and graphic models to discover an approximation for π and creates a formula for finding circumference.	4-6
Benchmark MA.B.1.3.2: The student uses concrete and graphic models to derive formulas for finding rates, distance, time, and angle measures.	
1. identifies a protractor as a tool for measuring angles and measures angles using a protractor.	13-1, 13-2
2. identifies and names angles according to their measure (including acute, right, obtuse, straight).	13-1
3. classifies triangles according to the measurement of their angles and according to the length of their sides.	13-4, 13-4b
4. determines the measure of a missing angle using angle relationships.	13-1, 13-4, 13-4b, 14-1
Benchmark MA.B.1.3.3: The student understands and describes how the change of a figure in such dimensions as length, width, height, or radius affects its other measurements such as perimeter, area, surface area, and volume.	
1. given a two-dimensional figure, creates a new figure by increasing or decreasing the original dimensions.	1-8, 4-5, 12-1a, 12-1b, 14-3
2. knows the relationship between the area or perimeter of an original figure and that of a newly created figure.	1-8, 12-1a, 12-1b, 14-1, 14-3
3. solves real-world or mathematical problems involving perimeter or area and how these are affected by changes in the dimensions of the figure.	1-8, 4-5, 12-1a, 12-1b, 14-1, 14-2, 14-3
Benchmark MA.B.1.3.4: The student constructs, interprets, and uses scale drawings such as those based on number lines and maps to solve real-world problems.	
1. knows proportional relationships in scale drawings.	10-3, 10-3b

2. uses scale drawings to solve real-world problems including distance (as in map reading).	10-3
Standard 2: The student compares, contrasts, and converts within systems of measurement (both standard/nonstandard and metric/customary).	
Benchmark MA.B.2.3.1: The student uses direct (measured) and indirect (not measured) measures to compare a given characteristic in either metric or customary units.	
1. compares objects according to their length, weight or mass, and capacity using customary or metric units.	12-1, 12-2, 12-3a, 12-3, 12-4, 12-4b
2. measures length, weight or mass, and capacity using appropriate measuring instruments.	12-1, 12-2, 12-3a, 12-3, 12-4, 12-4b
Benchmark MA.B.2.3.2: The student solves problems involving units of measure and converts answers to a larger or smaller unit within either the metric or customary system.	
1. changes one customary or metric unit of measurement to another within the same system.	12-1, 12-2, 12-3a, 12-5
2. uses concrete manipulatives or constructs models of square units (such as square inch and square meter) for measuring area and cubic units (such as cubic centimeter or cubic yard) for measuring volume.	1-8, 14-1, 14-2, 14-5, 14-6
Standard 3: The student estimates measurements in real-world problem situations.	
Benchmark MA.B.3.3.1: The student solves real-world and mathematical problems involving estimates of measurements including length, time, weight/mass, temperature, money, perimeter, area, and volume, in either customary or metric units.	
1. estimates the measure (length, weight or mass, and capacity) of an object or figure and then compares the estimate with the actual measurement of the object or figure.	12-1, 12-2, 12-3a, 12-3, 12-4, 12-4b
2. knows whether an exact answer is needed or an estimate is sufficient.	1-1, 12-2
3. estimates solutions to real-world problems by estimating the length, volume or capacity, weight or mass, perimeter, or area of objects or shapes in either customary or metric units.	4-5, 12-1, 12-3a, 12-3, 12-4, 12-4b
4. estimates solutions to real-world problems involving measurement, including estimates of time, temperature and money.	1-1, 3-4, 3-5b, 12-1
Standard 4: The student selects and uses appropriate units and instruments for measurement to achieve the degree of precision and accuracy required in real-world situations.	
Benchmark MA.B.4.3.1: The student selects appropriate units of measurement and determines and applies significant digits in a real-world context. (Significant digits should relate to both instrument precision and to the least precise unit of measurement).	
1. selects the appropriate unit of measure for a given real-world situation.	12-3b
2. knows the approximate nature of measurement and measures to the specified degree of accuracy (for example, nearest centimeter or sixteenth of an inch).	12-1, 12-3b
Benchmark MA.B.4.3.2: The student selects and uses appropriate instruments, technology, and techniques to measure quantities in order to achieve specified degrees of accuracy in a problem situation.	
1. selects an appropriate measurement tool (for example, scales, rulers, thermometers, measuring cups, protractors, gauges).	12-1, 12-3a, 12-3, 12-4b, 13-1, 13-2
2. determines the interval of a scale and reads the scales on a variety of measuring instruments.	12-1, 12-3a, 12-3, 13-1
3. measures accurately with the measurement tools.	12-1, 12-3a, 12-3, 13-1

Strand C: Geometry and Spatial Sense	
Standard 1: The student describes, draws, identifies, and analyzes two- and three-dimensional shapes.	
Benchmark MA.C.1.3.1: The student understands the basic properties of, and relationships pertaining to, regular and irregular geometric shapes in two- and three-dimensions.	
1. identifies, draws, and uses symbolic notation to denote the attributes of two-dimensional geometric figures (including points, parallel and perpendicular lines, planes, rays, and parts of a circle).	13-4, 14-4
2. knows and draws angles (including acute, obtuse, right, and straight).	13-1, 13-4b
3. analyzes relationships among two-dimensional geometric figures (for example, the diagonal of a rectangle divides the rectangle into two congruent triangles each having one half the area of the rectangle).	1-8, 13-4
4. uses appropriate measuring devices (including ruler and protractor) as needed in analysis of figures.	4-5, 4-6, 12-1a, 13-4, 13-4b
5. knows the attributes of and draws three-dimensional figures (including rectangular solids and cylinders).	14-4, 14-4b, 14-5, 14-6
6. knows the properties of two- and three-dimensional figures.	1-8, 4-1, 4-6, 13-4, 13-4b, 14-4, 14-5, 14-6a, 14-6
Standard 2: The student visualizes and illustrates ways in which shapes can be combined, subdivided, and changed.	
Benchmark MA.C.2.3.1: The student understands the geometric concepts of symmetry, reflections, congruency, similarity, perpendicularity, parallelism, and transformations, including flips, slides, turns, and enlargements.	
1. uses manipulatives and drawings to solve problems requiring spatial visualization.	14-5a, 14-5
2. describes and applies the property of symmetry in figures.	13-5
3. recognizes and draws congruent and similar figures.	13-6
4. identifies and performs the various transformations (reflection, translation, rotation) of a given figure on a coordinate plane.	13-5b
Benchmark MA.C.2.3.2: The student predicts and verifies patterns involving tessellations (a covering of a plane with congruent copies of the same pattern with no holes and no overlaps, like floor tiles).	
1. constructs tiling patterns to cover a plane.	13-6b
2. identifies a tessellation.	13-6b
3. identifies geometric shapes that can be tessellated.	13-6b
4. tessellates using translation and other desired transformations.	13-6b
Standard 3: The student uses coordinate geometry to locate objects in both two- and three-dimensions and to describe objects algebraically.	
Benchmark MA.C.3.3.1: The student represents and applies geometric properties and relationships to solve real-world and mathematical problems.	
1. observes, explains, and makes conjectures regarding geometric properties and relationships (among angles, triangles, squares, rectangles, parallelograms).	4-5, 13-3a, 13-3, 14-1, 14-2, 14-3, 14-5, 14-6
2. applies known geometric properties (for example, symmetry, congruence) to solve real-world and mathematical problems.	1-8, 4-5, 4-6, 13-5, 13-6
Benchmark MA.C.3.3.2: The student identifies and plots ordered pairs in all four quadrants of a rectangular coordinate system (graph) and applies simple properties of lines.	
1. identifies the x and y axes in a coordinate plane and identifies the coordinates of a given point in the first quadrant.	8-6

2. plots specific points in the first quadrant of the Cartesian coordinate system.	8-6
Strand D: Algebraic Thinking	
Standard 1: The student describes, analyzes, and generalizes a wide variety of patterns, relations, and functions.	
Benchmark MA.D.1.3.1: The student describes a wide variety of patterns, relationships, and functions through models, such as manipulatives, tables, graphs, expressions, equations, and inequalities.	
1. describes, predicts, and creates numerical and geometric patterns through models (for example, manipulatives, tables, graphs).	7-6a, 7-6
2. states in words a rule for a pattern.	1-1, 7-6, 9-6a, 9-6, 9-7
3. predicts outcomes based on patterns.	1-1, 7-6a, 7-6
4. finds patterns in real-world situations.	1-1, 7-6a, 7-6, 9-6, 9-7
5. describes relationships and patterns using words, tables, symbols, variables, expressions, or equations.	7-6a, 7-6, 9-6a, 9-6, 9-7
6. given initial terms in a pattern, supplies a specific missing term in the pattern (for example, given first four terms, supplies sixth term).	1-1, 7-6a, 7-6
Benchmark MA.D.1.3.2: The student creates and interprets tables, graphs, equations, and verbal descriptions to explain cause-and-effect relationships.	
1. interprets and creates function tables and graphs (first quadrant).	9-6a, 9-6, 9-7
2. substitutes values for variables in expressions and describes the results or patterns observed.	1-7, 9-6a, 9-6, 9-7
3. graphs (first quadrant) functions from function tables to explain cause-and-effect relationships.	9-7
Standard 2: The student uses expressions, equations, inequalities, graphs, and formulas to represent and interpret situations.	
Benchmark MA.D.2.3.1: The student represents and solves real-world problems graphically, with algebraic expressions, equations, and inequalities.	
1. uses variables to represent numbers and relationships.	1-6, 9-2, 9-3, 9-4, 9-5, 9-5b, 9-6a, 9-6, 9-7
2. translates verbal expressions into algebraic expressions.	1-5, 1-6, 1-8, 9-2, 9-3, 9-4, 9-5, 9-5b, 9-6, 9-7, 14-1
3. translates simple algebraic expressions, equations or formulas representing real-world relationships into verbal expressions or sentences.	4-5, 9-2, 9-4, 9-5, 9-5b, 9-6
4. uses pictures, models, manipulatives or other strategies to solve simple one-step linear equations with rational solutions.	9-2a, 9-2, 9-3a, 9-3, 9-4, 9-5
Benchmark MA.D.2.3.2: The student uses algebraic problem-solving strategies to solve real-world problems involving linear equations and inequalities.	
1. knows how to solve simple equations representing real-world situations, using pictures, models, manipulatives (such as algebra tiles), or other strategies.	1-8, 9-2a, 9-2, 9-3a, 9-3, 9-4, 9-5
2. uses concrete materials to solve equations and inequalities and explains reasoning orally or in writing.	9-2a, 9-2, 9-3a, 9-3, 9-4, 9-4b, 9-5
Strand E: Data Analysis and Probability	
Standard 1: The student understands and uses the tools of data analysis for managing information.	
Benchmark MA.E.1.3.1: The student collects, organizes, and displays data in a variety of forms, including tables, line graphs, charts, bar graphs, to determine how different ways of presenting data can lead to different interpretations.	

1. reads and analyzes data displayed in a variety of forms (charts, pictographs, stem-and-leaf plots).	1-7a, 2-1, 2-2a, 2-2, 2-2b, 2-3, 2-4, 2-5, 2-8, 4-4b, 10-8a
2. generates and collects data for analysis.	2-1, 2-2, 2-2b, 2-5, 11-1a, 11-1b, 11-3, 11-5a
3. chooses appropriate titles, scales, labels, keys, and intervals for displaying data in graphs.	2-1, 2-2, 2-5, 2-7b, 14-3b
4. constructs, interprets, and explains displays of data, such as tables and graphs (single- and multiple-bar graphs and single- and multiple-line graphs).	2-1, 2-2a, 2-2, 2-2b, 2-3, 2-4, 2-5, 2-7b, 2-8, 4-4b, 10-8a, 14-3b
Benchmark MA.E.1.3.2: The student understands and applies the concepts of range and central tendency (mean, median, and mode).	
1. organizes items in a set of data.	
2. finds the range, mean, median, and mode of a set of data.	2-6, 2-7
3. describes real-world data by applying and explaining appropriate procedures for finding measures of central tendency.	2-6, 2-6b, 2-7
Benchmark MA.E.1.3.3: The student analyzes real-world data by applying appropriate formulas for measures of central tendency and organizing data in a quality display, using appropriate technology, including calculators and computers.	
1. describes a set of data by using the measures of central tendency.	2-6, 2-6b, 2-7
2. uses technology, such as graphing calculators and computer spreadsheets, to create graphs.	2-2b
Standard 2: The student identifies patterns and makes predictions from an orderly display of data using concepts of probability and statistics.	
Benchmark MA.E.2.3.1: The student compares experimental results with mathematical expectations of probabilities.	
1. determines all possible outcomes of an event using a tree diagram or organized list.	11-1b, 11-2, 11-5
2. calculates simple mathematical probabilities.	11-1a, 11-1, 11-1b, 11-2, 11-3, 11-4, 11-5
3. uses manipulatives to obtain experimental results, compares results to mathematical expectations, and discusses the validity of the experiment.	11-1a, 11-1b, 11-3
Benchmark MA.E.2.3.2: The student determines odds for and odds against a given situation.	
1. examines and describes situations that include finding the odds for and against a specified outcome.	11-1
Standard 3: The student uses statistical methods to make inferences and valid arguments about real-world situations.	
Benchmark MA.E.3.3.1: The student formulates hypotheses, designs experiments, collects and interprets data, and evaluates hypotheses by making inferences and drawing conclusions based on statistics (range, mean, median, and mode) and tables, graphs, and charts.	
1. with classmates, formulates hypotheses based on research and prior data, designs an appropriate experiment, collects and analyses data using appropriate statistics, and displays and interprets results in appropriate tables or graphs.	11-1a, 11-3
Benchmark MA.E.3.3.2: The student identifies the common uses and misuses of probability or statistical analysis in the everyday world.	
1. explores uses and misuses of statistics in real-world situations such as advertisements and polls.	2-8, 11-3a