

**ADW GRADE 6 Math Standards, revised 2017****NUMBER SENSE (NS)**

*Students compare and order positive and negative integers, decimals, fractions and mixed numbers. They find multiples and factors.*

<b>2017</b>	<b>Standard</b>
MA.6.NS.1	Read and write whole numbers in scientific notation.
MA.6.NS.2	Understand and apply the basic concept of negative numbers (e.g., on a number line, in counting, in temperature, in "owing").
MA.6.NS.3	Interpret the absolute value of a number as the distance from zero on a number line, and find the absolute value of real numbers.
MA.6.NS.4	Compare and represent on a number line positive and negative integers
MA.6.NS.5	Compare and represent on a number line positive and negative fractions and mixed numbers.
MA.6.NS.6	Compare and represent on a number line positive and negative decimals (to the ten thousandths)
MA.6.NS.7	Convert between any two representations of numbers (fractions, mixed numbers, decimals, and percents) without the use of a calculator.
MA.6.NS.8	Recognize decimal equivalents for commonly used fractions without the use of a calculator.
MA.6.NS.9	Use models to represent ratios.
MA.6.NS.10	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 up to three fractions and mixed numbers or to find the simplified form for a fraction and mixed number).
MA.6.NS.11	Understand and compute whole number power of whole numbers.
MA.6.NS.12	Find the prime factorization of whole numbers and write the results using exponents.

**ADW GRADE 6 Math Standards, revised 2017****COMPUTATION ( C )**

*Students solve problems involving addition, subtraction, multiplication and division of integers. They solve problems involving fractions, decimals, ratios, proportions and percentages.*

<b>2017</b>	<b>Standard</b>
MA.6.C.1	Add and subtract positive and negative integers.
MA.6.C.2	Multiply and divide positive and negative integers.
MA.6.C.3	Multiply and divide decimals.
MA.6.C.4	Explain how to add and subtract positive fractions and mixed numbers with common and different denominators, and perform the calculations
MA.6.C.5	Explain how to multiply and divide positive fractions and mixed numbers, and perform the calculations
MA.6.C.6	Solve problems involving addition, subtraction of positive fractions and mixed numbers, explaining why a particular operation was used for a given situation.
MA.6.C.7	Solve problems involving multiplication and division of positive fractions and mixed numbers, explaining why a particular operation was used for a given situation.
MA.6.C.8	Interpret and use ratios to show the relative sizes of two quantities. Use the notations: $a/b$ , $a$ to $b$ , $a:b$ .
MA.6.C.9	Understand proportions and use them to solve problems.
MA.6.C.10	Calculate given percentages of quantities and solve problems involving discounts at sales, interest earned, and tips.
MA.6.C.11	Use estimation to decide whether answers to decimal problems are reasonable.
MA.6.C.12	Use mental arithmetic to add or subtract simple fractions and decimals.
MA.6.C.13	Add and subtract with money in decimal notation
MA.6.C.14	Multiply and divide with money in decimal notation

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**ALGEBRA AND FUNCTIONS (AF)**

*Students write verbal expressions and sentences as algebraic expressions and equations. They evaluate algebraic expressions, solve simple linear equations and graph and interpret their results. They investigate geometric relationships and describe them algebraically.*

<b>2017</b>	<b>Standard</b>
MA.6.AF.1	Use correct algebraic terminology such as variable, equation, term, coefficient, inequality, expression, and constant.
MA.6.AF.2	Write and solve one-step linear equations and inequalities in one variable and check the answers.
MA.6.AF.3	Write and use formulas with up to three variables to solve problems.
MA.6.AF.4	Interpret and evaluate mathematical expressions that use grouping symbols such as parentheses.
MA.6.AF.5	Use parentheses to indicate which operation to perform first when writing expressions containing more than two terms and different operations.
MA.6.AF.6	Use variables in expressions describing geometric quantities.
MA.6.AF.7	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.
MA.6.AF.8	Identify and graph ordered pairs in the four quadrants of the coordinate plane.
MA.6.AF.9	Understand that the length of a horizontal line segment on a coordinate plane equals the difference between the x-coordinates and that the length of a vertical line segment on a coordinate plane equals the difference between the y-coordinates.
MA.6.AF.10	Use information taken from a graph or equation to answer questions about a problem situation.
MA.6.AF.11	Solve the problems involving linear functions with integer values. Write the equation and graph the resulting ordered pairs of integers on a coordinate plane.
MA.6.AF.12	Investigate how a change in one variable relates to a change in a second variable.

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**GEOMETRY (G)**

*Students identify, describe and classify the properties of plane and solid geometric shapes and the relationships between them.*

<b>2017</b>	<b>Standard</b>
MA.6.G.1	Identify and draw vertical, adjacent, complementary, and supplementary angles and describe these angle relationships.
MA.6.G.2	Use the properties of complementary, supplementary, and vertical angles to solve problems involving an unknown angle. Justify solutions.
MA.6.G.3	Draw quadrilaterals and triangles from given information about them.
MA.6.G.4	Understand that the sum of the interior angles of any triangle is $180^\circ$ and that the sum of the interior angles of any quadrilateral is $360^\circ$ . Use this information to solve problems.
MA.6.G.5	Identify and draw two-dimensional shapes that are similar.
MA.6.G.6	Draw the translation (slide) and reflection (flip) of shapes.

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**MEASUREMENT(M)**

*Students deepen their understanding of the measurement of plane and solid shapes and use this understanding to solve problems. They calculate with temperature and money and choose appropriate units of measurement in other areas.*

<b>2017</b>	<b>Standard</b>
MA.6.M.1	Select and apply appropriate standard units and tools to measure length, area, volume, weight, time, temperature, and the size of angles.
MA.6.M.2	Understand and use larger units for measuring length by comparing miles to yards and kilometers to meters.
MA.6.M.3	Understand and use larger units for measuring area by comparing acres and square miles to square yards and square kilometers to square meters.
MA.6.M.4	Understand the concept of the constant $f\hat{=}$ 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.
MA.6.M.5	Know common estimates of $\pi$ (3.14, 22/7) and use these values to estimate and calculate the circumference and the area of circles. Compare with actual measurements.
MA.6.M.6	Construct a cube and rectangular box from two-dimensional patterns and use these patterns to compute the surface area of these objects.
MA.6.M.7	Use strategies to find the surface area and volume of rectangular solids, right prisms and cylinders using appropriate units.
MA.6.M.8	Use a formula to convert temperatures between Celsius and Fahrenheit.

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**DATA ANALYSIS AND PROBABILITY (DP)**

*Students compute and analyze statistical measures for data sets. They determine theoretical and experimental probabilities and use them to make predictions about events.*

<b>2017</b>	<b>Standard</b>
MA.6.DP.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.
MA.6.DP.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.
MA.6.DP.3	Compare the mean, median, and mode for a set of data and explain which measure is most appropriate in a given context.
MA.6.DP.4	Show all possible outcomes for compound events in an organized way and find the theoretical probability of each outcome.
MA.6.DP.5	Use data to estimate the probability of future events.
MA.6.DP.6	Understand and represent probabilities as ratios, measures of relative frequency, decimals between 00 and 1, and percentages between 0 and 100 and verify that the probabilities computed are reasonable.