

**Standard 1: Algebraic Reasoning: Patterns and Relationships - The student will use algebraic methods to describe patterns, simplify and write algebraic expressions and equations, and solve simple equations in a variety of contexts.**

6.1.1	Generalize and extend patterns and functions using tables, graphs, and number properties (e.g., number sequences, prime and composite numbers, recursive patterns like the Fibonacci numbers).
6.1.2	Write algebraic expressions and simple equations that correspond to a given situation.
6.1.3	Use substitution to simplify and evaluate algebraic expressions (e.g., if $x = 5$ evaluate $3 - 5x$ ).
6.1.4	Write and solve one-step equations with one variable using number sense, the properties of operations, and the properties of equality (e.g., $1/3x = 9$ ).

**Standard 2: Number Sense and Operation - The student will use numbers and number relationships to solve a variety of problems. The student will estimate and compute with integers, fractions, and decimals.**

6.2.1	Number Sense - Convert, compare, and order decimals, fractions, and percents using a variety of methods.
6.2.2a	Number Operations - Multiply and divide fractions and mixed numbers to solve problems using a variety of methods.
6.2.2b	Number Operations - Multiply and divide decimals with one- or two-digit multipliers or divisors to solve problems.
6.2.2c	Number Operations - Estimate and find solutions to single and multi-step problems using whole numbers, decimals, fractions, and percents (e.g., $7/8 + 8/9$ is about 2, $3.9 + 5.3$ is about 9).
6.2.2d	Number Operations - Use the basic operations on integers to solve problems.
6.2.2e	Number Operations - Build and recognize models of multiples to develop the concept of exponents and simplify numerical expressions with exponents and parentheses using order of operations.

**Standard 3: Geometry - The student will use geometric properties and relationships to recognize, describe, and analyze shapes and representations in a variety of contexts.**

6.3.1	Compare and contrast the basic characteristics of three-dimensional figures (pyramids, prisms, cones, and cylinders).
6.3.2	Compare and contrast congruent and similar figures.
6.3.3	Identify the characteristics of the rectangular coordinate system and use them to locate points and describe shapes drawn in all four quadrants.

**Standard 4: Measurement - The student will use measurements within the metric and customary systems to solve problems in a variety of contexts.**

6.4.1	Use formulas to find the circumference and area of circles in terms of pi.
6.4.2	Convert, add, or subtract measurements within the same system to solve problems (e.g., $9' 8'' + 3' 6''$ ; $150 \text{ minutes} = \_ \text{ hours and } \_ \text{ minutes}$ ; $6 \text{ square inches} = \_ \text{ square feet}$ ).

**Standard 5: Data Analysis - The student will use data analysis, probability, and statistics to interpret data in a variety of contexts.**

6.5.1	Data Analysis - Organize, construct displays, and interpret data to solve problems (e.g., data from student experiments, tables, diagrams, charts, graphs).
6.5.2	Probability - Use the fundamental counting principle on sets with up to five items to determine the number of possible combinations.
6.5.3	Central Tendency - Find the measures of central tendency (mean, median, mode, and range) of a set of data (with and without outliers) and understand why a specific measure provides the most useful information in a given context.

<b>Process Standard 1: Problem Solving</b>	
MS.1.1	Develop and test strategies to solve practical, everyday problems which may have single or multiple answers.
MS.1.2	Use technology to generate and analyze data to solve problems.
MS.1.3	Formulate problems from situations within and outside of mathematics and generalize solutions and strategies to new problem situations.
MS.1.4	Evaluate results to determine their reasonableness.
MS.1.5	Apply a variety of strategies (e.g., restate the problem, look for a pattern, diagrams, solve a simpler problem, work backwards, trial and error) to solve problems, with emphasis on multistep and non-routine problems.
MS.1.6	Use oral, written, concrete, pictorial, graphical, and/or algebraic methods to model mathematical situations.
<b>Process Standard 2: Communication</b>	
MS.2.1	Discuss, interpret, translate (from one to another) and evaluate mathematical ideas (e.g., oral, written, pictorial, concrete, graphical, algebraic).
MS.2.2	Reflect on and justify reasoning in mathematical problem solving (e.g., convince, demonstrate, formulate).
MS.2.3	Select and use appropriate terminology when discussing mathematical concepts and ideas.
<b>Process Standard 3: Reasoning</b>	
MS.3.1	Identify and extend patterns and use experiences and observations to make suppositions.
MS.3.2	Use counter examples to disprove suppositions (e.g., all squares are rectangles, but are all rectangles squares?).
MS.3.3	Develop and evaluate mathematical arguments (e.g., agree or disagree with the reasoning of other classmates and explain why).
MS.3.4	Select and use various types of reasoning (e.g., recursive [loops], inductive [specific to general], deductive [general to specific], spatial, and proportional).
<b>Process Standard 4: Connections</b>	
MS.4.1	Apply mathematical strategies to solve problems that arise from other disciplines and the real world.
MS.4.2	Connect one area or idea of mathematics to another (e.g., relates equivalent number representations to each other, relate experiences with geometric shapes to understanding ratio and proportion).
<b>Process Standard 5: Representation</b>	
MS.5.1	Use a variety of representations to organize and record data (e.g., use concrete, pictorial, and symbolic representations).
MS.5.2	Use representations to promote the communication of mathematical ideas (e.g., number lines, rectangular coordinate systems, scales to illustrate the balance of equations).
MS.5.3	Develop a variety of mathematical representations that can be used flexibly and appropriately (e.g., base-10 blocks to represent fractions and decimals, appropriate graphs to represent data).
MS.5.4	Use a variety of representations to model and solve physical, social, and mathematical problems (e.g., geometric objects, pictures, charts, tables, graphs).