

MATHEMATICS CONTENT STANDARDS

Grade 6

Standard 1: Algebraic Reasoning—The student will use algebraic methods to describe patterns and simplify algebraic expressions in a variety of contexts.

1. Extend and create patterns from tables, graphs, rules and number properties and generalize patterns algebraically (e.g., recursive patterns like the Fibonacci numbers, number sequences, prime and composite numbers).
2. Use substitution and order of operations to simplify and evaluate algebraic expressions (e.g., if $x = 5$ evaluate $2x + 3$).

Standard 2: Number Sense—The student will use numbers and number relationships to solve problems.

1. Multiply and divide fractions and mixed numbers to solve problems using a variety of methods.
2. Convert, compare and order decimals (terminating and nonterminating), fractions and percents using a variety of methods.
3. Estimate solutions to single and multi-step problems using whole numbers, decimals, fractions, and percents and assess whether solutions are reasonable (e.g., $+ \text{ is about } 2, 0.9 + 0.3 \text{ is about } 1$).
- *4. Build and explore multiples and their patterns to develop the concept of exponents.
5. 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.

1. Angles
 - a. Compare, estimate, and determine the measurement of angles.
 - b. Find the complement and supplement of an angle.
2. Differentiate between congruent and similar figures.
- *3. Describe the effect of performing basic transformations on objects and figures in a variety of contexts (e.g., explore reflection [flip] with mirrors, explore rotation [turn] and translation [slide] by designing the layout of different shapes of floor tile).

Standard 4: Measurement—The student will use measurements within the metric and U.S. customary system to solve problem in a variety of contexts.

*1. Collect data and develop formulas to find the circumference and area of circles (e.g., use string the length of the diameter of various circular lids to approximate the circumference and develop the concept of pi).

2. Compare and convert units within the same measurement system; express conversions using appropriate unit labels (e.g., square inches to square feet, centimeters to millimeters, hours to minutes); and compute measurements of combined units (e.g., $9'8'' + 3'6'' = ?'$ and $?'''$, $150 \text{ minutes} = ? \text{ hours and } ? \text{ minutes}$).

3. Find reasonable estimates for measurements using measurements in standard and metric units.

Standard 5: Data Analysis and Statistics—The student will use data analysis and statistics to interpret data in a variety of contexts.

1. Collect, organize, and interpret data to solve problems (e.g., data from student experiments, tallies, Venn diagrams, tables, circle and bar graphs, spreadsheets).

2. Construct and interpret graphs of statistical data (e.g., explain how different representations lead to different interpretations and may distort information).

3. Find the median and mode for a set of data in a variety of contexts.