

Math

At the end of the school year, students will be able to...

GOAL 6 Numbers Sense and Computations

Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions.

STANDARD A

Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.

- _____ Identify characteristics of rational numbers as part of the real number system.
- _____ Locate and graph rational numbers on a number line.
- _____ Determine equivalent forms for common fractions, decimals, and percents.
- _____ Explore ratios and proportions.
- _____ Explore the associative, commutative, and distributive properties.
- _____ Explore square roots.
- _____ Use exponents and write numbers in expanded and exponential notation.

STANDARD B

Investigate, represent and solve problems using number facts, operations (addition, subtraction, multiplication and division) and their properties, algorithms, and relationships.

- _____ Use prime and composite numbers, greatest common factors, and least common multiples.
- _____ Perform computations with rational numbers.
- _____ Analyze and determine appropriate operations to solve problems.
- _____ Evaluate expressions using order of operations.

STANDARD C

Compute and estimate using mental mathematics, paper-and-pencil methods, calculators and computers.

- _____ Problem solve real-life problems using a variety of methods (e.g. guess and check, making tables, finding patterns, working backwards, etc.).
- _____ Select and use appropriate operations, methods and tools to compute or estimate with rational numbers.
- _____ Explore techniques of estimating and rounding.
- _____ Determine if the conclusion is reasonable for the given set of information.

STANDARD D

Solve problems using comparisons of quantities, ratios, proportions and percents.

- _____ Write ratios to compare sets of objects.
- _____ Identify proportions to solve problems.
- _____ Identify real-life applications of percents and explore/solve problems using percents

GOAL 7 Measurement

Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.

STANDARD A

Measure and compare quantities using appropriate units, instruments, and methods.

- _____ Use appropriate units to model real world applications.
- _____ Measure angles using a protractor.
- _____ Measure length using English and metric system.
- _____ Measure perimeter and area using manipulatives and graph paper.

STANDARD B

Estimate measurements and determine acceptable levels of accuracy.

- _____ Check for reasonableness of measurements.

STANDARD C

Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate findings.

- _____ Find perimeter, area, and surface area.
- _____ Explore indirect measurements including heights and distances using proportions.
- _____ Select and use appropriate technology and instruments to solve problems and communicate results.

GOAL 8 Algebra

Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.

STANDARD A

Describe numerical relationships using variables and patterns.

- _____ Convert common decimals to fractions.
- _____ Identify and complete number and geometric patterns with/without physical objects.
- _____ Translate verbal phrases and sentences into algebraic expressions and equations.
- _____ Solve one-step equations involving all four operations and explore solving two-step equations.
- _____ Simplify algebraic expressions using order of operations and combining like terms.

STANDARD B

Interpret and describe numerical relationships using tables, graphs and symbols.

- _____ Plotting points on a coordinate plane.
- _____ Explore graphing linear functions.
- _____ Represent situations using algebraic expressions and variables.

STANDARD C

Solve problems using systems of numbers and their properties.

- _____ Use commutative, associative, and distributive properties.
- _____ Simplify algebraic expressions using order of operations and combining like terms.
- _____ Write equations for given conditions.

STANDARD D

Using algebraic concepts and procedures to represent problem solving.

- _____ Formulate algebraic models to solve real life problems.
- _____ Solve linear equations.
- _____ Explore applications of formulas.

GOAL 9 Geometry

Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.

STANDARD A

Demonstrate and apply geometric concepts involving points, lines, planes and solids.

- _____ Sketch common 2 and 3 dimensional figures.
- _____ Exploring constructing angles, segments, perpendicular lines, and parallel lines.

STANDARD B

Identify, describe, classify and compare relationships using points, lines, planes and solids.

- _____ Identify congruent and similar triangles and their corresponding parts.
- _____ Identify geometric figures containing lines of symmetry and rotational symmetry.
- _____ Identify and classify polygons.
- _____ Explore the Pythagorean Theorem and its converse.

STANDARD C

Construct convincing arguments and proofs to solve problems.

- _____ Discuss and write about results.

STANDARD D

Use trigonometric ratios and circular functions to solve problems.

GOAL 10 Data Collection and Statistical Analysis

Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.

- _____ Find and apply mean, median, mode, and range for a set of data.
- _____ Read, interpret, and construct graphs, tables, time lines, and charts.
- _____ Check for reasonableness of answers.

STANDARD B

Formulate questions, design data collection methods, gather and analyze data and communicate findings.

- _____ Collect, organize, analyze and interpret information to communicate finding.

STANDARD C

Determine, describe and apply the probabilities of events.

- _____ Determine probabilities for single events.
- _____ Find or predict the number of outcomes using the counting principle.