

Greensburg Community School Corporation
6th Curriculum

Math

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Greensburg Community schools 6th Grade Math

Greensburg Community Schools

Mission Statement

The mission of the Greensburg Community School Corporation is to provide and promote lifelong learning through its commitment to quality educational programs that prepare the students to be effective, successful, and responsible citizens. This is to be accomplished in a financially prudent manner.

Greensburg Community Schools
6th Grade Math

Narrative Description

The sixth grade math curriculum encompasses seven math proficiencies. These skills are taught in a progressive order and are continually reviewed. Through the use of ADD student math skills are integrated into Social Studies, Science, and Language Arts. (example: graphing ,measurement, time line) To complete the math program students use the text which is supplemented through workbooks, games, Cornerstone, worksheets, SmartBoard , and manipulatives.

Course Concepts and Generalizations

In sixth grade students will continually improve their ability to:

1. compare and order whole numbers, decimals, fractions, and mixed numbers.
2. solve problems involving fractions, decimals, ratios, proportions, and percentages using the four basic operations of mathematics.
3. write verbal expressions as algebraic expressions and equations.

4. identify, describe, and classify the properties of plane and solid geometric shapes and their relationships.
5. measure plane and solid objects, temperature, and money, and choose appropriate units of measure.
6. compute and analyze statistical measures for data sets.
7. approach problems and communicate ideas.

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Units of Study

UNITS/AREA OF STUDY	LENGTH OF TIME
1. Number Sense	40 Minutes daily
2. Computation	
3. Algebra	
4. Geometry	
5. Measurement	
6. Data Analysis and Probability	
7. Problem Solving	

Unit numbers correspond to the Unit numbers on the State Standard Chart.

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Number Sense

Students will be able to compare and order whole numbers, decimals, fractions, and mixed numbers.

- I. Number concepts
 - A. Negative numbers (6.1.1)
 - B. Absolute value of numbers (6.1.2)
- II. Number line (6.1.3)
 - A. Positive and Negative
 - B. Fractions
 - C. Decimals
- III. Conversions (6.1.4 & 6.1.5)
 - A. Fractions to decimals--decimals to fractions
 - B. Decimals to percents
 - C. Calculator use
- IV. Ratios
- V. Whole numbers
 - A. Least common multiple
 - B. Greatest common factor

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Computation

Students will be able to solve problems involving fractions, decimals, ratios, proportions, and percentages using the four basic operations of mathematics.

- I. Integers
 - A. Add positive and negative integers (6.2.1)
 - B. Subtract positive and negative integers (6.2.2)
 - C. Multiply positive and negative integers
 - D. Divide positive and negative integers
- II. Decimals
 - A. Multiply decimals (6.2.3)
 - B. Divide decimals (6.2.4)
 - C. Using estimation (6.2.9)
 - D. Mental math (6.2.10)
- III. Fractions
 - A. Multiply fractions
 - B. Divide fractions
 - C. Explain choice of operation (6.2.5)
 - D. Mental math (6.2.10)
- IV. Ratios
 - A. Interpret (6.2.6)
 - B. Use to show relationships
- V. Proportions
 - A. Understanding (6.2.7)
 - B. Usage in problems
- VI. Percentages
 - A. Percentages of quantities
 - B. Problem solving (6.2.8)
 - 1. Sales
 - 2. Interest
 - 3. Tips

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Algebra

Students will be able to write verbal expressions as algebraic expressions and equations.

- I. Algebraic expressions (6.3.3)
 - A. Formulas with up to three variables (6.3.2)

- B. Grouping
 - 1. Order of operations and properties of real numbers (6.3.6)
 - 2. Parenthesis (6.3.4)
- II. Linear equations (6.3.1)
 - A. Solve one step equations
 - B. Variables in expressions of geometric quantities (6.3.5)
 - 1. Change in one variable (6.3.9)
 - 2. Relate to second variable
 - C. Problems solving (6.3.8)
 - 1. Write equation
 - 2. Graph results
- III. Graphing
 - A. Ordered pairs (6.3.7)
 - B. Four quadrants of the coordinate plane

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Geometry

Students will be able to identify, describe, and classify the properties of plane and solid geometric shapes and their relationships.

- I. Angles
 - A. Identify, draw, and relate
 - 1. Vertical
 - 2. Adjacent (6.4.1)
 - 3. Complementary
 - 4. Supplementary
 - B. Problem solving using properties
 - 1. Complementary (6.4.2)
 - 2. Supplementary
 - 3. Vertical

- II. Geometric Shapes
 - A. Construct from given information
 - 1. Quadrilaterals (6.4.3)
 - 2. Triangles
 - B. Sum of interior angles
 - 1. Triangle 180 degrees (6.4.4)
 - 2. Quadrilateral 360 degrees
- III. Construction (draw)
 - A. Similar two-dimensional shapes (6.4.5)
 - B. Translation (slide) and reflection (flip) of shapes (6.4.6)
 - C. Two-dimensional views of three-dimensional objects (6.4.7)

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Measurement

Students will be able to measure plane and solid objects, temperature, and money, and to choose appropriate units of measure.

- I. Linear measurement
 - A. Length (6.5.1)
 - 1. Comparing miles (6.5.2)
 - 2. Comparing acres (6.5.3)
 - 3. Concept (6.5.4)
 - 4. Estimation of circumference and area of circle (6.5.5)
 - 5. Approximation of circumference and area of circle (6.5.6)
- II. Area of planes and solids
 - A. Cube and rectangular box
 - 1. Construct (6.5.7)
 - 2. Compute surface area
 - B. Right prisms and cylinder
 - 1. Compute surface area (6.5.8)
 - 2. Find volume
- III. Other measurements

- A. Convert temperatures from Celsius to Fahrenheit
- B. Money operations

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Data Analysis and Probability

Students will be able to compute and analyze statistical measures for data sets.

- I. Organization and display of data
 - A. Graphs (stem and leaf) (6.6.1)
 - B. Frequency tables (6.6.2)
 - C. Histograms
- II. Data analysis
 - A. Mean
 - B. Median
 - C. Mode
 - D. Range (6.6.3)
- III. Probability Theory
 - A. Possible outcomes (6.6.4)
 - 1. For compound events (6.6.4)
 - 2. For future events (6.6.5)
 - B. Representing ratios as (6.6.6)
 - 1. Fractions
 - 2. Decimals
 - 3. Percentages

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Problem Solving

Students will be able to approach problems and communicate their ideas.

- I. Problem analysis by identifying relationships
 - A. Tell relevant information
 - B. Identify missing information
 - C. Sequencing (6.7.1)
 - D. Prioritizing
 - E. Observing patterns
 - 1. Use general description to justify mathematical conjectures (6.7.2)
 - 2. Break problem into simpler parts (6.7.3)
- II. Strategies, skills, and concepts
 - A. Application from simpler to more complex problems (6.7.4)
 - B. Use appropriate mathematical terms and notation (6.7.5)
 - C. Advantages of exact versus approximate solutions (6.7.5)
 - D. Appropriate methods for estimating solutions (6.7.7)
 - 1. Graphing (6.7.8)
 - E. Check validity of results
- III. Evaluation of solutions
 - A. Decide if solution is reasonable in context
 - B. Apply understanding of method by solving similar problems

LEARNER ACTIVITIES

1. Use a menu with prices and find tax and tips
2. Geometric shapes drawn in class
3. Probability-using number cards and spinners
4. Polling students for favorite activities etc. and making charts and graphs
5. Using measuring cups, rulers, meters, and liters to convert quantities to different units

TECHNOLOGY INFUSION

Using spread sheets to make charts and graphs

Cornerstone

Calculators-%, decimal, and calculations

EVALUATION

Benchmark tests

Cornerstone printouts

Completion of assignments

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Sources

SilverBurdett Ginn	Mathematics Text Book
SilverBurdett Ginn	Workbook
United Stream	website
Smartboard	New Technology