



Third Grade Mathematics

The Gilmer County Charter School System's mathematics program is built upon the Georgia Reveal Mathematics Curriculum. The mathematics standards set a rigorous definition of college and career readiness by demanding that students develop a depth of understanding and ability to apply mathematics to real-life situations, as college students and employees regularly do. In prekindergarten through grade 8 mathematics, the standards lay a solid foundation in whole numbers, addition, subtraction, multiplication, division, fractions, and decimals. Taken together, these elements support a student's ability to learn and apply more demanding mathematics concepts and procedures in middle and high school.

Gilmer County's mathematics programs call on students to practice applying mathematical ways of thinking to real world issues and challenges; they require students to think and reason mathematically.

Children mature mathematically at different paces, throughout each grade level, and demonstrate various levels of implementation of the practices. These behaviors develop over time and often emerge during certain learning activities and through the study of specific, critical mathematics topics and standards.

Students of mathematics have daily opportunities to develop how to think and reason mathematically. They develop behaviors of mathematically proficient students who

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with Mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

What Your Child will Learn

Unit 1: Math is...

- Throughout the first weeks of school, the unit will focus on who our students are as learners and mathematicians.
- Engage students in mathematical tasks and make observations of students.
- Build a math community.

Unit 2: Use Place Value to Fluently Add and Subtract within 1,000

- Students begin working with place value to understand estimation and comparing.
- Students use their knowledge of place value to develop strategies to add and subtract multi-digit numbers.
- Students using this knowledge to apply it in word problems and estimating sums and differences

Unit 3: Multiplication and Division

- Students begin working with arrays and equal grouping to develop conceptual knowledge of multiplication and division.

Unit 4: Use Patterns to Multiply by 0,1,2,5, and 10

- Students work with patterns to help further understanding of multiplication through skip counting.

Unit 5: Use Properties to Multiply by 3,4,6,7,8, and 9

- Students begin using properties of multiplication to help students find ways to multiply more difficult multiplication facts easier.

Unit 6: Connect Area and Multiplication

- Students use multiplication to develop their understanding of area and the meaning of how it connects to multiplication.

Unit 7: Fractions

- Students begin to further develop their understanding of fractions from previous grades.
- Students represent fractions in multiple forms (ex. Number line, parts of a set, visual model, etc.)

Unit 8: Fraction Equivalence and Comparison

- Students begin to develop their conceptual understanding of what it means to have fractions that are equivalent.
- Students use visual models and number lines to find equivalent fractions.

Unit 9: Use Multiplication to Divide

- Students use their knowledge of multiplication to help with solving division equations.

Unit 10: Use Properties and Strategies to Multiply and Divide

- Students develop their reasoning skills with patterns to make multiplication and division become more fluent.

Unit 11: Perimeter

- Students learn and begin to develop understanding of perimeter
- Students find perimeter of figures with known and unknown side lengths

Unit 12: Measurement and Data

- Students use tools and methods to solve problems involving time, graphs, volume, weight, and mass.

Unit 13: Describe and Analyze 2-Dimensional Shapes

- Students describe and classify various polygons and quadrilaterals using specific attributes

Third Grade: Parent Video Library

OVERVIEW

This library provides a collection of video resources to support students and families. It is designed to:

- help families understand the skills and concepts students are learning;
- provide students with access to content after the lesson to further develop or reinforce skills and concepts

Addition and Subtraction

[Add two-digit numbers using base-ten blocks](#)

[Subtract two-digit numbers using base-ten blocks](#)

[Add and subtract two-digit numbers using a number line](#)

[Add two-digit numbers using partial sums](#)

[Add two-digit numbers using adjusting](#)

[Add three-digit numbers using base-ten blocks](#)

[Subtract three-digit numbers using base-ten blocks](#)

[Add and subtract three-digit numbers using a number line](#)

[Estimate Sums](#)

[Estimate differences](#)

[Add using partial sums](#)

[Add using adjusting](#)

[Subtract using partial differences](#)

[Addition word problems](#)

[Subtraction word problems](#)

Multiplication and Division

[Use equal groups to multiply](#)

[Use repeated addition to multiply](#)

[Use a number line to multiply](#)

[Solve word problems with multiplication](#)

[Solve word problems with multiplication \(2\)](#)

[Represent the Associative Property with equal groups or arrays](#)

[Partitive \(how many groups\) and quotative \(how many in each group\) division](#)

[Partitive and quotative division \(2\)](#)

[Use arrays to represent division](#)

[Solve word problems with division](#)

[Determine the unknown in multiplication and division equations](#)

[Represent division as an unknown factor](#)

Fractions

[Cutting shapes into equal parts](#)

[Identifying unit fractions](#)

[Fractions in context](#)

[Identifying numerators and denominators](#)

[Recognize fractions](#)

[Recognize fractions greater than 1](#)

[Relating number lines to fraction bars](#)

[Fractions on a number line](#)

[Finding 1 on a number line\](#)

[Fractions greater than 1 on a number line](#)

[Representing 1 as a fractions](#)

[Whole numbers as fractions](#)

[Writing whole numbers as fractions](#)

[Comparing fractions with symbols](#)

[Comparing fractions visually](#)

[Comparing fractions with the same denominator](#)

[Comparing fractions with different wholes](#)

[Comparing fractions with different wholes \(2\)](#)

[Equivalent fractions with visuals](#)

[Equivalent fraction models](#)

[Equivalent fractions visually](#)

[Creating equivalent fractions](#)

Geometry

[Intro to Quadrilaterals](#)

[Identifying quadrilaterals](#)

[Right angles in shapes \(informal definition\)](#)

Measurement and Data

[Solve word problems with measurement](#)

[Find the perimeter of polygons](#)

[Find the perimeter when a side length is missing](#)

[Find missing side length when given perimeter](#)

[Solve perimeter word problems](#)

[Counting squares to find area](#)

[Counting squares to find area formula](#)

[Find missing side when area is known](#)

[Area and the distributive property](#)

[Decomposing shapes to find area](#)

[Decomposing shapes to find area \(add\)](#)

[Decomposing shapes to find area \(subtract\)](#)

[Telling time with a number line](#)

[Telling time to the nearest minute](#)

[Elapsed time](#)

[Solving problems with picture graphs](#)

[Interpreting picture graphs](#)

[Reading bar graphs](#)

[Graphing data on line plots](#)

[Read line plots](#)

Third Grade: How to Support Your Child

WHOLE NUMBERS

VOCABULARY

- **Place value:** the location of a digit in a number
 - **Value:** the value of a digit based on its place value
 - **Addition:** to join two or more groups (Example: $2 + 3 = 5$)
 - **Addend:** a number that is added to another in an addition problem (Example: in $2 + 3 = 5$, 2 and 3 are addends)
 - **Sum:** the answer to an addition problem (Example: in $2 + 3 = 5$, 5 is the sum)
 - **Subtraction:** to find the difference when two groups are compared or to find out how many are left when items are taken away from a group
 - **Difference:** the answer to a subtraction problem (in $8 - 3 = 5$, 5 is the difference)
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ACTIVITIES

- Locate numbers in catalogs or newspapers, then practice rounding them to the nearest tens and hundreds.
- Practice adding and subtracting three-digit numbers.

MULTIPLICATION AND DIVISION

VOCABULARY

- **Multiplication:** an operation on two numbers to find their product (It can be thought of as repeated addition.)
- **Factor:** a number that is multiplied by another number to get a product
- **Product:** the result of multiplication
- **Multiple:** a product of two whole numbers
- **Array:** an arrangement that shows objects in columns and rows
- **Division:** to make equal groups
- **Dividend:** a number that is divided by another number
- **Quotient:** the number, not including the remainder, that results from dividing
- **Grouping:** dividing things into equal groups (sets)
- **Partition:** to divide into parts
- **Remainder:** the amount left over when a whole number cannot be divided into equal whole numbers
- **Equation:** a mathematical statement containing an equal sign, to show that two expressions are equal
- **Addition:** to join two or more groups
- **Addend:** a number that is added to another in an addition problem (in $2 + 3 = 5$, 2 and 3 are addends)
- **Sum:** the answer to an addition problem (in $2 + 3 = 5$, 5 is the sum)
- **Subtraction:** to find the difference when two groups are compared or to find out how many are left when items are taken away from a group
- **Difference:** the answer to a subtraction problem (in $8 - 3 = 5$, 5 is the difference)
- **Estimation:** a number close to an exact amount
- **Mental Computation:** the calculation of something mentally

ACTIVITIES

- Make arrays out of household items (e.g., pennies, beans, blocks).
- Select multiplication or division facts to illustrate or write a word problem.
- Hunt for multiple sets of objects in the home. Use repeated addition and multiplication to find the totals.
- Sort coins according to type, count the number of coins and then multiply to find the total value of pennies ($\times 1$), nickels ($\times 5$), dimes ($\times 10$) and quarters ($\times 25$).
- Count quantities of items by 2's, 3's, 5's, and 10's.
- Roll 2 number cubes to determine the factors. Make an array to find the product.

- Act out division problems with counters. For example, Brad has 12 rabbits. He puts the same number of rabbits into each of 4 cages. How many rabbits does Brad put in each cage?
- Roll 2 number cubes and write the fact families. For example, for rolls of 4 and 6, write: $4 \times 6 = 24$, $6 \times 4 = 24$, $24 \div 6 = 4$, $24 \div 4 = 6$.
- Ask your student to find the missing factor. For example, $5 \times \text{what number} = 35$?

GEOMETRY

VOCABULARY

- **Congruent:** shapes that have the same size and shape
- **Parallelogram:** a quadrilateral with two pairs of parallel sides and two pairs of equal sides
- **Polygon:** a closed, 2-D figure with straight lines
- **Quadrilateral:** a polygon with four sides
- **Rectangle:** a 2-D figure with 4 sides and 4 right angles, opposite sides are parallel
- **Rhombus:** a 2-D figure with 4 equal sides and 4 angles (not necessarily equal), opposite sides are parallel
- **Square:** a 2-D figure with 4 equal sides and 4 right angles
- **Trapezoid:** a 2-D figure that has 4 sides and 4 angles, one pair of sides is parallel
- **Right angle:** an angle that forms a square corner

ACTIVITIES

- Use grid paper to create congruent shapes.
- Identify, describe, and classify different household objects as solid figures.
- Use tangrams to make plane figures.
- Cut pieces of yarn to make line segments. Measure each segment in inches (to the nearest quarter inch) and centimeters.
- Go stargazing and make imaginary line segments by connecting the stars (points). Create geometric shapes.
- Go on a shape hunt! Look for geometric shapes in your home and community. Create a chart to show your findings.

MEASUREMENT AND DATA

VOCABULARY

- **Time:** seconds, minutes, hours, days, months, years, and so on
- **Analog Clock:** a clock that shows time by moving hands around a circle for hours, minutes, and sometimes seconds
- **Digital Clock:** a clock that shows time to the minute using digits
- **Elapsed Time:** a measurement of the amount of time from one event to another
- **Area:** the number of square units needed to cover a surface
- **Perimeter:** the distance around a figure
- **Distance:** the amount of space between two given points
- **Estimate:** a guess or rough calculation of worth, quantity, or size
- **Mass:** a measure of how much matter is in an object
- **Measure:** use of standard units to find out size or quantity in regard to length, height, area, mass, volume, time, perimeter
- **Standard Unit:** a traditional unit of measurement from the metric or customary system. (inches, meters, pounds, etc.)
- **Scaled Bar Graph:** a graph that uses bars to show data
- **Scaled Pictograph:** a graph that uses pictures to show data
- **Volume:** the amount of space occupied by an object

ACTIVITIES

- Share and discuss tables and graphs found in newspapers and magazines.
- Conduct a survey among family members or friends and construct a bar graph or pictograph.
- Make a physical pictograph using real objects (e.g., fruits, vegetables, cereal, kitchen tools). Record the graph on paper. Change the scale to create a new pictograph.
- Make records of important times of the day (wake-up, dinner, going to school, getting home from school, etc.) and practice telling how long between activities.
- Calculate elapsed time by finding out how long it takes to complete daily activities (soccer practice, homework, take a shower, etc.).
- Measure the perimeter and area of the rooms in your home to determine which rooms are the smallest and largest.
- Use grid paper to make rectangles with the same perimeters. Determine the area of each rectangle..

FRACTIONS

VOCABULARY

- **Fraction:** a number that names part of a whole or part of a group
- **Numerator:** the top number in a fraction, which shows how many of the equal parts of the whole or group are being considered
- **Denominator:** the bottom number in a fraction, which shows how many equal parts the set or whole has been divided into
- **Equivalent Fractions:** two or more fractions that name the same amount
- **Greatest:** the largest in a group
- **Least:** the smallest in a group
- **Number Line:** a line with equally spaced tick marks named by numbers
- **Order:** arrangement according to size, amount, or value

ACTIVITIES

- Go on a fraction hunt! Look for household items that are divided into equal parts (fractions of a whole and fractions of a set). Record the fractions.
- Roll number cubes to make fractions. Draw pictures of the fractions you make. Place the fractions you've made in order on a number line.
- Identify fractions at meal times. For example, you ate $\frac{1}{2}$ of an apple, $\frac{3}{4}$ stalk of celery, 1 whole tuna sandwich, and $\frac{2}{3}$ of a glass of milk.
- Practice making equivalent fractions.
- Plot fractions on a number line.