



First 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: Number Patterns

- Students will count in patterns on a number chart.
- Students will count by 2s, 5s, and 10s.
- Students will begin representing patterns of objects in a group

Unit 3: Place Value

- Students focus on representing two-digit numbers
- Students also begin comparing numbers with symbols and on number lines.

Unit 4: Addition within 20: Facts and Strategies

- Students begin adding by using strategies appropriate for first graders.
- Students begin adding doubles and near doubles.
- Students use their knowledge of properties to help with solving addition problems.

Unit 5: Subtraction within 20: Facts and Strategies

- Students begin using multiple strategies to solve subtraction problems (count on, counting back, making a 10, using near doubles, and fact families)

Unit 6: Shapes and Solids

- Students will identify attributes of shapes.
- Students will compose new shapes and solids.

Unit 7: Meanings of Addition

- Students continue to develop their understanding of addition

Unit 8: Meanings of Subtraction

- Students continue to develop their understanding of subtraction

Unit 9: Addition within 100

- Students begin working within place value to further develop their understanding of addition.

Unit 10: Compare Using Addition and Subtraction

- Students represent and solve problems involving comparing.

Unit 11: Subtraction within 100

- Students work within place value to further develop their understanding of subtraction.

Unit 12: Measurement and Data

- Students tell time, organize data, identify and compare coins, as well as work with various lengths.

Unit 13: Equal Shares

- Students work with shapes to begin their conceptual knowledge of fractions.

First 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

NUMBER CONCEPTS

[Hundred Chart \(Number Grid\)](#)

[Missing numbers between 0 and 120](#)

[Introduction to Place Value](#)

[Place Value Example: 25](#)

[Greater than/less than symbols](#)

ADDITION AND SUBTRACTION

[Addition 7 + 6](#)

[Addition 8 + 7](#)

[The meaning of the equal sign](#)

[Relating addition and subtraction](#)

[Subtracting 14 - 6](#)

[Addition and subtraction word problems](#)

[More addition and subtraction word problems](#)

[Comparison word problems](#)

[Comparison word problems \(part 2\)](#)

Addition with Two-Digit Numbers

[Adding 1 vs 10](#)

[Adding tens](#)

[Adding ones](#)

[Adding two-digit numbers without regrouping](#)

[Adding two-digit number without regrouping \(part 2\)](#)

[Breaking apart two-digit addition problems](#)

[Regrouping to add one-digit addends](#)

[Adding by making a group of ten](#)

Measurement and Data

[Ordering by length](#)

[Measuring length](#)

[Reading bar diagraphs](#)

[Telling time](#)

Geometry

[Shape Collection](#)

[Recognizing shapes](#)

[Halves and fourths](#)

First Grade: How to Support Your Child

NUMBER CONCEPTS VOCABULARY

- **Place Value:** the value of the place of the digit in a number
 - **Digit:** a symbol used to show a number
 - **Greater Than:** ($>$) a symbol used to compare two numbers, with the greater number listed first (Example: $8 > 6$)
 - **Less Than:** ($<$) a symbol used to compare two numbers, with the lesser number given first (Example: $6 < 9$)
 - **Equal To:** ($=$) having the same value
 - **Add:** to join together sets to find the total or sum
 - **Sum:** the answer to an addition problem
 - **Subtract:** 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 or comparison problem
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NUMBER CONCEPTS ACTIVITIES

- Count objects such as jellybeans in a bowl, pennies in a jar, cheerios in a baggie, etc.
- Estimate and then count a given number of objects.
- Find numbers in newspapers, magazines, or on items around the house.
- Practice counting forwards and backwards starting at any given number within 120 while doing various activities-driving in the car, jumping rope, waiting in line at a store, etc.
- Divide a deck of cards evenly between players. Each player flips over a card, the player with the highest card wins the cards. Continue until one player has all cards in the deck.
- Put different items into groups and talk about which group has more or less items using the terms *greater than* and *less than*.
- Roll dice and create numbers. Say what is 10 more or 10 less than that number.
- Play "20 Questions" and try to guess a mystery number within 120. (Example: Does your number have 3 digits? Is your number greater than 56?)

- Count a number of objects and put them in a cup or bag. Then place more objects beside the cup or bag and continue counting. (Example: With 10 pennies in a cup, start counting on 11 and continue.)
- Play board games that involve counting such as Candyland and Chutes and Ladders. Encourage and remind your child to remember that the space he/she is currently on does not get counted twice. Discuss why that would not be helpful in winning the game.

NUMBER OPERATIONS

VOCABULARY

- **Addition:** to join two or more groups (Example: $2 + 3 =$)
- **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
- **Equation:** a mathematical statement containing an equal sign; to show that two expressions are equal
- **Addend:** any numbers being added together (Example: $3 + 4 = 7$, 3 and 4 are the addends)
- **Count On:** start from any given number and count forward
- **Count Back:** start from any given number and count backwards
- **Equal Sign (=):** a symbol used to show that two amounts have the same value (Example: $384 = 384$)
- **Sum:** the answer to an addition problem (Example: in $2 + 3 = 5$, 5 is the sum)
- **Difference:** the answer to a subtraction problem (Example: in $8 - 3 = 5$, 5 is the difference)
- **Number Sentence:** a sentence that includes numbers, operation symbols (+, -), a greater than or less than symbol (>, <) or equal sign (Example: $5 + 3 = 8$, $25 < 32$)
- **Fact Family:** a collection of related addition and subtraction facts made from the same numbers (Example: For 7, 8, and 15, the addition/subtraction fact family consists of $7 + 8 = 15$, $8 + 7 = 15$, $15 - 8 = 7$, $15 - 7 = 8$)

ACTIVITIES

- Roll 2 or 3 dice with single digit numbers and add them together. (Example $4 + 2$ or $4 + 2 + 1$)
- Roll 2 dice to create a 2-digit number and record it. Roll 1 die and add it to the 2-digit number you created. (Example: $47 + 6$)

- Add all the digits of your house number together.
- Make a train with Legos or colored blocks. Write a number sentence for the different colors in the train.
- Add the price of two items at a store.
- Compare gas prices to find the lowest amount.
- Start with 20 counters (beans, pennies, etc.) and roll two dice to make a 2-digit number. Subtract counters until you get to 0.
- Give your student an addition or subtraction number sentence and ask them to make up a story problem to go with the number sentence.

Geometry

VOCABULARY

- **Face:** the flat surface of a solid figure
- **Side:** a line segment joining two corners of a figure
- **Attributes:** a characteristic such as shape or size
- **Angle:** two rays that share an endpoint
- **Two-Dimensional:** the outline of a shape such as a triangle, square, or rectangle
- **Three-Dimensional:** a solid figure
- **Composite:** made up of several different things
- **Half:** 2 equal parts
- **Quarter:** 4 equal parts
- **Circle:** a closed round figure
- **Rectangle:** a shape with four sides and four square corners
- **Square:** a rectangle that has four equal sides
- **Triangle:** a shape with three sides and three corners
- **Trapezoid:** a four-sided shape with only two opposite sides that are parallel *
- **Cube:** a solid with 6 faces all the same size
- **Rectangular Prism:** a solid with two identical rectangular bases
- **Cone:** a solid with one curved surface, one flat surface that comes to a point
- **Cylinder:** a solid with one curved surface and two identical circle bases
- **Whole:** all, everything, total amount

ACTIVITIES

- Go on a shape hunt outside, ask your student to name the shapes of doors, windows, bicycle wheels, etc. Ask how your child knows that the door is rectangle and not a square or triangle.
- Ask your student to identify the shapes of various road signs while traveling in the car.
- Talk with your student about the various shapes of items packaged in the grocery store.
- Build with blocks. Discuss what shapes were used to create the structure.
- While playing board games, discuss why a die can only have 6 numbers on it.
- Create your own puzzle by taking a sheet of paper and drawing lines from one side to the other and cutting out the pieces. Discuss the smaller shapes you made within the whole piece of paper.
- Use a given number of popsicle sticks and try to make as many different closed shapes as you can.

MEASUREMENT AND DATA

VOCABULARY

- **Data:** information collected and used to analyze a specific concept or situation
- **Bar Graph:** graph that uses horizontal or vertical bars to display data
- **Picture Graph (Pictograph):** graph that uses pictures or symbols to show data
- **Key:** tells the value of each picture on a picture graph
- **Tally Marks:** mark used to record data collected in a survey
- **Hour:** period of time lasting 60 minutes
- **Half-Hour:** period of time lasting 30 minutes
- **Analog Clock:** clock that shows time by moving hands around a circle for hours, minutes, and sometimes seconds
- **Digital Clock:** clock that shows time to the minute using digits
- **Length:** the distance between two point or objects
- **Non-Standard Units of Measurement:** any real item that can be used to measure (Example: paperclips, cookies, pennies, or yarn)
- **Standard Units of Measurement:** traditional unit of measurement from the metric or customary system (Example: inches, grams, pounds, cups, and liters)

ACTIVITIES

- Measure the length of various items around the house using different objects (crayons, pennies, etc.).
- Use different objects (pennies, beads, etc.) to measure your family members' hands or feet.
- Keep track of your child's growth each month by measuring his/her height using standard and non-standard units of measurement.
- Use an analog clock to show the time to the hour and half-hour.
- Show your child the time on an analog clock and have them write what the time would look like on a digital clock.
- Talk with your child about specific times that activities occur - eating breakfast, going to school, dinner time, bed time, etc.
- Talk about graphs in newspapers and magazines.
- Take a family survey and make a graph based on the data. (Example: What is your favorite summer vacation?)
- Use toothpicks or popsicle sticks to show tally marks.
- Create a bar graph based on the amount of time your child reads, plays outside, or watches television.
- Create a pictograph to show the number of hours of sleep or exercise your family gets each day.
- Compare the heights of members in your family using language such as "taller than" and "shorter than."