Second 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: Place Value to 1,000

- Students will begin composing and decomposing numbers to the 1,000s place value.
- Students will be comparing numbers

Unit 3: Patterns with Numbers

- Students begin exploring patterns with numbers
- Students learn to skip count by 1s,5s, and 10s while recognizing patterns.
- Students begin to use arrays to find addition and repeating patterns.

Unit 4: Meanings of Addition and Subtraction

- Students represent multiple ways to show addition and subtraction problems.
- Students explore various word problems and problem types within addition and subtraction.

Unit 5: Strategies to fluently add within 100

- Students use multiple strategies to add including place value, number lines, and decomposition.

Unit 6: Strategies to fluently subtract within 100

- Students use multiple strategies to subtract including pace value, number lines, and decomposition.

Unit 7: Measure and Compare lengths

- Students work with multiple methods of measurement and solving problems involving length.

Unit 8: Measurement: Money and Time

- Students use coins to solve problems.
- Students begin becoming familiar with time and solving problems involving time.

Unit 9: Strategies to Add 3-Digit Numbers

- Students expand their understanding of addition to add larger numbers.

Unit 10: Strategies to Subtract 3-Digit numbers

- Students expand their understanding of subtraction to subtract larger numbers

Unit 11: Data Analysis

- Students use various data tools to collect and solve problems involving data.
- Students work with picture graphs, bar graphs, and line plots

Unit 12: Geometric Shapes and Equal Shares

- Students use 2-Dimensional shapes to relate equal shares. This is a foundational skill for fractions.

Second 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

Group hundreds, tens and ones to make multi-digit numbers

Decompose three-digit numbers by place value

Explain the value of each digit in a three-digit number

Write three-digit numbers in expanded form

Read and write numbers using number names

Decompose numbers using expanded form

Compare three-digit numbers

Skip count by 5s beginning with a non-multiple of 5

Skip count by 10s beginning with a non-multiple of 10

Addition and Subtraction

Add two-digit numbers using base ten blocks

Add two-digit numbers using base ten blocks (2)

Subtract two-digit numbers using base ten blocks

Add and subtract two-digit numbers with partials using a number line

Add two-digit numbers using partial sums

Add two-digit numbers using a number line

Solve word problems with change unknown

Solve addition word problems with result unknown

Solve subtraction word problems with result unknown

Measurement and Data

Geometry

Second Grade: How to Support Your Child

NUMBER CONCEPTS VOCABULARY

- **Skip Count: to count in equal increments by 2s, 3s, 4s, 5s, or 10s**
- **Expanded Form: a way of writing numbers to show place value (Example: 346 = 300 + 40 + 6)**
- **Numeral: a symbol used to represent a number**

NUMBER CONCEPTS ACTIVITIES

- Skip count when counting groups of nickels and dimes.
- Count in a pattern while doing a rhythmic or repeated task – stirring pancake batter, brushing hair, putting away groceries, walking.
- Represent two digit numbers with popsicle sticks - make bundles of ten for the tens and use single sticks for the ones.
- Roll dice to make two or three digit numbers with a partner. See who can make the larger number.
- Add all of the digits of your house number together.
- Compare prices of various items (gas, toys, etc) to find the lowest amount.
- Make numbers or find numbers on labels and compare them.
- Find or roll numbers and write them in expanded form.
- Find or roll numbers and tell which place value each digit represents.

NUMBER OPERATIONS

VOCABULARY

- **Addition:** to join two or more groups (Example: 2 + 3 = 5)
- **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
- **Addend:** a number that is added to another in an addition problem (Example: in 2 + 3 = 5, 2 and 3 are addends)
- **Difference:** The answer to a subtraction problem (Example: in 8 – 3 = 5, 5 is the difference)
- **Sum:** The answer to an addition problem (Example: in 2 + 3 = 5, 5 is the sum)
- **Equal Sign (=):** a symbol used to show that two amounts have the same value (Example: 384 = 384)
- **Number Sentence:** includes numbers, operation symbols (+,-), and a greater than or less than symbol (>,<) or equal sign (Example: 5 + 3 = 8, 25 < 32)
- **Regroup:** to exchange amounts of equal value to rename a number
- **Decompose:** to break a number into smaller parts to simplify computation (Example: 15 = 10 + 5)
- **Compose:** to put decomposed numbers back together (Example: 10 + 5 = 15)
- **Array:** an arrangement that shows objects in rows and columns

ACTIVITIES

- Roll single-digit numbers and add them together.
- Roll 2-digit or 3-digit numbers and add them together.
- Roll two dice to make a two-digit number. Subtract it from 99 or 100.
- 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.
- Represent two digit numbers with popsicle sticks – make bundles of ten for the tens and use single sticks for the ones. Add the piles together.
- Use small items (counters, beans, small toys) to represent number sentences. Use index cards to make +, -, <, >, and = symbols. Show a number sentence with a missing element: 7 + ___ = 12. Have your student find the missing addend.
- Add the price of two items at a store.
- Compare gas prices to find the lowest amount.
- Roll a 2-digit number and subtract it from 99 or 100.

- Start with 100 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.
- Look for items that are in repeated sets or groups – panes in a window, pickets on a fence, sodas in a six-pack, wheels on cars or bicycles.
- Make a physical array with counters and record on paper using symbols.

Geometry

VOCABULARY

- **Cube:** a solid with 6 faces all the same size
- **Closed Figure:** a plane figure that completely surrounds an area
- **Edge:** the line segment where two faces of a solid figure meet
- **Face:** a flat surface on a solid figure
- **Figure:** a shape in 2 or 3 dimensions
- **Half:** 2 equal parts
- **Hexagon:** a figure with 6 sides
- **Partition:** to divide into parts
- **Pentagon:** a figure with 5 sides
- **Open Figure:** a plane figure that does not completely enclose an area
- **Quadrilateral:** a four-sided figure
- **Thirds:** three equal parts
- **Triangle:** a figure with 3 sides
- **Vertex:** where two line segments, lines or rays meet to form an angle
- **Whole:** all of the parts

ACTIVITIES

- Look for 2-D and 3-D shapes around your house and community.
- Compare 2-D and 3-D shapes. Look for the 2-D shapes that make up the 3-D shapes.

- Talk about the shapes of foods that are eaten. For example, oranges are spheres.
- Talk about the shapes of containers in stores. For example, cans are cylinders and boxes are rectangular prisms or cubes.

MEASUREMENT AND DATA

VOCABULARY

- **Inch:** a customary unit of length
- **Yard:** a customary unit of length equal to 36 inches or 3 feet
- **Foot:** a customary unit of length equal to 12 inches
- **Centimeter:** a metric unit of length, about the width of your finger
- **Meter:** a metric unit of length equal to 100 centimeters
- **Estimate:** a number close to an exact amount
- **Length:** the distance from one point to another
- **Equation:** a number sentence with an equal sign, the amount on one side of the equal sign has the same value as the amount on the other side
- **Number Line:** a diagram that represents numbers as points on a line
- Data: information that has numbers
- **Line Plot:** a graph showing frequency of data on a number line
- Table: an organized way to list data
- **Bar Graph:** a graph that uses the height or length of rectangles to compare data
- **Picture Graph:** a graph that uses pictures to show data

ACTIVITIES

- Estimate the lengths of various objects around the house, such as a table, a book, a toothbrush, etc. Next, measure the same objects using a ruler with inches and centimeters to compare the estimate to the actual length.
- Measure the four sides of a square or rectangular table using inches, and then add the four sides together to find the total length of all 4 sides.
- Measure two different book lengths using centimeters. Compare the two lengths and determine how much longer one book is than the other.
- Survey various family members about their favorite sport, color, ice cream flavor, or pizza topping. Create a bar graph to show the data.