Kindergarten 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: Numbers to 5

- Students will count objects to 5 and tell how many.
- Students will tell how many basic arrangements, varied arrangements, and representations of numbers on five/ten frames and dot cards.
- Students will gradually begin to compare numbers within five based on their grouping.

Unit 3: Numbers to 10

- Students will count objects to 10 and tell how many.
- Students will tell how many basic arrangements, varied arrangements, and representations of numbers on a ten frame.
- Students will begin practicing writing numbers to 10 as well as build on their knowledge of comparing.

Unit 4: Sort, Classify, and Count Objects

- Students will classify objects into categories using color, shape, size, height, length, and weight if appropriate.
- Students describe attributes; length, height, weight, and capacity.
- Students compare objects by length, height, weight, and capacity.

Unit 5: 2-Dimensional Shapes

- Students identify attributes of 2D and 3D figures.
- Students become familiar with attributes of 2D shapes by analyzing them.
- Students draw and make models of shapes.
- Students use simple shapes to make larger shapes.

Unit 6: Understand Addition

- Students begin to work with various types of addition problems.
- Students will learn strategies of counting up, add to, and put together problems

Unit 7: Understand Subtraction

- Students begin to work with various types of subtraction problems.
- Students will learn strategies to take apart and take from

Unit 8: Addition and Subtraction Strategies

- Students begin to expand their knowledge of addition and subtraction and the relationship between the two.

Unit 9: Number 11 to 15

- Students represent numbers from 11 to 15 in a variety of ways.

Unit 10: Numbers 16 to 19

- Students represent numbers from 16 to 19 in a variety of ways.

Unit 11: 3-Dimensional Shapes

- Students begin to become familiar with 3-dimensional shapes.
- Students will begin to learn about various attributes and types of 3-dimensional shapes.

Unit 12: Count to 100

- Students use various counting patterns to count to 100.

Unit 13: Analyze, Compare, and Compose Shapes

- Students begin to look more closely at shapes and their attributes.
- Students create shapes from other shape properties using manipulatives and drawings.

Unit 14: Compare Measureable Attributes

- Students compare multiple measurement attributes (e.g. height, length, weight, capacities, etc..)

Kindergarten: 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

[Counting and small numbers](#)

[Counting in pictures](#)

[Counting objects (part 1)](#)

[Counting objects (part 2)](#)

[Comparing numbers of objects](#)

[Comparing numbers on a number line](#)

[Counting by category](#)

[Teens as sums](#)

[Teens as numbers: monkeys](#)

[Counting in order](#)

[Hundred chart (number grid)](#)

[Missing numbers between 0 and 120](#)

[Counting by tens](#)

ADDITION AND SUBTRACTION

Introduction to Addition

Introduction to Subtraction

Making 5

Getting to 10

Adding to 10

Add and subtract pieces of fruit

Addition and subtraction within 10

Addition problems within 10

Subtraction problems within 10

GEOMETRY

Shape collection

 Recognizing shapes

 Relative position

 Composing shapes

Kindergarten: How to Support Your Child

NUMBER CONCEPTS VOCABULARY

- **Number:** a word, symbol, or figure that represents a quantity
- **Place Value:** the value of the place of the digit in a number
- **Digit**: a symbol used to show a number
- **Greater:** bigger, more
- **Less:** smaller, fewer
- **Equal:** having the same value or amount
- **Cardinality:** the number of items in a set

NUMBER CONCEPTS ACTIVITIES

- Count objects such as jellybeans in a bowl, pennies in a jar, cheerios in a baggie, etc.
- Find numbers on common objects such as license plates, highway signs, price tags, clothing, etc.
- Practice counting with your student while doing various activities-driving in the car, jumping rope, waiting in line at a store, etc. Challenge your student to start counting at a given number, such as 13 or 28.
- Use cards to compare numbers (remove the face cards). Have each player take a card; identify who has more, less, or if the values are equal.
- Count how many eggs are in an egg carton. How many more are needed to fill the carton?
- Put items such as socks, stickers, toys, food, etc. into groups and talk about which group has more or less items using the terms greater than and less than.
- Roll a die and count the dots. Say the number. What number comes before? What number comes after? Can your student subitize (that is, say how many dots on the die without counting)? Play with two dice and count the total.

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
- **Count On**: start from any given number and count forward
- **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 it 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 (+,-), or equal sign (Example: 5 + 3 = 8)
- **Place Value**: The value of the place of the digit in the number (For example: in 27, 2 is in the 10's place and is worth 20.)
- **Compose**: Putting numbers together to make a new number (For example: 5+10=15)
- **Decompose:** Breaking a number apart (For example: 15=8+7)

ACTIVITIES

- Use a popsicle stick to represent a ten and beans to represent ones. Using a deck of cards, give your child a 10 card, and draw another number card, then add the numbers together and show the number with sticks and beans.
- Walk from one end of the kitchen to the other and count how many steps, then show how many steps were taken with sticks and beans.
- Use cereal pieces to solve the following problem: Mason has 10 pieces of cereal. He eats 4 pieces. How many pieces are left?
- How old are you now? Subtract one from that number and record it. Add 3 to that number and record it.
- Count backwards from 100. Skip count to 100 by 10s. Which took longer? Write your answer.
- Go outside and find two clovers. Write an equation to show how many leaves are on both clovers.

- Use some fruit to solve the following problem: Ken has 5 bananas in a bunch. He eats some. There are 3 left. How many bananas did he eat?
- Ben had 4 chairs at his kitchen table in the morning. After school, there was only 1 chair at the kitchen table. How many chairs are missing?

Geometry

VOCABULARY

- **Attributes:** a characteristic of an object that students use to define the object (e.g., thin, thick, small, large, 3 sides, 4 sides, etc.)
- **Two-Dimensional (flat):** the outline of a shape such as a triangle, square, or rectangle
- **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
- **Hexagon:** a shape with six sides
- **Three-Dimensional:** a solid figure
- **Face:** the flat surface of a solid figure
- **Side:** line segments of shapes
- **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 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.
- Look around your home for solid shapes. Name at least 3 solid shapes.
- Look around your home for flat shapes. Draw at least three of the shapes.
- Look around your home for circles. Count them and record how many you found.

- Use marshmallows and bendy straws, toothpicks, or pipe cleaners to build as many shapes as you can. Record the names of your shapes.
- Make a picture using 2 circles, 3 triangles, & 1 rectangle. Describe to a friend how you made it.
- Explore position words. Use toys to model before, after, above, below, and beside. Describe using attributes, such as "the blue car is behind the red car."

MEASUREMENT AND DATA

VOCABULARY

- **Attribute:**a characteristic of an object that students use to define the object (e.g., thin, thick, small, large, 3 sides, 4 sides, etc.).
- **Weight**: A measure of how heavy something is
- **Non-Standard Units of Measurement**: Any real item that can be used to measure (e.g., paperclips, cookies, pennies, or yarn.
- **Length**: the distance between two points or objects.
- **Sorting**: Grouping objects based on similar attributes
- **Greater**: bigger, more
- **Less**: smaller, fewer
- **Equal:** having the same value or amount

ACTIVITIES

- Trace your foot with chalk outside. Trace a friend's or family member's foot, too. Who has a longer foot? Who has a shorter foot?
- Sort a bag of candy by color. Count each color. What color has the most? What color has the least?
- Get three different cups. Put them in order from shortest to tallest.
- Sort the mail by name. Who has the least amount of mail? Who has the most amount of mail?
- Find 3 objects in the home that are shorter than your hand.
- Compare the heights of 2 people. Who is taller and who is shorter? Does age matter?