1st Grade Unit 5 Mathematics

Dear Parents,

The Mathematics Georgia Standards of Excellence (MGSE), present a balanced approach to mathematics that stresses understanding, fluency, and real world application equally. Know that your child is not learning math the way many of us did in school, so hopefully being more informed about this curriculum will assist you when you help your child at home.

Below you will find the standards from Unit Five in bold print and underlined. Following each standard is an explanation with student examples. Please contact your child's teacher if you have any questions.

G.1 Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.

This standard calls for students to determine which attributes of shapes are defining compared to those that are non-defining. Defining attributes are attributes that must always be present; they also help to define a particular shape (number of angles, number of sides, length of sides, etc). Non-defining attributes are attributes that do not always have to be present; they do not define a particular shape (color, position, location, etc). The shapes can include triangles, squares, rectangles, hexagons, circles, trapezoids, half-circles, and quarter-circles.

Example:

- All triangles must be closed figures and have 3 sides. These are defining attributes. Triangles can be different colors, sizes and be turned in different directions, so these are non-defining.

Which figure is a triangle? How do you know this is a triangle?

Student 1: The figure on the left is a triangle. It has three straight sides. It is also closed.

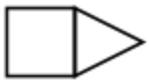
G.2 Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, rectangular prisms, cones, and cylinders) to create a composite shape, and compose new shapes from the composite shape.

This standard calls for students to compose (build) a two-dimensional or three-dimensional shape from two shapes. This standard includes shape puzzles in which students use objects (e.g., pattern blocks) to fill a larger region.

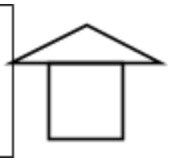
Example:

- Show the different shapes you can make by joining a triangle with a square.

Student 1: I made a shape like a rocket.

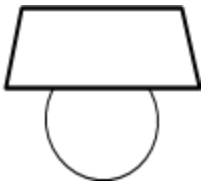


Student 2: I made a shape like a house.



- Show the different shapes you can make by joining a trapezoid with a half-circle.

Student: My shape looks like a person with a hat.



G.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

This standard is the first time students begin partitioning regions into equal shares using a context such as cookies, pies, pizza, etc. This is a foundational building block of fractions, which will be extended in future grades. Students should have ample experiences using the words *halves, fourths,* and *quarters*, and the phrases *half of, fourth of,* and *quarter of*. Students should also work with the idea of the whole, which is composed of two halves, or four fourths or four quarters. Although the idea of fractions is being introduced, students are only using the words for fractions, not the written representation.

Example:

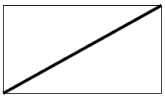
- How can you and a friend share equally (partition) this piece of paper so that you both have the same amount of paper to paint a picture?

Student 1:

I would split the paper right down the middle. That gives us 2 halves. I have half of the paper and my friend has the other half of the paper.

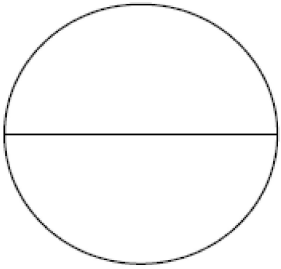
Student 2:

I would split it from corner to corner (diagonally). She gets half the paper. See, if we cut here (along the line), the parts are the same size.



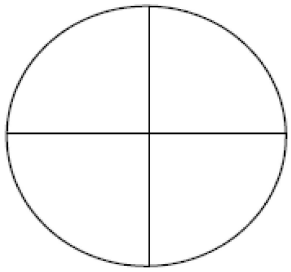
Example:

Teacher: There is pizza for dinner. What do you notice about the slices on the pizza?



Teacher: If we cut another pizza the same size as the first pizza into four slices (fourths), do you think the slices would be the same size, larger, or smaller than in the first pizza?

Student: There are two slices on the pizza. Each slice is the same size. Those are big slices!



Student: When you cut the pizza into fourths, the slices are smaller than the other pizza. More slices mean that the slices get smaller and smaller. I want a slice of that first pizza!

Fayette County NBT.10 Know the number words to twenty.

This standard expects that students read the number words to twenty and be able to produce models for those number words.

Example:

Write the number for the words below:

- seventeen
- twelve
- zero