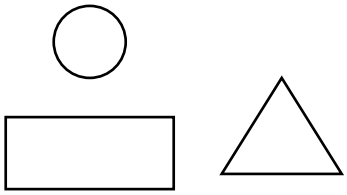
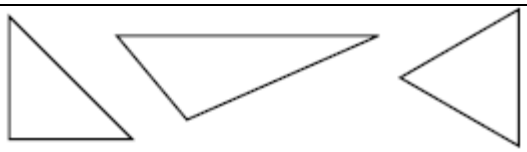
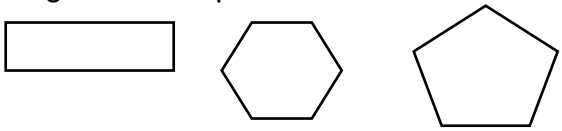
Fulton County Schools
Where Students Come First

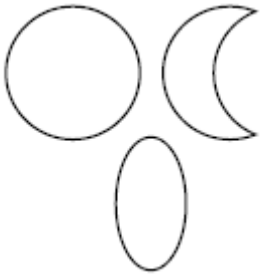
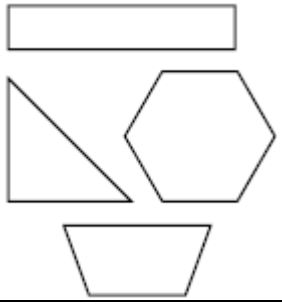
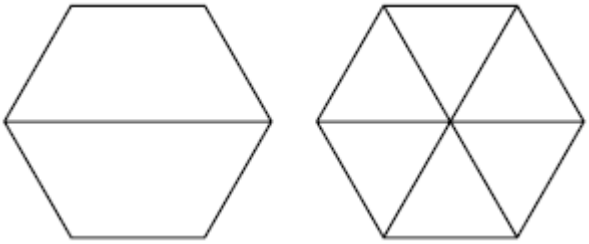
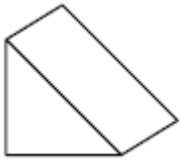
Mathematics Family Letter, Unit: 2
Geometry

Dear Family,

Our class is starting a new unit in math about 2-D and 3-D shapes. In this geometry unit students will focus on relationships between two-dimensional and three dimensional shapes. They will observe, describe, compare, classify, represent, draw, and build various shapes. Students will also use positional words to accurately describe locations of objects.

Throughout this unit students will:

Benchmarks/Goals	Examples
Arrange objects in space by proximity, position, and direction.	 The circle is above the rectangle. The triangle is to the right of the rectangle.
Use geometric language to describe and identify important features of familiar 2-D shapes.	corners angles points sides edges
Identify, draw, and describe triangles, rectangles, pentagons, and hexagons.	 All triangles have 3 angles or corners, 3 straight lines, 3 points or vertices. 

<table>
<tr><td>Describe and sort 2-D shapes.</td><td>Shapes that have curves
  </td><td>Shapes with only straight lines
  </td></tr>
<tr><td>Compose and decompose shapes.</td><td colspan="2">A hexagon can be made with different shapes.
  </td></tr>
<tr><td>Attend to features of 3-D shapes, such as overall size and shape, the number and shape of faces, and the number of corners.</td><td colspan="2"> 
It has 6 corners or points.
It has 5 faces or sides.
Two of the faces are triangles.
The other faces are rectangles.</td></tr>
</table>

Related Activities to Try at Home

The activities that follow are related to the mathematics in this unit. Doing them at home together with your child can enrich your child's mathematical learning.

Shape Hunt
Shapes are everywhere. Talk with your child about the shapes you see every day. Together, you can look at everything from the shapes of buildings in your neighborhood to the shapes of boxes and cans in the supermarket. Sometimes you can include descriptions of shapes in what you say: "Look at that part of the building shaped like a pentagon." At other times, you can ask your child to look for specific shapes: "See how many things you can find that are triangles while we walk down the street."

Making Shapes
Making shapes is a great way to learn about them. At home, your child may use clay or play dough, building blocks, drinking straws, or a loop of yarn or rope to make different shapes. Drawing shapes is also fun. Your child may like to design a picture or mural that includes many different shapes.

Seeing Shapes Inside
Encourage your child to look for patterns or designs made from different shapes. For example, ask these questions:
"Can you find squares on the floor (wallpaper, clothing, and so on)?" "Are there any patterns made from triangles?" "Do you see any hexagons?"

Shape Positions
Take out some toys and place them in various positions (above, below, to the right, to the left, on top of, under, near, far). Encourage your child to use these positional words in describing the location of various toys in relationship to each other.

3-D Shape Hunt
Shapes are everywhere. Talk with your child about the three-dimensional shapes you see every day—from the buildings in your neighborhood to the cereal boxes in the cabinet. Sometimes, include descriptions of 3-D shapes in what you say. For example, "The roof of that building is shaped like a pyramid." At other times, ask your child to look for specific shapes. "See how many cylinders you can find while we're at the grocery store."

3-D Making Shapes

Making shapes is a great way to learn about them. At home, your child may use clay, drinking straws, or a loop of yarn or rope to make different shapes. Ask your child:

- Can you make a shape with three sides? Do you know what that shape is called?
- Can you make a cube? How many sides does it have?

You may also make different shapes and ask your child to name and describe them.

Ask questions about the number of sides, edges, faces, corners, and/or the shape of the faces, such as these:

- I am making a 3-D shape. How many faces does it have?
- What shape(s) are the faces? Do you know what this shape is called?

Draw a Building

Our class is practicing ways to draw 3-D shapes so that they look like they "pop" off the paper. There are many ways to do this. Ask your child to choose a familiar building—perhaps your house or one that you can see from a window. Talk about the building's shapes and then ask your child to draw and label the building in a way that makes sense to them. Some children like to draw the building from different perspectives, or points of view. Others like to use dotted lines to show what is not visible from the front.

Building with Shapes

Gather 3-D building blocks, construction toys, or empty boxes and cans that your child can use to build. Children can try to build particular buildings or even their whole neighborhood. Talk about shapes while they are working. "What would you call the shape you used for the first floor of the bank? What shape(s) will you use for the roof?"

Math and Literature

You can find the following books in your local library and read them together.

Burns, Marilyn. The Greedy Triangle
Felix, Monique. The House
Friedman, Aileen. A Cloak for the Dreamer
Hoban, Tana. Shapes, Shapes, Shapes
Jonas, Ann. The Quilt
Paul, Ann Whitford. Eight Hands Round: A Patchwork Alphabet
Polacco, Patricia. The Keeping Quilt
Rogers, Paul. The Shapes Game
Barton, Byron. Building a House
Cooper, Jason. Skyscrapers: Man-Made Wonders
Crosbie, Michael and Rosenthal, Steve. Architecture, Shape
Dorros, Arthur. This Is My House
Gauch, Patricia Lee. Christina Katerina and the Box
Hoban, Tana. Cubes, Cones, Cylinders, & Spheres
Karavasil, Josephine. Houses and Homes Around the World
Metropolitan Museum of Art. Museum Shapes
Morris, Ann. Houses and Homes
Rau, Dana Meachen. A Box Can Be Many Things
Stevenson, Robert Louis. Block City
Zelver, Patricia. The Wonderful Tower of Watts

Sincerely,
The First Grade Team