



KINDERGARTEN MATHEMATICS – Unit 4

Dear Parents,

During Unit 4, your children will describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.

GEOMETRY (3-D SHAPES, SOLIDS)

Your child needs to:

- Analyze and compare three dimensional shapes in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g. number of sides and vertices/"corners") and other attributes (e.g. having sides of equal length, stack, roll...)
- Model shapes in the world by building shapes from components (e.g., sticks and clay balls) (cubes, cones, cylinders, and spheres)
- Correctly name shapes regardless of their orientations or overall size. (3-D; cubes, cones, cylinders, and spheres)
- Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").
- Continue to support adding and subtracting 0 and 1 with numbers through 20.
- Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.
- Compose simple shapes to form larger shapes. *For example "Can you join these two triangles with full sides touching to make a rectangle?"*

WAYS PARENTS CAN HELP

- **Your child can model three-dimensional shapes in the real world by building them with toothpicks and gum drops.**
- **Have your child find three-dimensional shapes in the real world (a tennis ball is a sphere and a can is a cylinder) and compare them by attributes (number of sides, corners, stacks, rolls...)**
- **Name three-dimensional shapes in the real world by their shape name (cylinder, cone, cube, sphere...)**
- **Draw two-dimensional shapes with sidewalk chalk and have child identify the shape**

KEY WORDS AND PHRASES

| | | |
|----------|-------------------|----------|
| Above | Label | |
| Behind | Length | |
| Below | Next to | Size |
| Beside | On | Slide |
| Circle | Over | Sphere |
| Color | Pyramid | Square |
| Cone | Rectangle | Stacks |
| Cube | Rectangular prism | Triangle |
| Corners | Rolls | Under |
| Cylinder | Rule | Weight |
| Faces | Shape | |
| Hexagon | Sides | |

Three dimensional: A shape with length, width, and height. (can be picked up)

Two dimensional: A shape with length and width (can not be picked up, drawn on board, paper, etc)