

## Grade PK • Module 2

# Shapes

### OVERVIEW

In Module 2, in the context of classroom play, children learn to identify, describe, sort, compare, and create two-dimensional (2-D) and three-dimensional (3-D) shapes and objects (**PK.G.1–4**). Children generally progress through the following levels of geometric understanding during the pre-kindergarten year to varying degrees:

- Being able to recognize and name exemplar and variant shapes (e.g., an equilateral triangle and a right triangle oriented diagonally) from among other shapes.
- Attending to shape attributes: “I counted three sides and three corners on this shape.”
- Thinking about parts: “This triangle is made of three sides and three corners!”
- Relating parts to the whole: “Any shape with three sides and three corners is a triangle!”

In this module, children develop vocabulary to describe the relative position of objects (e.g., *top*, *bottom*, *up*, *down*, *in front of*, *behind*, *over*, *under*, and *next to*), building foundational spatial reasoning abilities (**PK.G.1**). In Module 1, children developed an understanding of numbers to 5. In Module 2, students practice these counting skills in the context of geometry (e.g., counting sides, corners, or a group of triangles).

In Topic A, children identify, sort, describe, and position two-dimensional shapes: circles, rectangles, squares (special rectangles), and triangles (**PK.G.2**). Through various games and activities, children uncover and discuss the attributes of each shape (e.g., number of sides and corners). After finding a particular shape, they might playfully enact its number of sides by hopping the same number of times, as pictured to the right. Students further compare (**PK.G.3**) the different attributes of two-dimensional shapes and position them using new relational terms (e.g., *up*, *down*, *in front of*, *behind*, *under*, and *next to*). By the end of Topic A, children learn to think about and describe shapes according to their attributes, rather than by relating the shape to a familiar object in the environment. For example, a student might say, “It’s a rectangle because it has four sides and four corners,” rather than, “It’s a rectangle because it looks like a door.”



Topic B reinforces attention to attributes as children build two-dimensional shapes from components (**PK.G.4**). For example, students use three small balls of clay and three straws to create a triangle, which leads students to relate the parts of a triangle to the whole. Inadvertently, they also see that the whole triangle consists only of its outline, or the stick sides and clay corners; the area of the shape does not need to be filled in to be a triangle. Similar construction activities are done with rectangles and circles.

In Topic C, children identify, sort, describe, position, and build with three-dimensional shapes in their environment (**PK.G.1–3**). Focus is placed on analyzing three-dimensional shapes (real world, wooden, or foam) by considering their two-dimensional faces and describing the functional properties of the three-dimensional shapes (e.g., sliding, stacking, or rolling). The position words learned in Topic A are reinforced as children use three-dimensional foam or wooden blocks to create buildings, towers, bridges, and models of familiar places such as their classroom. These activities support spatial reasoning, meaning-making, and mathematical communication.