Topic A
Analyze and Name Two-Dimensional Shapes

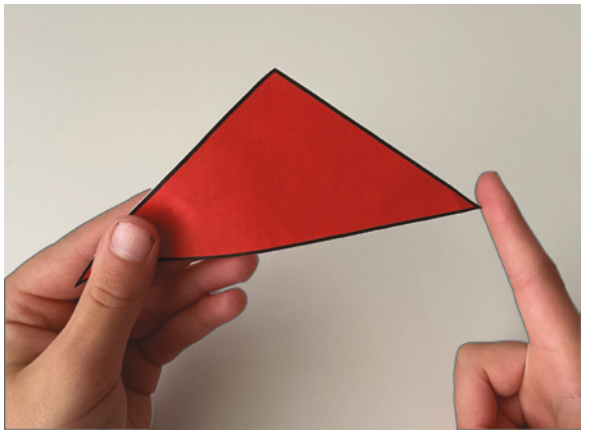
Kindergarten students practice their counting and sorting skills as they examine two-dimensional, or flat, shapes. In module 1, they learn to identify attributes to help them sort. As they work with shapes, students learn to discriminate between defining attributes, such as the number of straight sides and corners, and nondefining attributes, such as color, overall size, and orientation.

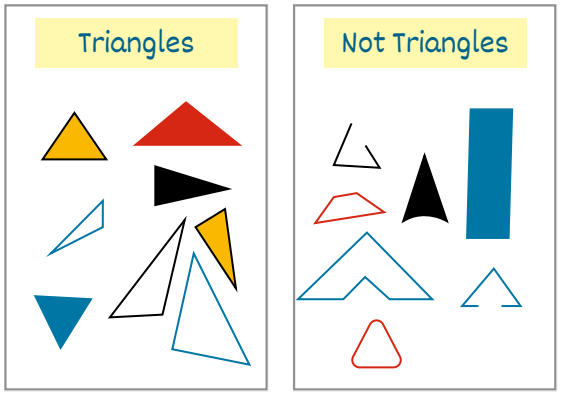
In the first lesson, students are challenged to describe shapes without naming them. This turns their attention to defining attributes and allows them time to develop the language of geometry. Kindergarten students mix informal language such as *pointy*, *spiky*, and *round* with new terminology such as *side*, *corner*, and *closed* to describe features of shapes.

Subsequent lessons offer students opportunities to explore five key shapes: triangles, hexagons, circles, rectangles, and squares.[1] When sorting exemplars, variants, and nonexamples of each shape, kindergarten students must analyze the attributes of the shape to place it in the correct category, or group. They use a mixture of informal language and mathematical terminology to explain their thinking: "I know that is a triangle because it has 3 points and 3 sides."

Topic A also touches on two aspects of spatial thinking: spatial visualization and spatial orientation. Spatial visualization is creating and manipulating a mental picture of a shape, for example, rotating a triangle and understanding that it is still a triangle. These mental images are critical to building, drawing, and composing shapes in upcoming topics. Spatial orientation is understanding the positional relationship between two objects in space. Students use position words such as *above*, *below*, and *on* as they play games that build spatial orientation skills and review shape attributes.

Students continue to focus on defining attributes, position words, and communication skills in topic B as they explore three-dimensional shapes, also known as solid shapes.





1 This list is not intended to limit the introduction of other two-dimensional shapes. Teachers are encouraged to name additional shapes based on student interest.