

## Teaching Unit B (Continued)

### Math Background

#### Classifying Quadrilaterals

In Unit A, children investigated attributes of squares and rectangles. In Unit B, parallel lines and parallelograms are introduced and children look at the relationships between quadrilaterals, parallelograms, rectangles, and squares. They are introduced to the inclusive nature of these quadrilateral names. For instance, because a square has opposite sides that are equal, it is also a rectangle; because it has opposite sides that are parallel, it is also a parallelogram; and because it has four sides, it is also a quadrilateral. A square is a special rectangle with all sides equal, a rectangle is a special parallelogram with four square corners, etc. The sorting and naming activities in this unit serve to encourage children to explore how quadrilaterals are related to each other, but at this grade level, children are not expected to master these concepts.

#### Classifying Triangles

In Unit A, children drew triangles and observed they had three sides and three corners. They also measured side lengths of triangles to identify that triangles can have three unique side lengths, two equal side lengths, or three equal side lengths. In this unit, children draw ten unique triangles by varying side lengths and angles. They then divide their triangles into three groups using their own criteria. Children may classify their triangles using language like “three-sides-equal” triangles or “no-big-angle” triangles. Terms like obtuse triangle, acute triangle, right triangle, equilateral, isosceles, and scalene may be introduced by teachers, but children are not expected to master these terms at this grade level.

#### Different Orientations

In all geometry work, it is important for children to see and recognize shapes in different orientations. This helps to build their visual, spatial, as well as geometric knowledge.

#### Finding Perimeter

In Unit A, children calculated the perimeter of squares, rectangles, and triangles using informal methods. Class discussion included the idea that the perimeter of a square can be found using the measure of only one side. Children shared different methods of finding the perimeter of a rectangle but there was not an emphasis on finding the perimeter using the least number of measures. In this unit, children consolidate their learning by calculating the perimeter of a triangle, a square, and a rectangle and sharing their methods in class discussion. These experiences of calculating perimeter using informal methods provide the conceptual foundation for formula development in subsequent years.

