

## Teaching Unit D (Continued)

### Math Background

#### Naming Quadrilaterals

In Unit B, children had opportunities to sort, name, and classify quadrilaterals, and to look at the inclusive nature of quadrilateral names. Children begin this unit by consolidating their learning about quadrilaterals as they identify whether each quadrilateral name applies to various shapes, and explaining their reasoning. Later in the unit, children build their spatial sense as they decompose quadrilaterals by adding diagonals and joining midpoints of opposite sides. In these activities, children describe and compare the resulting shapes, an activity which gives them further practice in naming quadrilaterals.

#### Sort Triangles

In Unit B, children classified triangles using their own language (for example, “three-sides-equal” triangles or “no-big-angle” triangles). In the first lesson of this unit, children review how to classify triangles by sizes of angles and by number of equal sides. Later in the unit, children are required to describe and compare the triangles formed by drawing diagonals in quadrilaterals.

#### Diagonals in Quadrilaterals

In this unit, children are introduced to diagonals of quadrilaterals. At this grade level, it is adequate for them to have a working definition of a diagonal as “a line segment that connects opposite corners of a

quadrilateral.” In later years, children will be introduced to the formal definition of a diagonal: “a line segment that connects nonconsecutive vertices.” The focus of the activities in this unit is on drawing diagonals and then describing and comparing the resulting shapes. For instance, children will identify that two diagonals drawn from corner to corner of a square create four triangles that are the same size and the same shape, and that each triangle has square corners and two sides of equal length. In subsequent years, children will use formal language to describe and compare the resulting shapes, and they will measure and compare the lengths of the diagonals on different quadrilaterals.

#### Congruent Figures

In this unit, children are required to make comparisons of the shapes they form when they decompose quadrilaterals. They will use language like “same size and same shape” for congruent shapes. In Unit E, children will learn the term *congruent* and complete activities dedicated to finding congruent shapes.

#### Decompose Quadrilaterals by Joining Midpoints of Opposite Sides

Children decompose quadrilaterals by joining midpoints of opposite sides. This provides children with further opportunities to apply the language associated with quadrilaterals, to practice finding midpoints of line segments, and to continue developing their spatial sense.