Family Support Materials
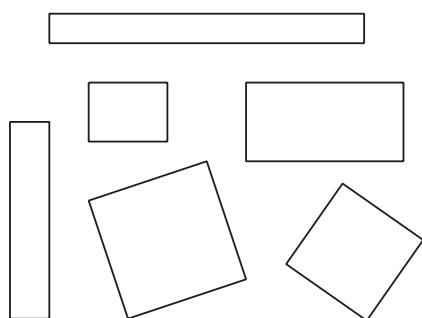
Two-dimensional Shapes and Perimeter

In this unit, students reason about attributes (features) of shapes and learn about perimeter.
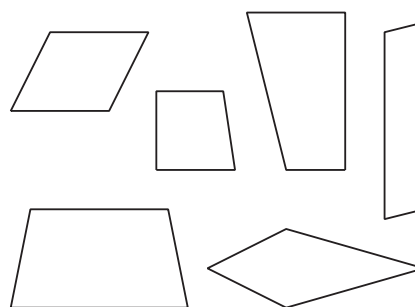
Section A: Reason with Shapes

In this section, students describe, compare, and sort a variety of shapes. Students think about ways to sort triangles and quadrilaterals into more specific categories based on their attributes. They see that triangles and quadrilaterals can be classified and named based on their sides (whether some sides are the same length) and angles (whether they have right angles).
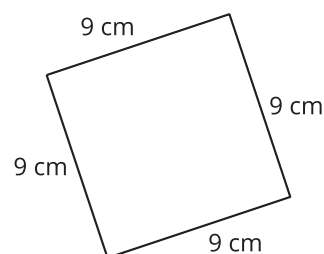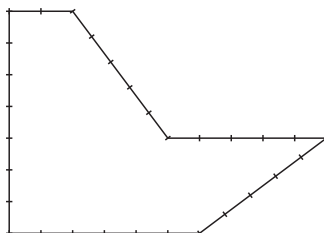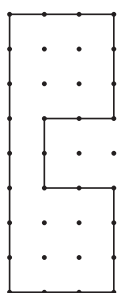
These are rectangles.   *These are not rectangles.*

Students see that a shape can have more than one name if it has the attributes that define different shapes. For example, a shape that is a square is also a rhombus and a rectangle.

Section B: What is Perimeter?

In this section, students learn that perimeter is the distance around a shape. They first find perimeter by counting or adding the units of length on each side of a shape. Later, they find the perimeter of shapes whose sides are labeled with lengths.
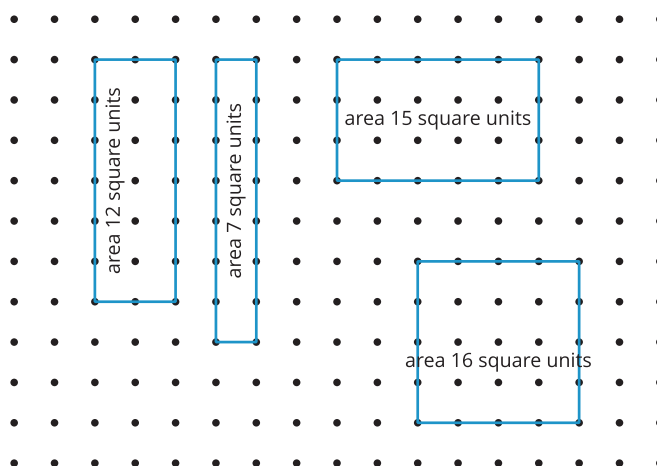
Students also draw shapes with a specified perimeter and see that different shapes can have the same perimeter.

Section C: Expanding on Perimeter

In this section, students solve problems that involve both area and perimeter. They draw rectangles with the same area and different perimeters, and rectangles with the same perimeter and different areas.

For example, the rectangles in the image all have a perimeter of 16 units, but they have different areas.

area 12 square units

area 7 square units

area 15 square units

area 16 square units

Section D: Design with Perimeter and Area

In this section, students apply what they've learned about geometric shapes, perimeter, and area to solve design problems. They design a park that has certain components, a West African wax print pattern with certain shapes, and a robot that meet certain requirements.

Try it at home!

Near the end of the unit, ask your student to find:

- these shapes around the house: a rhombus, a rectangle, a square, and a quadrilateral that isn't a rhombus, rectangle, or square

- the area and perimeter of a rectangle in the house

Questions that may be helpful as they work:

- What kind of quadrilateral is this? How do you know?
- Are you measuring area or perimeter? How do you know?