Unit 7 Family Support Materials

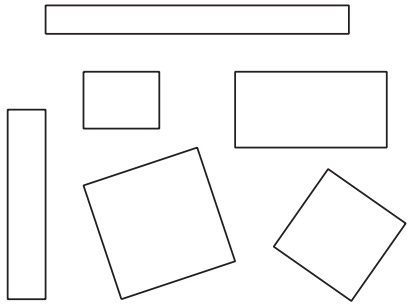
Two-Dimensional Shapes and Perimeter

In this unit, students reason about the attributes (features) of shapes and learn about perimeter.

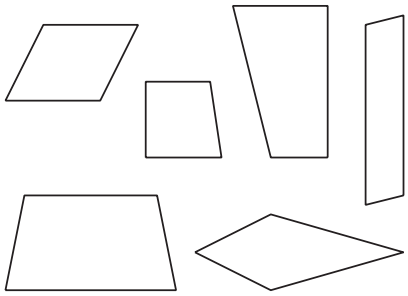
Section A: Reason with Shapes

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 on the basis of their sides (whether some sides are the same length) and their angles (whether they have right angles).

These quadrilaterals are rectangles.



These quadrilaterals are not rectangles.



Students see that a shape can have more than one name if it has the attributes that define more than one shape. 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

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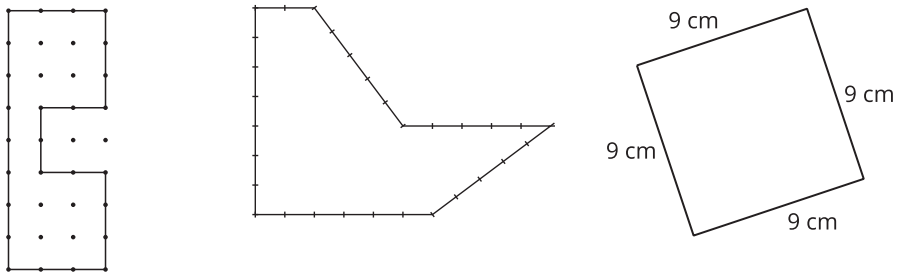
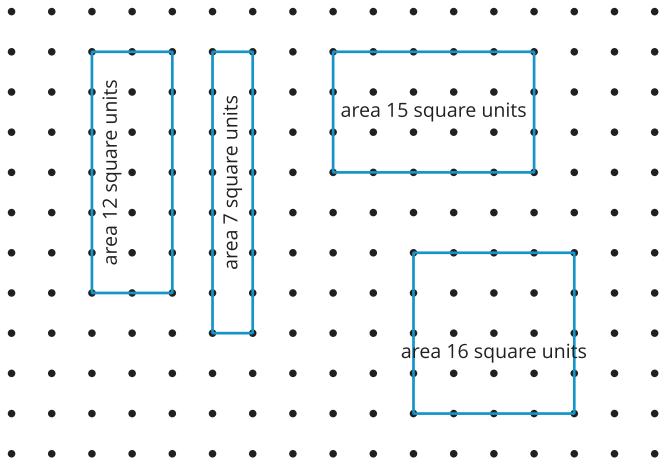
side of a shape. Later, they find the perimeter of shapes, the sides of which are labeled with lengths.



Students also draw shapes with specified perimeters 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, these rectangles have a perimeter of 16 units each, but they have different areas.

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 meets

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certain requirements.

Try it at home!

Near the end of the unit, ask your third grader to find in or around your home:

These shapes:

- Rhombus (4 equal sides)
  - Rectangle (2 pairs of equal sides and 4 right angles)
  - Square (4 equal sides and 4 right angles)
  - Quadrilateral (4-sided figure) that isn't a rhombus, a rectangle, or a square
- The area and perimeter of a rectangle

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?

Solution:
Answers may vary.

Sample response:

- It is a rectangle because it has 2 pairs of equal sides and 4 right angles. It is a rhombus because it has 4 equal sides and does not have right angles.
- I know that I am measuring the perimeter because I am finding the total of the side lengths. I know that I am measuring the area because I am finding the amount of space inside of the rectangle.

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