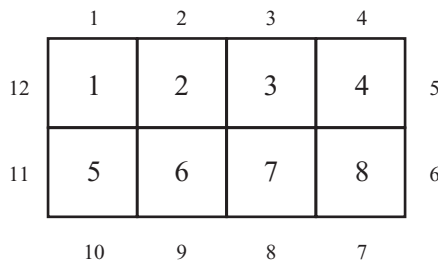


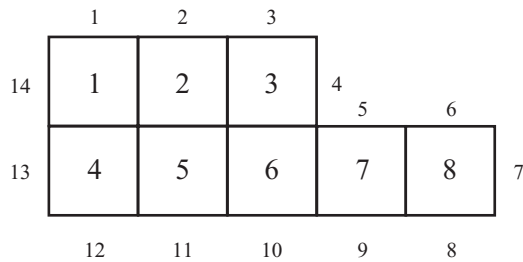
Student Guide

Questions 1–6 (SG p. 53)

1. 20 inches
2. 21 square inches
3. Answers may vary. Solution range should be 6–7 square inches. Students may question whether the center square (i.e., the one with the circle in it) is covered by water or not.
4. Answers will vary. Solution range should be 14–15 square inches. See the answer for Question 3 above.
- 5.* Answers will vary. Some possible solutions are shown in Figure 4 in the lesson.
- 6.* Answers will vary. Possible response: First I took 8 square-inch tiles because I knew I needed an area of 8 square inches. Then I made a shape that was 2 rows of 4 tiles.



I counted the edge around my shape and it was 12 inches. The playground needed to have a perimeter of 14 inches so I changed the shape by moving 2 tiles. I counted the edge again.



My new perimeter was 14 inches but the area was still 8 square inches.

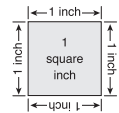
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*Answers and/or discussion are in the lesson.

The **perimeter** is the edge all around a two-dimensional shape; it is also the distance all the way around the shape.

Here is a picture of a one-square-inch tile.

Each side of this tile is one inch long.
The perimeter of the tile is 4 inches.
The area of the tile is one-square inch.



Area is the amount of surface that is needed to cover something. The size of an object or shape is often measured by counting the number of unit squares that can be placed on top of the shape to cover it. This is called the area of the object.

A grid of square-inch tiles has been drawn on the diagram of the fountain. You can use it to measure the distance the ants walked to travel the perimeter of the fountain. The grid of tiles can also help you measure the square inches needed to cover the area of the fountain.

1. Find the perimeter of the fountain.
2. Find the area of the fountain.
3. Find the area of the fountain that is covered by water.
4. Find the area of the fountain that is not covered by water.

Use the *Perimeter-Area Puzzles* pages in the *Student Activity Book* to practice measuring the perimeter and area of different shapes.

✓ **Check-In: Questions 5-6**

The ants of Antopolis want to build a playground with an area of 8 square inches. They have ordered enough material to build a 14-inch fence around it.

5. Draw a design for a playground for the ants which has an area of 8 square inches and a perimeter of 14 inches. (They want the young ants to be able to walk from one part of the playground to any other part without going outside the perimeter.)
6. Write a paragraph that explains how you chose your playground design. Use expectations on the *Math Practices* page to help you write your paragraph. Look in your *Student Guide Reference* section.

Continue to practice finding area and perimeter using the *Measuring Area and Perimeter* pages in the *Student Activity Book*.

Name _____ Date _____

Perimeter-Area Puzzles

Use square-inch tiles to measure the area for each shape. Use a ruler to measure the perimeter. Record your measurements on the data table at the bottom of the next page.

A.

B.

C.

D.

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Perimeter-Area Puzzles (SAB pp. 11-12)

Shape	Perimeter in Inches	Area in Sq. Inches
A	16	8
B	12	6
C	16	7
D	10	6
E	16	7
F	12	5
G	12	9

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Name _____ Date _____

E.

F.

G.

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Shape	Perimeter in Inches	Area in Square Inches
A		
B		
C		
D		
E		
F		
G		

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Student Activity Book

Measuring Area and Perimeter

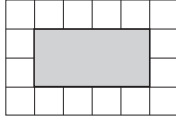
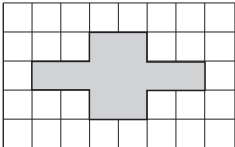
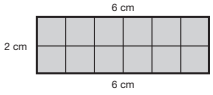
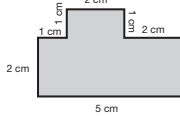
Questions 1–8 (SAB pp. 13–15)

1. Perimeter: 12 cm
Area: 8 square cm
2. Perimeter: 18 cm
Area: 10 square cm
3. Perimeter: 16 cm
Area: 12 square cm
4. Perimeter: 16 cm
Area: 12 square cm
5. Area: 8 square inches. Perimeter will vary; largest possible perimeter is 18 inches; smallest possible is 12 inches.
6. Area: 12 square cm
Perimeter: 16 cm
7. Area: 8 square inches. The only possible rectangles are 8×1 , perimeter 18 inches; and 4×2 , perimeter 12 inches.
8. The area is the same; the perimeter is different.

Name _____ Date _____

Measuring Area and Perimeter

Look at the shapes in Questions 1–4. Use the information you are given to find the perimeter and area of each shape.

1.  Perimeter: _____
Area: _____
2.  Perimeter: _____
Area: _____
3.  Perimeter: _____
Area: _____
4.  Perimeter: _____
Area: _____

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
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Name _____ Date _____

✓ **Check-In: Questions 5-8**

5. Use 8 square-inch tiles to make and draw a shape that is not a rectangle. Put the tiles together edge to edge. Find the area and perimeter.





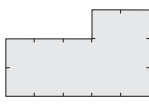


Area: _____
Perimeter: _____

6. Find the area and the perimeter of the shape below. Draw the lines in if it helps you.

1 sq cm

1 cm



Area: _____
Perimeter: _____

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Name _____ Date _____

7. Use 8 square-inch tiles to make and draw a rectangular shape. Put the tiles together edge to edge. Find the area and perimeter.

Area: _____
Perimeter: _____

8. Compare the two shapes you made in Questions 5 and 6. What is the same? What is different?

Measuring Area and Perimeter
Check-In: Questions 5–8

Expectation	Check In	Comments
Make shapes with a given area. [Q# 5 and 7]	5	
Find the perimeter: • of a rectangle. [Q# 7] • of an irregular shape. [Q# 5 and 6]	6	
Find the area: • of a rectangle. [Q# 7] • of an irregular shape. [Q# 5 and 6]	7	

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