LESSON 1

Objective

Identify characteristics of plane shapes.

Common Core State Standards

- **2.G.1** Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

Geometry

Identify Plane Shapes

Gaining a beginning understanding of basic geometric shapes and terms offers children the opportunity to use a different type of mathematical thinking. Although geometric thinking is related to numerical thinking, becoming familiar with shapes and developing spatial reasoning skills will lay the foundation for understanding in math, science, art, and social studies.

Try It! *Perform the Try It! activity on the next page.*

Talk About It

Discuss the Try It! activity.

- Have children look at their Shape Recording Sheet (BLM 15). **Ask:** *How many corners does a square have? How many sides?* Repeat for triangles and rectangles.
- Have children compare and contrast two shapes. For example, **ask:** *How is a square the same as a rectangle? How is a square different from a rectangle?* Repeat with other shapes.

Solve It

With children, reread the problem. Then have children draw a picture consisting of only squares, rectangles, and triangles. Instruct children to label each shape in their drawing and describe each shape. For an added challenge, state how many of each shape children are to include.

More Ideas

For other ways to teach about plane shapes—

- Have children use Pattern Blocks to find real-life objects that have the same shape. Encourage children to record the real-life objects that are shaped like each Pattern Blocks shape.
- Give each child a set of Tangrams and have them solve shape riddles. For example, **say:** *I'm thinking of a shape with three sides and three corners.* **Ask:** *What shape is it?* (triangle)

Formative Assessment

Have children try the following problem.

I am a shape with four sides and four corners. All four of my sides are the same length. What shape could I be?

A. triangle

B. rectangle

C. square

Try It! 15 minutes | Pairs

Here is a problem that involves identifying plane shapes.

During story time, Brandon's teacher told the children to sit on the floor. The children were to form a shape that has three straight sides and three corners. How can Brandon and his classmates figure out what shape they are to sit in?

Introduce the problem. Then have children do the activity to solve the problem.

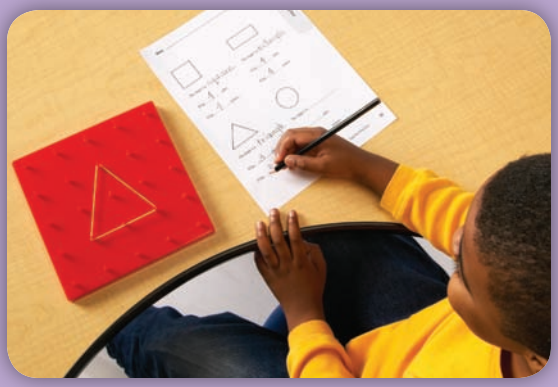
Distribute Geoboards, rubber bands, a Shape Recording Sheet (BLM 15), and pencils to children.

Materials

- Geoboard (1 per pair)
- rubber bands (4 per pair)
- Shape Recording Sheet (BLM 15; 1 per pair)
- pencils (1 per child)

1. Instruct children to use the rubber bands to make a shape that has four straight sides of equal length and four corners. Tell children to count how many units each side is to be sure they are equal. Guide children to identify the shape as a square. **Ask:** *Is this the shape that the children are to sit in?*

2. Have children write "square" on their recording sheet and record the number of sides and corners this shape has.



3. Repeat Steps 1 and 2 for a rectangle and a triangle. After each shape has been made, **ask:** *Is this the shape that the children are to sit in?*

Look Out!

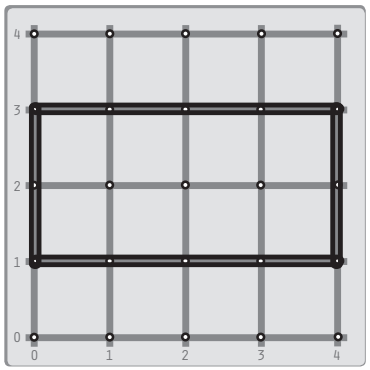
Make sure that children understand the difference between a square and a rectangle. Both have four sides and four corners. Reinforce the fact that in squares all four sides are of equal length. In rectangles only the opposite sides are equal, but all four sides are not.

Answer Key

Use a Geoboard and rubber bands. Make each shape. Tell the number of sides and corners.

(Check students' work.)

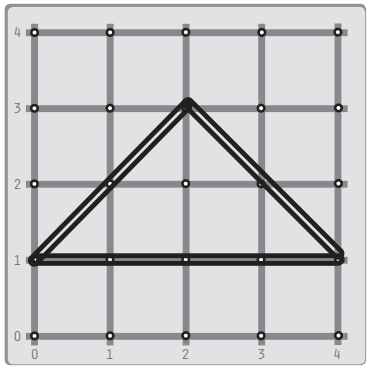
1.



sides 4

corners 4

2.

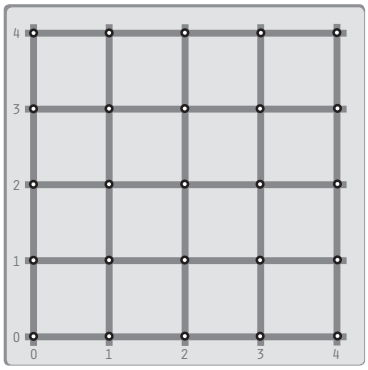


sides 3

corners 3

Use a Geoboard and rubber bands. Make each shape. Draw it. Tell the number of sides and corners.

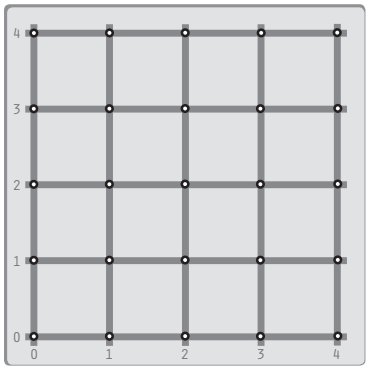
3. square



sides 4

corners 4

4. triangle



sides 3

corners 3

Answer Key

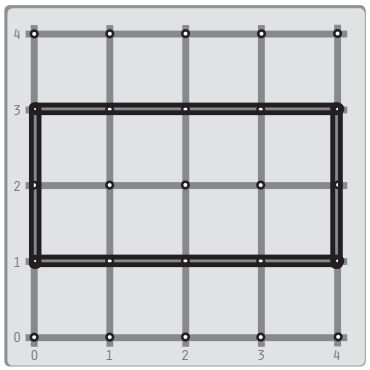
Challenge! Can a shape have more sides than corners? Explain your answer.

Challenge: (Sample) No; two sides meet to make each corner. Each side is used twice, so for every side, there is a corner.

Name _____

Use a Geoboard and rubber bands. Make each shape. Tell the number of sides and corners.

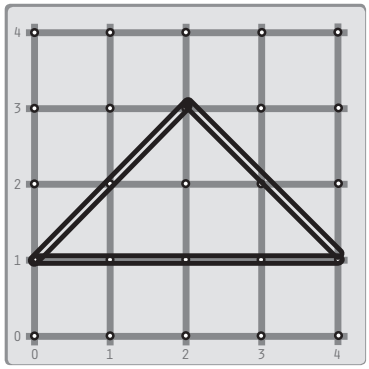
1.



sides_____

corners _____

2.

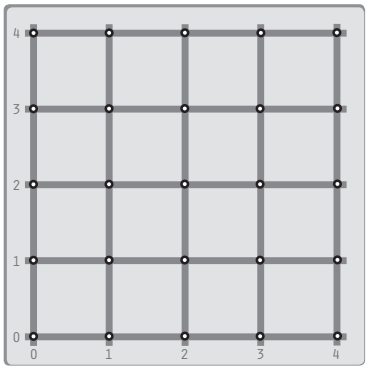


sides_____

corners _____

Use a Geoboard and rubber bands. Make each shape. Draw it. Tell the number of sides and corners.

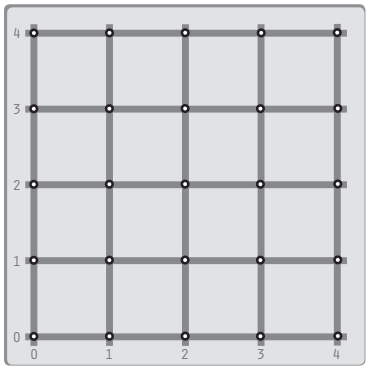
3. square



sides_____

corners _____

4. triangle



sides_____

corners _____

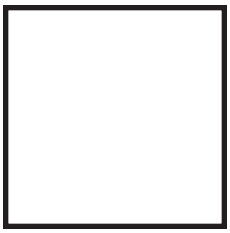
Name _____

Challenge! Can a shape have more sides than corners? Explain your answer.

BLM 15

Shape Recording Sheet

Name _____



This shape is a

_____.

It has _____ sides.

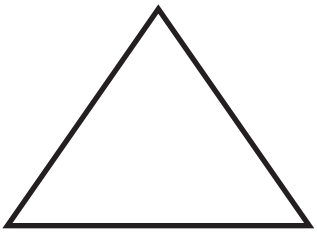
It has _____ corners.

This shape is a

_____.

It has _____ sides.

It has _____ corners.

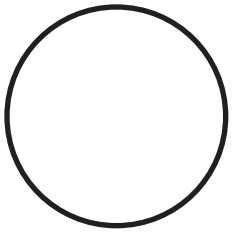


This shape is a

_____.

It has _____ sides.

It has _____ corners.



This shape is a

_____.

It has _____ sides.

It has _____ corners.