

Flat or Solid?

Name figures, notice parts and compare.

GRADE 2 • 2.MG.4

2.MG.4 "The student will describe, name, compare, and contrast plane and solid figures (circles/spheres, squares/cubes, and rectangles/rectangular prisms)..."

NAME _____

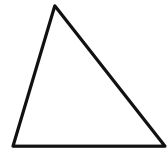
DATE _____

Materials and setup

Adult setup: bring a cube, a rectangular-prism box, blank paper and a pencil. Read aloud. Guide children as they count hidden parts and trace real faces.

PLANE AND SOLID FIGURES

A plane figure is flat. A solid takes up space. A face is a flat surface of a solid. A square is a special rectangle. A cube is a special rectangular prism.



WORKED EXAMPLE

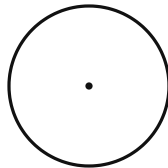
Look at this triangle. What makes it a plane figure?

1. Its outline is flat.
2. It has 3 straight sides and 3 corners.

Answer: A triangle is a flat, or plane, figure.

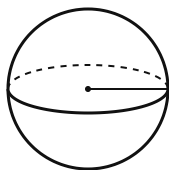
PRACTICE 4 problems

1 Name this plane figure. Does it have straight sides or a curved edge?



ANSWER _____

- 2** Name this solid. How is it different from the circle in task 1? Tell a partner, then write the name.



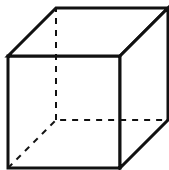
ANSWER _____

- 3** Name this plane figure. Count its sides. Tell one fact about their lengths.



ANSWER _____

- 4** Name this solid. What shape is each flat face? How is it different from a square? Tell a partner, then write the name.



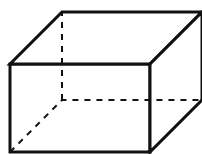
ANSWER _____

APPLY IT Show your work

- 1** A sign has the plane shape shown. Name the shape. Count its sides. How is it like a square? Tell a partner.

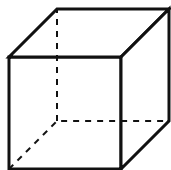


- 2** Name this solid. Hold the real box and count its flat faces, edges and vertices (corners). Write the three counts. Compare them with the real cube. Tell one way the solids are alike.



CHALLENGE One step up

On blank paper, trace one flat face of the real cube and one of the real box. Name each outline here. Tell how each solid differs from its flat tracing. Could you trace a flat face of a sphere?



WORK SPACE AND ANSWER

PRACTICE 1

Circle; a curved edge and no straight sides.

PRACTICE 2

Sphere. A sphere takes up space and has a curved surface; a circle is flat.

PRACTICE 3

Square; 4 sides of equal length.

PRACTICE 4

Cube; each face is a square. A cube takes up space; a square is flat.

APPLY IT 1

Rectangle; 4 sides. It and a square have four straight sides and four square corners.

Accept that both are rectangles. The pictured rectangle has two longer and two shorter sides; a square has four equal sides.

APPLY IT 2

Rectangular prism: 6 faces, 12 edges and 8 vertices. The cube has the same three counts.

An edge joins two faces; three faces meet at each vertex. Count hidden parts on the real models. A cube is a special rectangular prism with square faces.

CHALLENGE

Cube: square, also a rectangle. Box: rectangle, possibly a square. The solids take up space; their tracings are plane figures. A sphere has no flat faces.

Read aloud and accept oral comparisons. Count on real models, including hidden edges and vertices. Check actual face tracings on the supplied blank paper. All six named figures and their matching pairs are included. Rectangles include squares; rectangular prisms include cubes. A sphere has a curved surface but no flat faces.