

ACTIVITY GUIDE

OBJECTIVE 4.8 C



PURPOSE:

To help students describe shapes and solids in terms of vertices, edges, and faces

ACTIVITY:

Show the transparency and discuss the definitions of face, edge, and vertex. Be sure that students understand that the diagram is a transparent example of a solid shape.

Hold up a wooden cube or book. Ask students for their ideas about how many faces, vertices, and edges the object has. Use one color of sticky note to mark each face on the object. Use a different color to mark the edges and a third color to mark the vertices.

Continue the discussion until all students clearly understand the concept. Divide the students into small groups and give them some multi colored sticky notes. Let them find objects in the room and label them with the proper colors to show edges, faces, and vertices. After they have labeled an object, let them describe it to their classmates and explain their reasoning.

EXTENSIONS:

Encourage students to find more challenging objects in the room to label. Suggest that they mark the chalkboard, a computer or a pencil. Encourage their discussions about the math definitions as they work to understand them.

Challenge students to look for objects which may not be as "easy" to define as some of the regular geometric shapes. Ask questions like, "How many sides does this chair have?" or "How would we determine the number of vertices on this orange?"

MATERIALS:

- Transparency 20 - 4.8 C
- Colored sticky notes
- Wooden 3 D geometric shapes
- Objects in the classroom

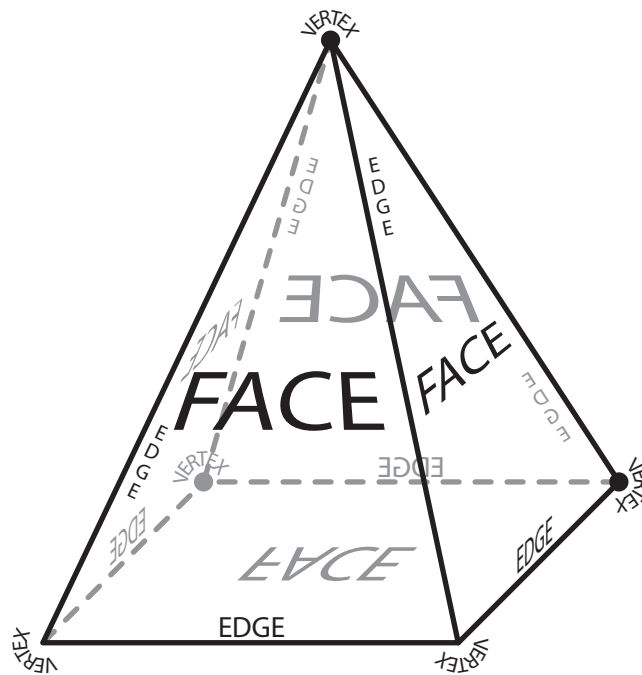
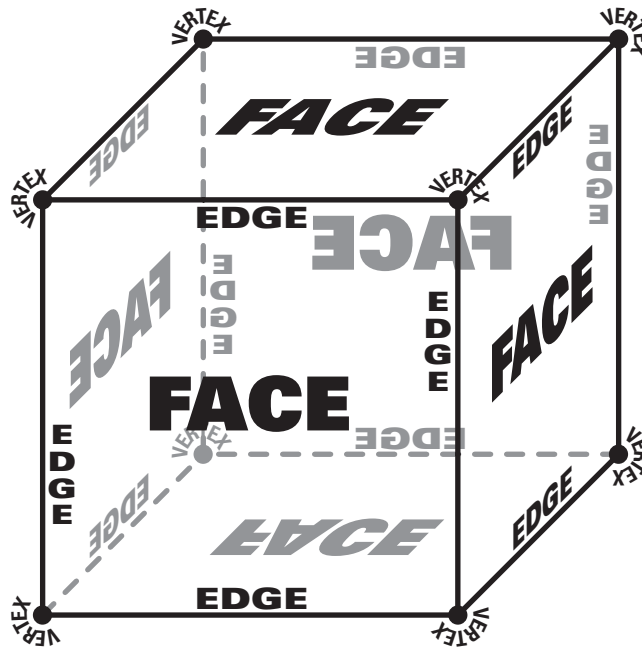
TIPS TO REMEMBER:

- Document students' work with a digital camera and display them in your room or in the hall.
- Remember that the plural of vertex is vertices. Require your students to use the correct vocabulary when they talk about math.

Face: A flat surface of a three-dimensional figure

Edge: Any of the line segments that make up a polygon

Vertex: The point on an angle where the two lines intersect

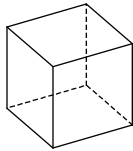




INDEPENDENT PRACTICE 1

Objective 4.8 C

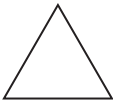
1 How many faces does this shape have?



- A* 6
- B 4
- C 8
- D 10

2 Which shape has exactly 6 edges and 6 vertices?

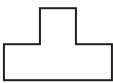
F



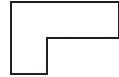
H



G



J*

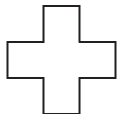


3 Which figure has the least edges?

A



C



B*



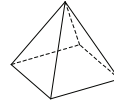
D



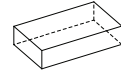
4 Which shape is the table describing?

Vertices	Edges	Faces
5	8	5

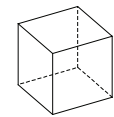
F*



H



G

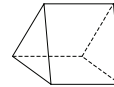


J

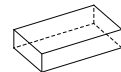


5 Which figure has the most faces?

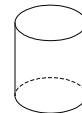
A



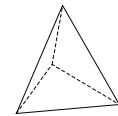
C*



B

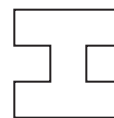


D

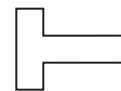


6 Which shape has exactly 5 vertices and 5 edges?

F



H



G



J*



SCIENCE *fact*

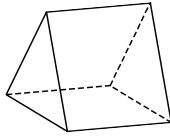
Coprolites, or fossilized dung, are used by paleontologists to determine what animal the dung came from, whether or not it was a herbivore, and what species they fed on.



INDEPENDENT PRACTICE 2

Objective 4.8 C

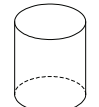
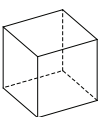
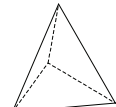
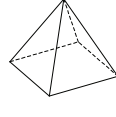
1 How many edges does this shape have?




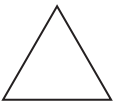


- A 7
- B* 9**
- C 11
- D 5

2 Which figure is the table describing?

Vertices	Edges	Faces
8	12	6

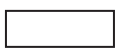
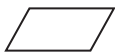
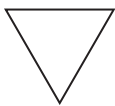
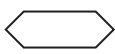
- F 
- G*** 
- H 
- J 

3 Which shape has exactly 10 vertices and 10 edges?

- A*** 
- B 
- C 
- D 

4 Which figure is the table describing?

Vertices	Edges
6	6

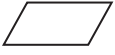
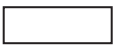
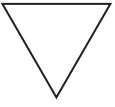
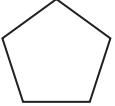
- F 
- G 
- H 
- J*** 

5 How many vertices does this figure have?



- A 8
- B 10
- C* 12**
- D 14

6 Which figure has the most vertices?

- F 
- G 
- H 
- J*** 

SCIENCE fact

The study of prehistoric life forms on Earth through the examination of plant and animal fossils is called Paleontology.