

Just in Time Quick Check

Standard of Learning 4.MG.6

Strand: Measurement and Geometry

Standard of Learning 4.MG.6

The student will identify, describe, compare, and contrast plane and solid figures according to their characteristics (number of angles, vertices, edges, and the number and shape of faces), with and without models.

Students will demonstrate the following Knowledge and Skills:

- a) Identify concrete models and pictorial representations of solid figures (cube, rectangular prism, square pyramid, sphere, cone, and cylinder).
- b) Identify and describe solid figures (cube, rectangular prism, square pyramid, and sphere) according to their characteristics (number of angles, vertices, edges, and by the number and shape of faces).
- c) Compare and contrast plane and solid figures (limited to circles, squares, triangles, rectangles, spheres, cubes, square pyramids, and rectangular prisms) according to their characteristics (number of sides, angles, vertices, edges, and the number and shape of faces).

Just in Time Quick Check

Just in Time Quick Check Teacher Notes

Supporting and Prerequisite SOL: 4.MG.4, 4.MG.5, 2.MG.2

Just in Time Quick Check 4.MG.6

1. Use the word bank to identify the real life examples of solid figures.

Rectangular Prism	Cube	Sphere	Square Pyramid	Cone	Cylinder
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2. Complete the table.

Solid Figure	Number of Faces	Shape(s) of Faces	Number of Vertices	Number of Edges
Sphere				
Square Pyramid				
Cube				
Rectangular Prism				







3. Think about how the following plane figures are similar and different from the solid figures. Complete the chart below. Justify your reasoning.

Plane and Solid Figures	Similar	Different
Circle and Sphere		
Square and Cube		
Triangle and Square Pyramid		
Rectangle and Rectangular Prism		

4.MG.6 Just in Time Quick Check Teacher Notes

Common Errors/Misconceptions and their Possible Indications

- Use the word bank to identify the real life examples of solid figures.

Rectangular Prism	Cube	Sphere	Square Pyramid	Cone	Cylinder
					

Some students may have difficulty with the pictorial representations of solid figures. This may indicate that students have difficulty when not all faces, edges, and vertices are visible or when students cannot physically manipulate the solid figure (e.g., rotating it). Teachers may wish to have students explore solid figures using manipulatives and real life examples and compare them to the pictorial representations.

- Complete the table.

Solid Figure	Number of Faces	Shape(s) of Faces	Number of Vertices	Number of Edges
Sphere				
Square Pyramid				
Cube				
Rectangular Prism				

Some students may have difficulty filling in the chart because of the vocabulary terms faces, vertices, and edges. Teachers may wish to have students use real life examples to explore these characteristics. With exploration, the corners of each solid figure can be identified as vertices; the flat surfaces of solid figures can be identified as faces; and the line segments where the faces meet can be identified as edges. Additionally, the use of anchor charts and vocabulary cards can be used to support students' vocabulary development.

3. Think about how the following plane figures are similar and different from the solid figures. Complete the chart below. Justify your reasoning.

Plane and Solid Figures	Similar	Different
Circle and Sphere		
Square and Cube		
Triangle and Square Pyramid		
Rectangle and Rectangular Prism		

Some students may have difficulty completing the chart because they are unfamiliar with the characteristics of solid and plane figures. This may indicate that students are unfamiliar with how solid and plane figures relate to one another. Teachers may wish to have students use manipulatives of plane and solid figures to create Venn diagrams that help students organize their thinking when comparing characteristics. It may also be helpful to provide word banks (e.g., two-dimensional, three-dimensional, face, edge, vertex, congruent) or to use sentence frames to assist students in comparing the characteristics of the given figures.