

Just in Time Quick Check

Standard of Learning 2.MG.4

Strand: Measurement and Geometry

Standard of Learning 2.MG.4

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

Students will demonstrate the following Knowledge and Skills:

- a) Trace faces of solid figures (cubes and rectangular prisms) to create the set of plane figures related to the solid figure.
- b) Compare and contrast models and nets (cutouts) of cubes and rectangular prisms (e.g., number and shapes of faces, edges, vertices).
- c) Given a concrete or pictorial model, name and describe the solid figure (sphere, cube, and rectangular prism) by its characteristics (e.g., number of edges, number of vertices, shapes of faces).
- d) Compare and contrast plane and solid figures (circles/spheres, squares/cubes, and rectangles/rectangular prisms) according to their characteristics (e.g., number and shapes of their faces, edges, vertices).

Just in Time Quick Check

Just in Time Quick Check Teacher Notes

Supporting and Prerequisite SOL: 1.MG.2

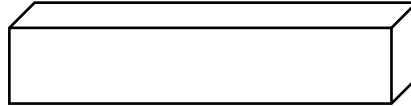
Just in Time Quick Check 2.MG.4

Use the word bank to name the shapes in each question.

Word Bank:

Circle	Cube	Rectangle
Rectangular Prism	Sphere	Square

1. Write the name of the shape below each picture.

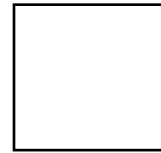
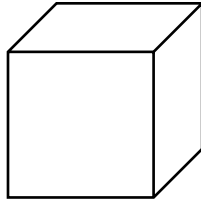


Write about how these shapes are the same. Then write about how they are different. Use these vocabulary words in your explanation: angles, edges, faces, sides, vertices.

Same:

Different:

2. Write the name of the shape below each picture.

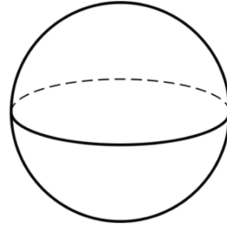
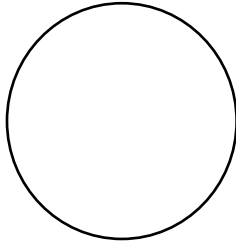


Write about how these shapes are the same. Then write about how they are different. Use these vocabulary words in your explanation: angles, edges, faces, sides, vertices.

Same:

Different:

3. Write the name of the shape below each picture.

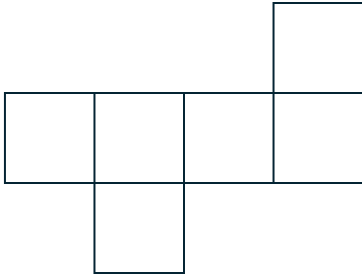


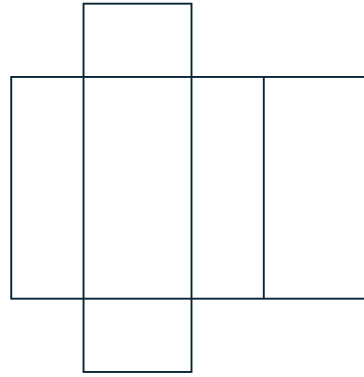
Write about how these shapes are the same. Then write about how they are different.

Same:

Different:

4. Write the name of the solid figure that can be made by each of the nets below.





Explain how you know which solid could be made from each of the nets.

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

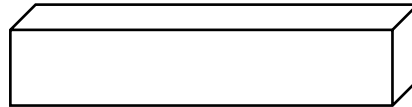
Common Errors/Misconceptions and their Possible Indications

Use the word bank to name the shapes in each question.

Word Bank:

Circle	Cube	Rectangle
Rectangular Prism	Sphere	Square

1. Write the name of the shape below each picture.



Write about how these shapes are the same. Then write about how they are different. Use these vocabulary words in your explanation: angles, edges, faces, sides, vertices.

Same:

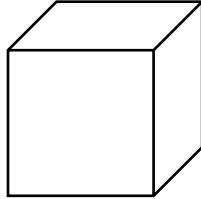
Different:

Students may describe the rectangular prism as having three faces, seven vertices, and nine edges. This indicates students are only counting faces, vertices, and edges that they can see. These students will benefit from more experiences with physical models to manipulate, hold, and count as they consider attributes and compare figures. Building polygons and solids with materials like toothpicks and marshmallows, or folding nets of solid figures, can help students conceptualize the attributes of solid and plane figures.

Students may misuse or confuse some 2-D and 3-D vocabulary, especially “sides” and “edges” and/or “angles” and “vertices,” or they may refer to both figures as rectangles. More experience hearing and

using the vocabulary for attributes of plane and solid figures during classroom discussions will help students acquire this vocabulary.

2. Write the name of the shape below each picture.



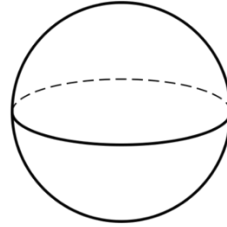
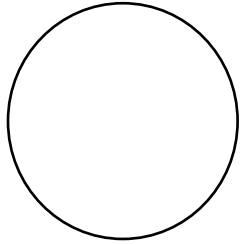
Write about how these shapes are the same. Then write about how they are different. Use these vocabulary words in your explanation: angles, edges, faces, sides, vertices.

Same:

Different:

Students may identify both figures as squares. This may indicate that students are considering the faces of the cube rather than the cube as a whole. These students would benefit from more experiences with physical models of cubes. Both tracing faces of the cube (deconstructing, in a sense) and constructing a cube from the six square faces will help students develop understanding for the similarities and differences among these 2-D and 3-D figures. Students may also benefit from additional modeling of the use of the mathematical vocabulary used to describe plane and solid figures.

3. Write the name of the shape below each picture.



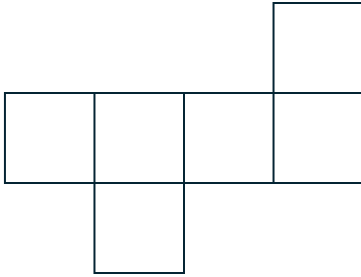
Write about how these shapes are the same. Then write about how they are different.

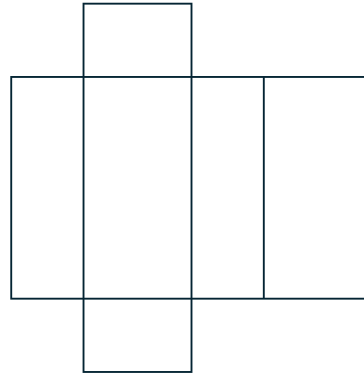
Same:

Different:

Students may name both figures as circles or they may have difficulty explaining how the figures are related. Activities using real-world examples may be helpful. For example, cutting a spherical piece of fruit like an orange in half and using that half as a circular “stamp” may build connections between the attributes of these figures.

4. Write the name of the solid figure that can be made by each of the nets below.





Explain how you know which solid figure could be made from each of the nets.

Students may struggle to visualize folding the nets and instead identify individual faces as squares or rectangles. Students making this error would benefit from discussions where they are asked to describe the difference between faces of a solid figure and the solid figure itself. Students may also benefit from experiences folding nets into solid figures.