Surface Sort

Sort solids, prove two choices, and make your own examples.

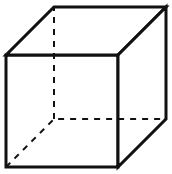
4.GM.1.3 "Given two three-dimensional shapes, identify each shape. Compare and contrast their similarities and differences based on their attributes."

NAME _____ DATE _____

ONLY FLAT FACES

Every part of the outside is flat. A flat part is called a face.

A number cube



HAS A CURVED SURFACE

At least one part of the outside bends instead of staying flat. The solid may also have flat faces.

Half an orange



1 SORT

8 items

Look at each figure and circle FLAT or CURVED.

1.

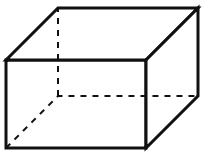


Figure 1

FLAT **CURVED**

2.

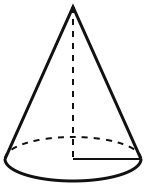


Figure 2

FLAT **CURVED**

3.

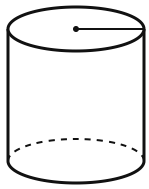


Figure 3

FLAT **CURVED**

4.

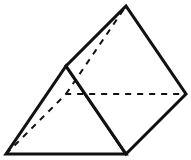


Figure 4

FLAT **CURVED**

5.

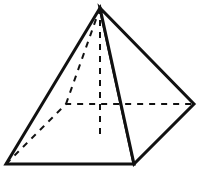


Figure 5

FLAT **CURVED**

6.

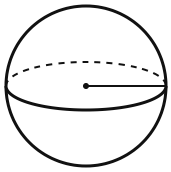


Figure 6

FLAT **CURVED**

7.

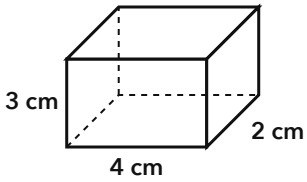


Figure 7

FLAT **CURVED**

8.

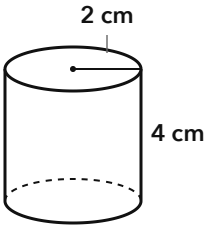


Figure 8

FLAT **CURVED**

2 PROVE IT

Explain your thinking

Pick two figures from different groups and explain how you knew where each belongs.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

Write one new example of each group.

FLAT _____

CURVED _____

CHALLENGE

Compare your two new examples: name their solid shapes, then tell one way they are alike and one way they differ.

ANSWER KEY # Surface Sort

GRADE 4 · 4.GM.1.3

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (prism)	**FLAT**	This prism has only flat faces.
2	Figure 2 (cone)	**CURVED**	A cone has a curved surface around its side.
3	Figure 3 (cylinder)	**CURVED**	A cylinder has a curved surface, even though its ends are flat.
4	Figure 4 (triangular_prism)	**FLAT**	A triangular prism has only flat faces.
5	Figure 5 (pyramid)	**FLAT**	A pyramid has only flat faces.
6	Figure 6 (sphere)	**CURVED**	A sphere has a curved surface and no flat faces.
7	Figure 7 (prism)	**FLAT**	The labeled prism still has only flat faces.
8	Figure 8 (cylinder)	**CURVED**	The labeled cylinder still has a curved surface.

PART 2 · PROVE IT

Task: Pick two figures from different groups and explain how you knew where each belongs. Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **FLAT**: A shoebox is shaped like a rectangular prism.
- **CURVED**: A tennis ball is shaped like a sphere.

Challenge: A shoebox is shaped like a rectangular prism, and a tennis ball is shaped like a sphere. Both are three-dimensional, but the prism has only flat faces and the sphere has a curved surface.

For Part 2, a student might explain that Figure 1 has only flat faces, while Figure 2 has a curved surface.