Surface Sort

Look at each solid, then sort it by its surfaces.

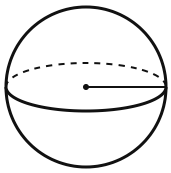
3.GM 1.1 "Sort three-dimensional shapes based on attributes."

NAME _____ DATE _____

HAS A CURVED SURFACE

A curved surface is not flat. A solid in this group may have flat faces, too.

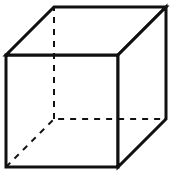
A sphere has a curved surface.



ONLY FLAT FACES

Every face of a solid in this group is flat. It has no curved surface.

A cube has only flat faces.



1 SORT

8 items

Circle the category for each figure, then choose two figures and explain how you knew where each belongs.

1.

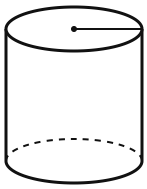


Figure 1

CURVED FLAT

2.

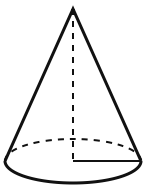


Figure 2

CURVED FLAT

3.

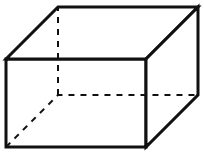


Figure 3

CURVED **FLAT**

4.



Figure 4

CURVED **FLAT**

5.

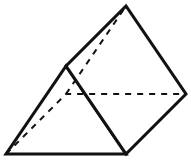


Figure 5

CURVED **FLAT**

6.

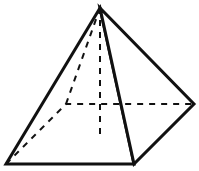


Figure 6

CURVED **FLAT**

7.

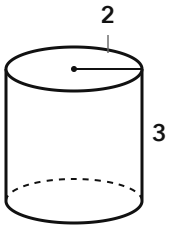


Figure 7

CURVED **FLAT**

8.

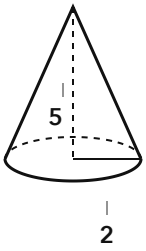


Figure 8

CURVED **FLAT**

2 PROVE IT

Explain your thinking

Pick two items from Part 1. For each one, tell how you knew where it belonged.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

Write one new example of a solid with a curved surface and one new example of a solid with only flat faces.

CURVED _____

FLAT _____

CHALLENGE

Can a solid have both a flat face and a curved surface? Name one and tell which category it belongs in.

ANSWER KEY # Surface Sort

GRADE 3 · 3.GM 1.1

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (cylinder)	**CURVED**	A cylinder has a curved surface around its sides.
2	Figure 2 (cone)	**CURVED**	A cone has a curved surface.
3	Figure 3 (prism)	**FLAT**	This prism has only flat faces.
4	Figure 4 (hemisphere)	**CURVED**	A hemisphere has a curved surface.
5	Figure 5 (triangular_prism)	**FLAT**	A triangular prism has only flat faces.
6	Figure 6 (pyramid)	**FLAT**	A pyramid has only flat faces.
7	Figure 7 (cylinder)	**CURVED**	Its size does not change the fact that a cylinder has a curved surface.
8	Figure 8 (cone)	**CURVED**	Its size does not change the fact that a cone has a curved surface.

PART 2 · PROVE IT

Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **CURVED**: A marble has a curved surface.
- **FLAT**: A brick has only flat faces.

Challenge: Yes. A cone has a flat circular face and a curved surface, so it belongs in CURVED.

For Part 2, accept any two numbered figures with explanations that correctly describe their surfaces. A solid with both kinds of surfaces belongs in CURVED.