Surface Detective Sort

Sort solids by the surfaces you see.

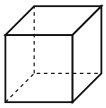
MA.5.GR.1.2 "Identify and classify three-dimensional figures into categories based on their defining attributes. Figures are limited to right pyramids, right prisms, right circular cylinders, right circular cones and spheres."

NAME _____ DATE _____

FLAT SURFACES ONLY

Choose FLAT when every surface on the solid is flat. Prisms and pyramids belong here.

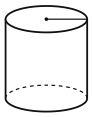
A cube has only flat faces.



HAS A CURVED SURFACE

Choose CURVED when the solid has at least one curved surface. It may also have flat faces.

A right circular cylinder has a curved surface.



1 SORT

8 items

For Part 1, circle FLAT or CURVED for each figure; for Part 2, choose two figures, one from each category, and explain the surface feature that helped you sort them.

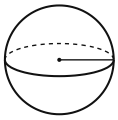
1. 

Figure 1

FLAT CURVED

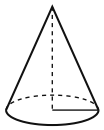
2. 

Figure 2

FLAT CURVED

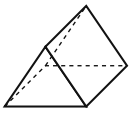
3. 

Figure 3

FLAT CURVED

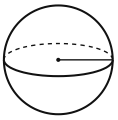
4. 

Figure 4

FLAT CURVED

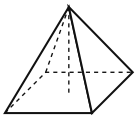
5. 

Figure 5

FLAT CURVED

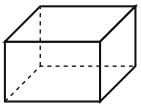
6. 

Figure 6

FLAT CURVED

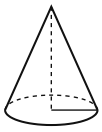
7. 

Figure 7

FLAT CURVED

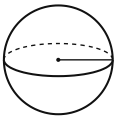
8. 

Figure 8

FLAT CURVED

2 PROVE IT

Explain your thinking

Pick two 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 FLAT solid and one new example of a CURVED solid.

FLAT _____

CURVED _____

CHALLENGE

A solid has two flat circular bases and one curved surface. Which category does it belong to? Name the solid.

ANSWER KEY

Surface Detective Sort

GRADE 5 · MA.5.GR.1.2

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Figure 1 (sphere)	**CURVED**	A sphere has one curved surface and no flat faces.
2	Figure 2 (cone)	**CURVED**	A right circular cone has one curved surface.
3	Figure 3 (triangular_prism)	**FLAT**	A right triangular prism has only flat faces.
4	Figure 4 (sphere)	**CURVED**	A sphere has one curved surface and no flat faces.
5	Figure 5 (pyramid)	**FLAT**	A right pyramid has only flat faces.
6	Figure 6 (prism)	**FLAT**	A right prism has only flat faces.
7	Figure 7 (cone)	**CURVED**	A right circular cone has a curved surface.
8	Figure 8 (sphere)	**CURVED**	A sphere has one curved surface and no flat faces.

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)

- **FLAT**: A right pentagonal prism.
- **CURVED**: A right circular cylinder.

Challenge: CURVED. It is a right circular cylinder.

Items 1, 2, 4, 7, and 8 are CURVED. Items 3, 5, and 6 are FLAT. For Part 2, accept explanations that correctly identify flat faces or a curved surface.