

Surface Sort

Sort solids by their surfaces.

2.8.B “classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language;”

NAME _____

DATE _____

HAS A CURVED SURFACE

These solids have at least one curved surface.

They may also have flat faces.

A soup can has a curved surface.

HAS ONLY FLAT FACES

Every surface on these solids is a flat face. They have no curved surfaces.

A tissue box has only flat faces.

1 SORT _____ 8 items

Circle CURVED or FLAT for each solid, then choose two items and tell how each solid's surfaces helped you sort it.

1. 1. a sphere

CURVED

FLAT

2. 2. a cone

CURVED

FLAT

3. 3. a triangular prism

CURVED

FLAT

4. 4. a cylinder

CURVED

FLAT

5. 5. a cube

CURVED

FLAT

6. 6. a rectangular prism

CURVED

FLAT

7. 7. another sphere

CURVED

FLAT

8. 8. another cylinder

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 solid or solid-shaped object for CURVED and one for FLAT.

CURVED _____

FLAT _____

CHALLENGE

A party hat is shaped like a cone. Which category does it belong in? Explain by naming its surface.

PART 1 • SORT

#	ITEM	CATEGORY	WHY
1	1. a sphere	CURVED	A sphere has one curved surface and no flat faces.
2	2. a cone	CURVED	A cone has one curved surface.
3	3. a triangular prism	FLAT	A triangular prism has only flat faces.
4	4. a cylinder	CURVED	A cylinder has one curved surface.
5	5. a cube	FLAT	A cube is a special rectangular prism with only flat faces.
6	6. a rectangular prism	FLAT	A rectangular prism has only flat faces.
7	7. another sphere	CURVED	A sphere has one curved surface and no flat faces.
8	8. another cylinder	CURVED	A cylinder has one 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 basketball has a curved surface.
- **FLAT:** A brick has only flat faces.

Challenge: CURVED. A cone has a curved surface.

For Part 2, accept explanations that correctly name a curved surface or explain that all surfaces are flat faces. A cube belongs in FLAT because it is a rectangular prism with six flat square faces.