

1.G 3-D Shape Sort

Alignments to Content Standards: 1.G.A.1

Task

As a whole group, students will sort a collection of three-dimensional objects into categories by shape. There should be several that fall into each of the categories below:

- sphere
- cone
- pyramid
- cube
- cylinder
- rectangular prism

As a class, students brainstorm attributes of the objects they have classified, and the teacher writes those attributes where the entire class can see them. Students then use one of the following sentence frames as they classify the objects. The sentence frames should be written on sentence strips or some other large paper so that the entire class can read/see them during the activity.)

The _____ is in the shape of a _____. It is/has _____, just like all _____.

The _____ is in the shape of a _____. It is/has _____, but some _____ aren't/don't.

The teacher models with one or two objects to start. An example would be:

"The can is in the shape of a cylinder. It has circles on the ends, just like all cylinders."

"The can is a in the shape of a cylinder. It is made of metal, but some cylinders aren't."

This will help students distinguish between defining attributes and non-defining attributes.

Once students are familiar with this task they can be given a set of cards and can work in pairs to classify by defining attribute using the (now familiar) sentence frames.

IM Commentary

The purpose of this task is to familiarize students with the idea of defining and non-defining attributes of geometric figures. If it is difficult to put together a collection of real objects, the teacher may need to prepare a set of cards with pictures of objects. For example, sphere cards can include a basketball, baseball, globe, and orange. The cylinder cards can include a juice glass, food can, and toilet paper roll. Pictures of classroom items are a great idea as well (trash can - cylinder, white board eraser - rectangular prism, etc).

This task can be extended by having students go on a scavenger hunt around the classroom or school to take photographs of items to include in this 3D Shape Sort.

[Edit this solution](#)

Solution

The attributes that students describe will vary, but here are some examples (in adult language):

- The baseball is in the shape of a sphere. It is round, just like all spheres.
- The orange is in the shape of a sphere. It is orange, but some spheres aren't.
- The food can is in the shape of a cylinder. The label is a rectangle when we take it off and lay it flat, just like all cylinders (if we could remove the surface).
- The toilet paper roll is in the shape of a cylinder. It is made of paper, but some cylinders aren't.
- The box of markers is in the shape of a rectangular prism. The corners are square, just like all rectangular prisms.
- The brick is in the shape of a rectangular prism. It is heavy, but some rectangular prisms aren't.
- The Egyptian pyramids are in the shape of a pyramid. They come to a point at the

top, just like all pyramids.

- The food pyramid is not in the shape of a pyramid. It is flat, which is why it isn't a real pyramid.



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