## Unit 5 Lesson 11: Filling Containers

### 1 Which One Doesn’t Belong: Solids (Warm up)

#### Student Task Statement

These are drawings of three-dimensional objects. Which one doesn’t belong? Explain your reasoning.



### 2 Height and Volume

#### Student Task Statement

Your teacher will give you a graduated cylinder, water, and some other supplies. Your group will use these supplies to investigate the height of water in the cylinder as a function of the water volume.

1. Before you get started, make a prediction about the shape of the graph.
2. Fill the cylinder with different amounts of water and record the data in the table.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| * volume (ml)
 | *
 | *
 | *
 | *
 | *
 | *
 |
| * height (cm)
 |  |  |  |  |  |  |

1. Create a graph that shows the height of the water in the cylinder as a function of the water volume.
* 
1. Choose a point on the graph and explain its meaning in the context of the situation.

#### Activity Synthesis



### 3 What Is the Shape?

#### Student Task Statement

1. The graph shows the height vs. volume function of an unknown container. What shape could this container have? Explain how you know and draw a possible container.
* 
1. The graph shows the height vs. volume function of a different unknown container. What shape could this container have? Explain how you know and draw a possible container.
* 
1. How are the two containers similar? How are they different?



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