## Unit 1 Lesson 16: Distinguishing Between Surface Area and Volume

### 1 Attributes and Their Measures (Warm up)

#### Student Task Statement

For each quantity, choose one or more appropriate units of measurement.

For the last two, think of a quantity that could be appropriately measured with the given units.

Quantities

1. Perimeter of a parking lot:
2. Volume of a semi truck:
3. Surface area of a refrigerator:
4. Length of an eyelash:
5. Area of a state:
6. Volume of an ocean:
7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: miles
8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: cubic meters

Units

* millimeters (mm)
* feet (ft)
* meters (m)
* square inches (sq in)
* square feet (sq ft)
* square miles (sq mi)
* cubic kilometers (cu km)
* cubic yards (cu yd)

### 2 Building with 8 Cubes (Optional)

#### Student Task Statement

Your teacher will give you 16 cubes. Build two different shapes using 8 cubes for each. For each shape:

1. Give it a name or a label (e.g., Mai’s First Shape or Diego’s Steps).
2. Determine the **volume**.
3. Determine the surface area.
4. Record the name, volume, and surface area on a sticky note.

### 3 Comparing Prisms Without Building Them (Optional)

#### Student Task Statement

Three rectangular prisms each have a height of 1 cm.

* Prism A has a base that is 1 cm by 11 cm.
* Prism B has a base that is 2 cm by 7 cm.
* Prism C has a base that is 3 cm by 5 cm.
1. Find the surface area and volume of each prism. Use the dot paper to draw the prisms, if needed.
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1. Analyze the volumes and surface areas of the prisms. What do you notice? Write 1 or 2 observations about them.



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