

Name:

## 16.2

## Measuring Matter



Question: How is matter measured?

### 1 Measuring mass

Your materials for this part of the Investigation include a large solid object, a collection of identical small objects, and a container of liquid. Develop a technique for measuring the mass of each object. Record your results in the Table 1.

**Table 1: Measuring mass**

Object (s)	Description of material	Mass (g)	Description of technique used to find mass
<i>example</i>	<i>stick of chewing gum</i>	<i>3.3 g</i>	<i>placed directly on balance</i>
solid object			
collection			
liquid			

### 2 Measuring volume

You have liquid in a container, a solid object with a regular shape, and an irregular solid. Develop a technique for measuring the volume of each object. Record your results in the Table 2.

**Table 2: Measuring volume.**

Object	Description of material	Volume in mL or cm <sup>3</sup>	Description of technique used to find volume
<i>example</i>	<i>cereal box</i>	<i>4680 cm<sup>3</sup></i>	<i>used formula: length × width × height</i>
liquid			
regular solid			
irregular solid			

**3** Applying your knowledge

- a. In part 1, you found the mass of a collection of identical objects. Explain how you could determine the mass of one of those objects without using the electronic balance.

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- b. Imagine that you had a leaky faucet. How could you find the volume of one drop of water, using only a 100-milliliter graduated cylinder?

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- c. How could you find the volume of a student? Describe your invented technique.

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