

**Chapter 8 Density and Buoyancy****Standards Practice**

- 1** A student has measured the temperature, volume, weight, mass, and viscosity of a sample of corn oil. Which of these measurements would the student need to find the density of the corn oil?

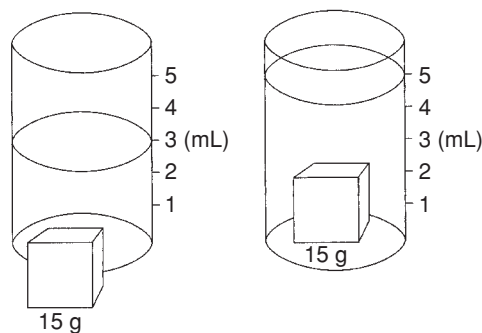
A weight and mass  
B temperature and volume  
C viscosity and mass  
D mass and volume

- 2** A 40-cm square piece of aluminum foil has a density of  $2.6 \text{ g/cm}^3$ . A student cuts this piece of aluminum foil into four equal squares. What is the density of each piece?

A  $0.6 \text{ g/cm}^3$   
B  $1.3 \text{ g/cm}^3$   
C  $2.6 \text{ g/cm}^3$   
D  $5.2 \text{ g/cm}^3$

- 3** A student measured a metal cube to find that the cube has a volume of  $27 \text{ cm}^3$  and a mass of  $240.3 \text{ g}$ . What is the density of this metal cube?

A  $0.112 \text{ g/cm}^3$   
B  $8.9 \text{ g/cm}^3$   
C  $27 \text{ g/cm}^3$   
D  $6,488 \text{ g/cm}^3$

**4**

A student placed 15 g of an unknown mineral in 3 mL of water. The diagram shows how the water level changed. What is the density of the unknown mineral?

A  $0.13 \text{ g/mL}$   
B  $0.2 \text{ g/mL}$   
C  $5.0 \text{ g/mL}$   
D  $7.5 \text{ g/mL}$

**5**

A student is calculating the density of milk. What should the student use to find the milk's volume?

A graduated cylinder  
B balance  
C meter stick  
D water displacement method

**Chapter 8 Density and Buoyancy****6 Densities of Various Liquids**

Liquid	Density (g/mL)
Glycerin	1.26
Gasoline	0.721
Corn oil	0.925
Corn Syrup	1.38

A 25.0 mL sample of an unknown liquid has a mass of 31.5 g. Based on the table, what is the unknown liquid?

- A glycerin
- B gasoline
- C corn oil
- D corn syrup

**7** A canoe floats at the edge of a pond. If the volume of pond water displaced by the canoe weighs 90 N, what is the buoyant force of the water on the canoe?

- A 45 N
- B 90 N
- C 135 N
- D 180 N

**8** A barge filled with a load of bricks sinks because the buoyant force of the water

- A is equal to the weight of the loaded barge.
- B is greater than the weight of the loaded barge.
- C is less than the weight of the loaded barge.
- D has no effect on the loaded barge.

**9 Densities of Various Liquids**

Liquid	Density (g/mL)
Water	1.00
Mercury	13.6
Ethyl Alcohol	0.802
Mineral Oil	0.914

If these four liquids were poured into the same container, they would form layers. Predict the order of the layers, beginning with the bottom layer.

- A mercury, water, ethyl alcohol, mineral oil
- B mineral oil, ethyl alcohol, mercury, water
- C ethyl alcohol, mineral oil, water, mercury
- D mercury, water, mineral oil, ethyl alcohol

**10** Water has a density of 1.0 g/cm<sup>3</sup>. Which of the following substances will *not* float in water?

- A ice (0.92 g/cm<sup>3</sup>)
- B pine wood (0.5 g/cm<sup>3</sup>)
- C corn syrup (1.38 g/cm<sup>3</sup>)
- D plastic (0.93 g/cm<sup>3</sup>)

