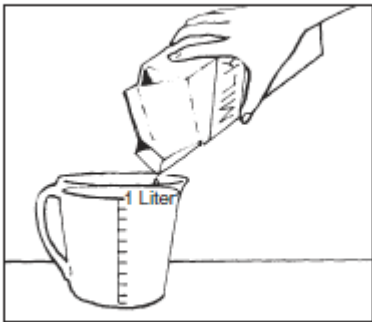# Mass, Volume and Density Test

1. The volume of an irregular object can be measured by

    1. multiplying the object's length, width, and height.

    2. dividing the object's density by its mass.

    3. submerging the object in water in a graduated cylinder.

    4. placing the object on a triple-beam balance.

2. The diagram below shows milk being poured into a measuring cup.
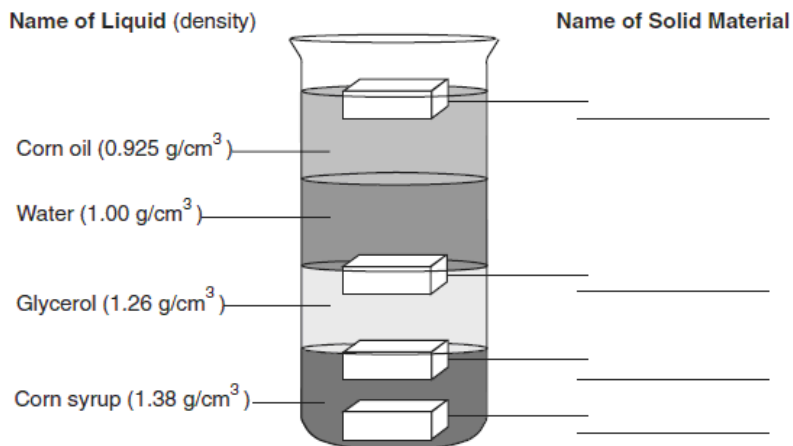

Which property of the milk can be directly measured using the cup?

    1. mass

    2. density

    3. solubility

    4. volume

3. If a wooden block were cut into eight identical pieces, the density of each piece compared to the density of the original block would be

    a. The same

    b. Lesser

    c. Greater

4. What are the units used when measuring density?

   a. g & mL

   b. mL & cm3

   c. g/cm3 & g/mL

   d. g & cm

5. A rock has a density of 12 g/ml. If the rock's mass is 3g, what is the rock's volume?

   a. 0.25 ml

   b. 4 ml

   c. 16 ml

   d. 2 ml

6. A pebble has a mass of 70 grams and a volume of 28 cubic centimeters. What is its density?

   a. 0.4 g/cm^3

   b. 2.5 g/cm^3

   c. 490 g/cm^3

   d. 4.0 g/cm^3

7. A student dropped a marble into the beaker. The marble had a density of 1.2 g/cm³. What liquid would the marble be found in?

Name of Liquid (density)		Name of Solid Material
Corn oil (0.925 g/cm³)		
Water (1.00 g/cm³)		
Glycerol (1.26 g/cm³)		
Corn syrup (1.38 g/cm³)		

  a. between corn oil and water

  b. between glycerol and corn syrup

  c. at the bottom of the beaker
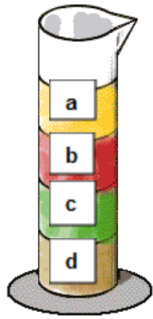
  d. between water and glycerol

8. Which does 12.0 grams represent?

  a. Mass

  b. Volume

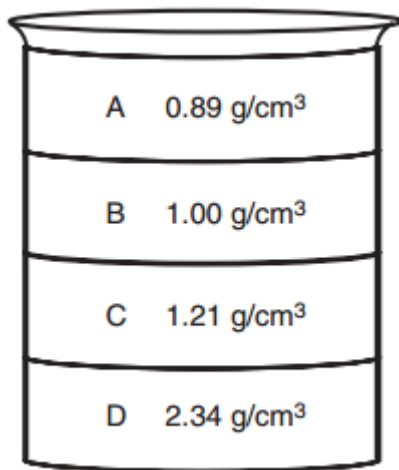 c. Density

  d. Speed

9. Which does 15 mL represent?

  a. Mass

  b. Volume

  c. Density

  d. Speed

10. Look at the graduated cylinder and chart below. Which letter represents where Canola Oil would be?

Liquid	Density (g/ml)
corn syrup	1.38
ether	1.2
canola oil	.93
salt water	1.1

   a. at the top

   b. between a and c

   c. between c and d

   d. at the bottom

11. The diagram below shows a tall beaker with four different liquids and their densities.

A   0.89 g/cm^3

B   1.00 g/cm^3

C   1.21 g/cm^3

D   2.34 g/cm^3

If a ball that has a density of 1.73 g/cm3 is placed in the beaker, where will the ball come to rest?

   1. on top of liquid A

   2. between liquids B and C

   3. between liquids C and D

   4. on the bottom of the beaker

12. A block has a density of 17.3 g/ml. If the rock's volume is 15.6 cm^3, what is the block's mass?

    a. 259.9 g

    b. 269.9 g

    c. 270.9 g

    d. 280.9 g

Use the information below to answer question **13**.

Base your answers to the following questions on the information and cross section below and on your knowledge of science.

<div align="center">

Icebergs

</div>

Floating pieces of glacial ice are called icebergs. Huge pieces of glacial ice near a coast may break off and fall into the ocean, as shown in the cross section below. Only about onetenth of the total iceberg is visible above the surface of the water.
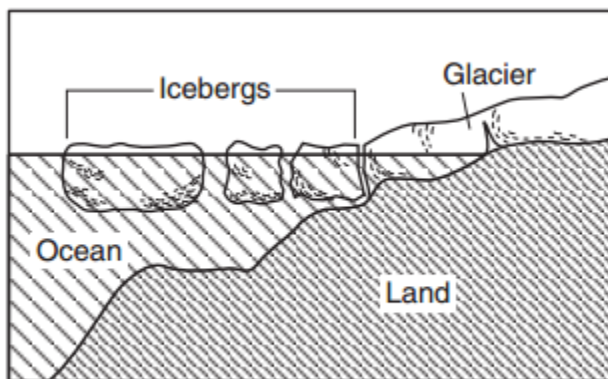

13. Why does an iceberg float in the ocean?

    a. the iceberg is more dense than the ocean water

    b. the iceberg is less dense than the ocean water

    c. the iceberg and ocean water have the same density

14.

A rock hanging from a spring scale is being lowered into a graduated cylinder containing water. Figure A shows the reading on the spring scale before the rock is lowered into the water. Figure B shows the reading on the spring scale when the rock is in the water. The reading on the spring scale in figure A is greater than the reading on the spring scale in figure B.

Figure A   Figure B
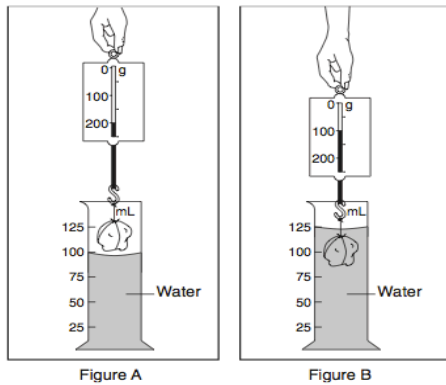
What property of the rock is being measured in Figures A & B?
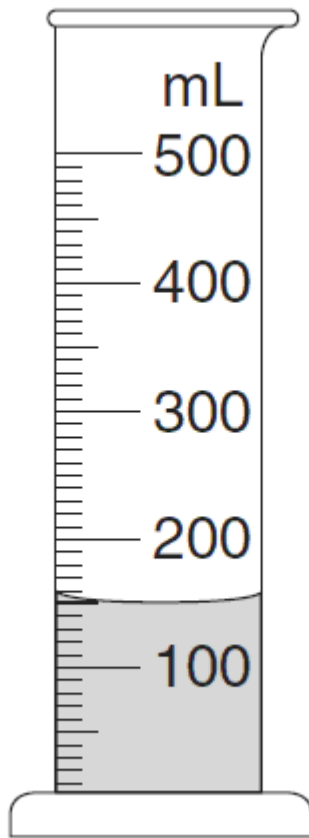
a. density

b. mass

c. volume

d. weight

15.

The diagram below shows 20 grams of two different materials, A and B, on a laboratory balance.
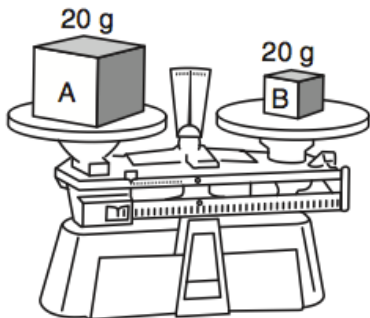
Which material, A or B, has the least density?

a. A

b. B

16. The density of water is 1.0 g/cm^3. The volume is shown in the graduated cylinder of water. What is the mass of the water? $D = \frac{m}{v}$

mL
- 500
- 400
- 300
- 200
- 100

17. Tyler measured the density of an unknown solid object at 0.3g/ml. When the object was placed in a beaker of water, it

    a. sank to the bottom of the beaker.

    b. floated near the top of the beaker.

    c. floated near the bottom of the beaker.

    d. broke into two pieces in the beaker.

18. To determine the mass of 10 leaves, a scientist would use a...

    1. metric ruler.

    2. beaker.

    3. triple beam balance.

    4. thermometer.