

Mass, Volume, or Density?

Density = 2 g/ml Volume = 25.0 ml $m = D \times v$ $m = 2 \text{ g/ml} \times 25 \text{ ml}$ $m = 50 \text{ g}$	Density = 6 g/ml Volume = 42 ml	Mass = 4 grams Density = 2 g/ml
Mass = 18 grams Density = 12 g/ml	Density = 1.0 g/ml Volume = 3 ml	Density = 5 g/ml Volume = 45 ml
Mass = 12 grams Volume = 13 ml	Mass = 12 grams Volume = 16 ml	Mass = 12 grams Volume = 17 ml
Mass = 24.1 grams Density = 12.4 g/ml	Mass = 24.5 grams Density = 22 g/ml	Density = 6.2 g/ml Volume = 12.4 ml
Density = 4.5 g/ml Volume = 25 ml	Mass = 15 grams Density = 1.2 g/ml	Mass = 17.8 grams Density = 3.2 g/ml

$$D = m/v$$

The amount of matter in
a given space or volume.
g/mL or g/cm³

A brick has a mass of 100 g and a volume of 25 cm³. What is the density of the brick?

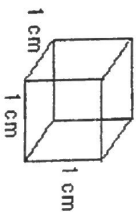
The density of gold is 19.3 g/cm³. If I have a nugget with a volume of 10 cm³, what is the mass of the cube?

How to solve a word problem:

1. Read the word problem carefully.
2. Determine what is being asked for.
3. Write the formula and plug in the known values.
4. Calculate and solve for the unknown value.
5. Write the answer and corresponding unit.

My paperweight has a mass of 50 g and a density of 2.5 g/cm³. How much space does it take up?

Volume of 1 cubic
(cm³) centimeter



$$1 \text{ mL} = 1 \text{ cm}^3$$

$$V = m/D$$

The amount of space an
object takes up. We use cm³
or mL to measure volume.

The amount of matter in an
object. The amount of "stuff"
is measured in grams.

$$m = V \times D$$

USE THE CORRECT FORMULAS TO FIND THE MASS, VOLUME, OR DENSITY OF EACH BOX. SHOW YOUR WORK ON A SEPARATE SHEET OF PAPER.

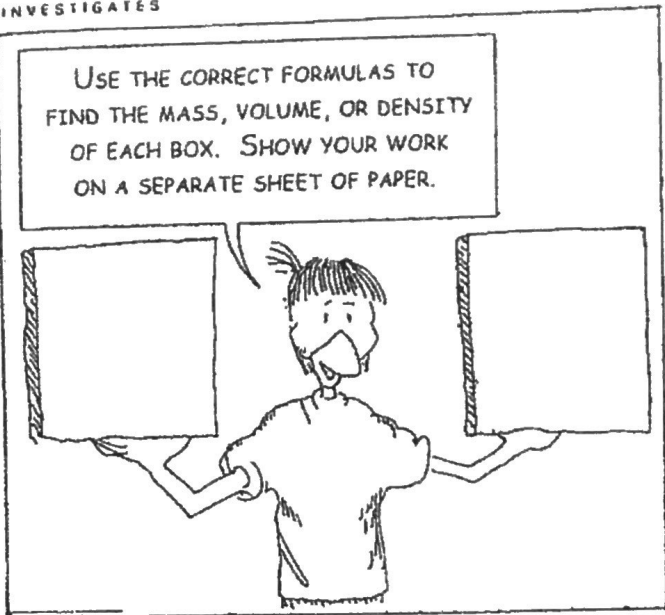
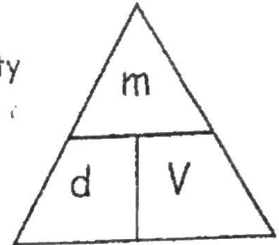
Formulas

Mass = Volume x Density ($m = V \times d$)

Density = Mass / Volume ($d = m / V$)

Volume = Mass / Density ($V = m / d$)

TRIANGLE TRICK:
Cover up the property you need to find in order to identify the formula you need to use.



$m = 190 \text{ g}$
 $V = 20 \text{ cm}^3$

1. density = _____

$m = 492 \text{ g}$
 $d = 120 \text{ g/cm}^3$

2. volume = _____

$d = 4.5 \text{ g/cm}^3$
 $V = 200 \text{ cm}^3$

3. mass = _____

$m = 144.12 \text{ g}$
 $V = 6 \text{ cm}^3$

4. density = _____

$m = 134 \text{ g}$
 $V = 11 \text{ cm}^3$

5. density = _____

$d = 10.5 \text{ g/cm}^3$
 $V = 35 \text{ cm}^3$

6. mass = _____

$m = 555 \text{ g}$
 $V = 50 \text{ cm}^3$

7. density = _____

$m = 363 \text{ g}$
 $d = 30 \text{ g/cm}^3$

8. volume = _____

$d = 13.5 \text{ g/cm}^3$
 $V = 20 \text{ cm}^3$

9. mass = _____

$m = 18,954 \text{ g}$
 $V = 9,000 \text{ cm}^3$

10. density = _____

$m = 492 \text{ g}$
 $d = 120 \text{ g/cm}^3$

11. volume = _____

$d = 6.5 \text{ g/cm}^3$
 $V = 200 \text{ cm}^3$

12. mass = _____