

# Density, Mass and Volume (A)

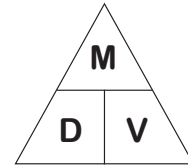


## Section A

### Calculating Density

Use the mass and volume of each element to calculate its density in  $\text{g/cm}^3$ .

Element	Mass	Volume	Density ( $\text{g/cm}^3$ )
Silicon	15 g	$6.44 \text{ cm}^3$	
Zinc	2.5 kg	$350.63 \text{ cm}^3$	
Lithium	340 g	$636.7 \text{ cm}^3$	
Mercury	3251 g	$240 \text{ cm}^3$	
Titanium	0.8 kg	$176.21 \text{ cm}^3$	
Oxygen	8.574 g	$6000 \text{ cm}^3$	



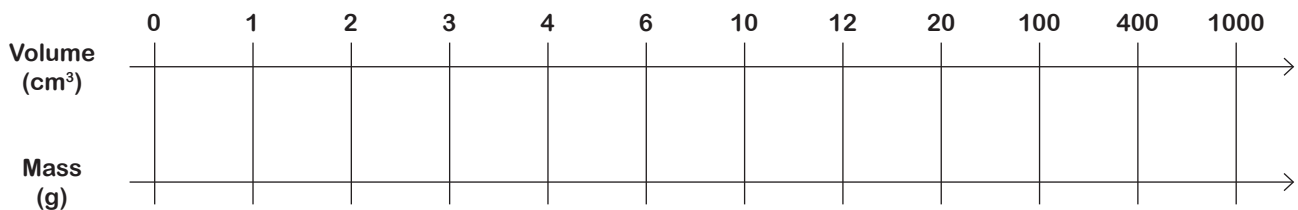
Given that  $1000 \text{ cm}^3 = 1 \text{ L}$ ,  
Convert this density to  $\text{g/L}$ .

## Section B

### Calculating Mass and Volume

1) The density of iron is  $7.9 \text{ g/cm}^3$  to 1 d.p.

a) Use the density to complete stacked number line:



b) What kind of relationship exists between mass and volume?

2) Complete the table, giving your answer in the specified units.

Element	Mass	Volume	Density ( $\text{g/cm}^3$ )
Silver	kg	$400 \text{ cm}^3$	$10.5 \text{ g/cm}^3$
Tin	5000 g	$\text{cm}^3$	$7.31 \text{ g/cm}^3$
Nitrogen	g	$750 \text{ cm}^3$	1.25 g/L
Carbon	g	1.2 L	$2.26 \text{ g/cm}^3$
Copper	723 g	$\text{cm}^3$	$8.96 \text{ g/cm}^3$
Calcium	1.4 kg	$\text{cm}^3$	$1.55 \text{ g/cm}^3$
Aluminum	kg	$0.02 \text{ m}^3$	$2.702 \text{ g/cm}^3$
Gold	1 tonne	$\text{m}^3$	$19.31 \text{ g/cm}^3$