Smart Exam Resources

CAMBRIDGE LOWER SECONDARY CHECKPOINT
PRACTISE QUESTIONS -MARKSCHEMS
Subject: Chemistry- Stage - 9

Topic: Density Set-1-qp-ms
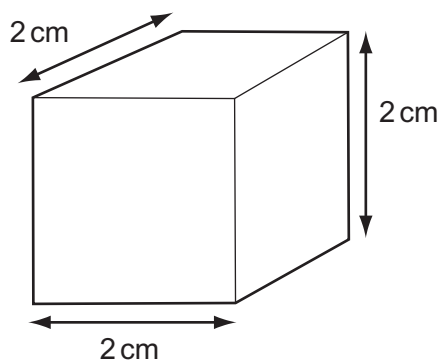
1 Fig. 1.1 shows a cube.

Fig. 1.1

(a) The mass of the cube is 21.6 g.

Calculate the density of the cube.

State the formula that you use and show your working.

formula

working

.... [3]

MARK SCHEME:

(a) volume = $8\,cm^3$;
density = mass / volume ;
21.6 / 8 = $2.7\ g / cm^3$;   [3]

2 The volume of the elephant is $5\,m^3$. Its mass is $5000\,kg$.

Calculate the density of the elephant.

State the formula that you use and show your working.

formula

working

.... [2]

MARK SCHEME:

density = mass / volume;

= 5000 / 5 = 1000 kg/m^3;   [2]

3 The load being lifted by the crane is a container full of sea water.

The volume inside the container is $5000\,dm^3$. The density of sea water is $1025\,kg/m^3$. Calculate the mass of sea water being lifted.

State the formula you use and show your working.

formula

working

mass = ... kg [3]

MARK SCHEME:

density = mass / volume ; unit change noted: $5000 \, dm^3 = 5 \, m^3$; mass (= volume x density) = $5 \times 1025 = 5125$ (kg) ;	**3**

4   Describe how the density of an irregular object such as a bell could be determined.

....

....

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....

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.... [4]

MARK SCHEME:

measure mass with, scales / balance;

measure volume;

displacement method for measuring volume described;

density = mass / volume;   **[4]**

5 The mass of the toy bird is 7.5 g and its volume is 3.0 cm^3.

(i) Suggest how you could measure the volume of the bird.

....

.... [2]

(ii) Calculate the density of the bird.

Show your working and state the formula that you use.

formula used

working

.... [2]

MARK SCHEME:

(i)   use measured volume of water;
submerge toy and calculate change in level/volume of water
displaced;   **[2]**

(ii)   density = mass/volume;
$7.5/3.0 = 2.5$ g/cm^3;   **[2]**

6 The volume of the wood used to construct the longship was $9\,m^3$.

If the density of the wood was $800\,kg/m^3$, calculate the mass of the wood used.

State the formula that you use and show your working.

formula

working

.... [2]

MARK SCHEME:

density = mass/volume *or* (mass =) density x volume ;
mass = 800 x 9 = 7200 kg ;   [2]

[Total: 7]