

# Density

1 (2019)

Q2		Marks	
(a)	64	3	
(b)	2 <u>Units:</u> g/cm <sup>3</sup>	3	6
		3	
(c)	C <u>Reason:</u> sinks most / lowest / bottom	3	6
		3	

2 (2019)

3 (2016)

- (f) more dense / A is less dense (3)  
 less dense / B is more dense (3)

4 (2015)

(d)(i)  $V = \pi r^2 h$   
 $\frac{22}{7} \times 4 \times 7 // \pi \times 4 \times 7 // 3.14 \times 4 \times 7$  [Incomplete calculation – Slip -1]  
 $88 \text{ cm}^3 // 28\pi \text{ cm}^3 // 87.92 \text{ cm}^3$  (3)

(ii)  $D = M \div V$   
 $\frac{66}{88} \text{ g/cm}^3 // 66 \div \text{answer from (i) above}$  [Incomplete calculation – Slip -1]  
 $0.75 \text{ g/cm}^3 // 2.357 \div \pi \text{ g/cm}^3 // 0.7507 \text{ g/cm}^3$  (3)

5 (2014)

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(a)(i) because apples are less dense than water (3)

(ii) **State or show**

find the mass of the apple using a (mass/electronic) balance (3)

graduated cylinder with water // overflow can filled with water (3)

apple submerged (3)

difference in volumes of water // volume collected from overflow can (3)

density = mass  $\div$  volume (3)

[Diagram must have at least one label, no labelled diagram – deduct [3] marks]

6 (2010)

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(b) less dense/ lower density (6) [6]

7 (2009)

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(a) (i) Name **item A:** overflow can (3)  
**item B:** measuring (graduated) cylinder (3) [6]  
**allow (3) for items named in reverse order**

(ii) Calculate **density:**  $\frac{175}{125}$  gets (2) / 1.4 gets (3) (3)  
Give **units:**  $\text{g/cm}^3$  *or*  $\text{gcm}^{-3}$  *or* grams per cubic centimetre (3) [6]

(iii) Why? **sink:** denser (3) [3]

