

$$1 \quad a) \text{ Density } d = \frac{M}{V}$$

$$= \frac{103 \text{ g}}{10 \text{ cm}^3}$$

$$= 10.3 \text{ g cm}^{-3}$$

$$= 10.3 \times 1000 \text{ kg m}^{-3}$$

$$= 10300 \text{ kg m}^{-3}$$

$$b) \text{ Relative density of silver} = \frac{\text{Density of silver}}{\text{Density of water}}$$

$$= \frac{10300 \text{ kg m}^{-3}}{1000 \text{ kg m}^{-3}} = 10.3$$

$$2 \quad \text{Density} = \frac{M}{V}$$

$$= \frac{150 \text{ g}}{200 \text{ cm}^3}$$

$$= 0.75 \text{ g cm}^{-3}$$

$$= 750 \text{ kg m}^{-3}$$

3 As the temperature increases, the volume of most of the liquid decreases and when the volume increases density decreases. Similarly, when temperature decreases, the volume of most liquids decreases which increases the density.

4 The relative density of a substance is defined as the ratio of the density of the substance to the density of water.

The relative density doesn't have a unit because it is the ratio of two dimensionally same quantity.

- 5 If the density of ~~the~~ a body is less than the density of liquid, the body will float ~~of~~ on the surface of liquid. If the density of a body is more than the density of liquid, the body will sink in a liquid.
- 6 When any object displaces a weight of water equal to its own weight, it floats. This is called the law of ~~float~~ ~~floatation~~ floatation.