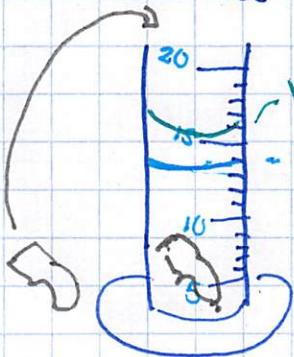


Glass Density

$$\text{density} = \frac{\text{mass}}{\text{volume}}$$

$$d = \frac{m}{V}$$

To find the volume - water displacement



$$V_{H_2O + \text{glass}} = 15 \text{ mL}$$
$$- V_{H_2O} = 13 \text{ mL}$$

$$V_{\text{glass}} = V_{H_2O + \text{glass}} - V_{H_2O}$$

$$V_{\text{glass}} = 15 \text{ mL} - 13 \text{ mL} = \boxed{2 \text{ mL}}$$

densities of glass (g/cm^3 or g/mL)

soda-lime - 2.4-2.8

pyrex - 2.21

tempered - 2.27

laminated - 1.2

bulletproof - 1.02

- Ex) A piece of glass weighs 13.3 g. Its volume is calculated using water displacement.

$$V_{H_2O} = 10.0 \text{ mL}$$

$$V_{H_2O + \text{glass}} = 15.2 \text{ mL}$$

Calculate density
to id the type of glass.

$$d = \frac{m}{V}$$

$$V_{\text{glass}} = 15.2 \text{ mL} - 10.0 \text{ mL}$$
$$= \underline{\underline{5.2 \text{ mL}}}$$

$$d = \frac{13.3 \text{ g}}{5.2 \text{ mL}}$$

$$d = 2.56 \text{ g/mL}$$

soda-lime

A piece of glass weighs 3.34g and the volume is found by water displacement.

$$V_{H_2O} = 11.5 \text{ mL}$$

$$V_{H_2O + \text{glass}} \approx 12.97 \text{ mL}$$

Find density : id the type of glass

$$d = \frac{3.34 \text{ g}}{1.47 \text{ mL}} = 2.27 \text{ g/mL}$$

$$\begin{aligned} V_{\text{glass}} &= 12.97 \text{ mL} \\ &- 11.5 \text{ mL} \\ &\hline 1.47 \text{ mL} \end{aligned}$$

tempered