

### Warm-up:

- Define the word density in your own words.

• Density: ratio of mass per unit volume



$$\text{Density} = \frac{\text{mass}}{\text{Volume}}$$

Dense people break your heart! ☹️

### Problem Solving:

- 1) Define variables
- 2) Write formula
- 3) Use math! [algebra]
- 4) Substitute in known values
- 5) Perform calculation
- 6) Units!
- 7) Sanity check! [Does it make sense?]

Ex 1: Find the mass of a gold coin [d = 19.3 g/cm<sup>3</sup>]  
with a volume of 1.8 cm<sup>3</sup>

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



$$m = V \cdot d$$

$$m = 1.8 \text{ cm}^3 \cdot \frac{19.3 \text{ g}}{\text{cm}^3} = 34.74 \text{ g}$$

$$\frac{1.8 \text{ cm}^3}{1 \text{ cm}^3} \cdot 19.3 \text{ g} = \rightarrow \boxed{35 \text{ g}}$$