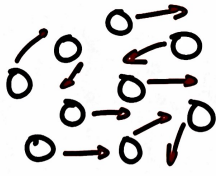


Properties of Matter

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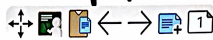
Intensive Properties

- Prop. that do not depend on the amount of matter.



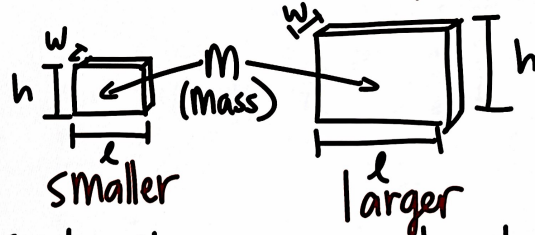
Temp ($^{\circ}\text{C}$, K)
is the speed
(velocity) of
matter.

Ex: density, Melting Pt, Boiling Pt,
Temp., color, ductility, and luster



Extensive Properties

- Prop. that depend on the amount of matter (measure)



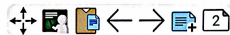
Ex: length, mass, amount, volume,
heat, and weight

Intensive Prop. - Density

- Density: The ratio of mass of object compared to the object's size (volume)

Ratio: $M : V$ (D)

Egn: $D = \frac{M}{V} \frac{[\text{mass}][\text{g}]}{[\text{volume}][\text{mL}]}$



Direct Relationship

One variable goes up or down when the other var. goes up or down.

$A \uparrow B \uparrow$ $A \downarrow B \downarrow$

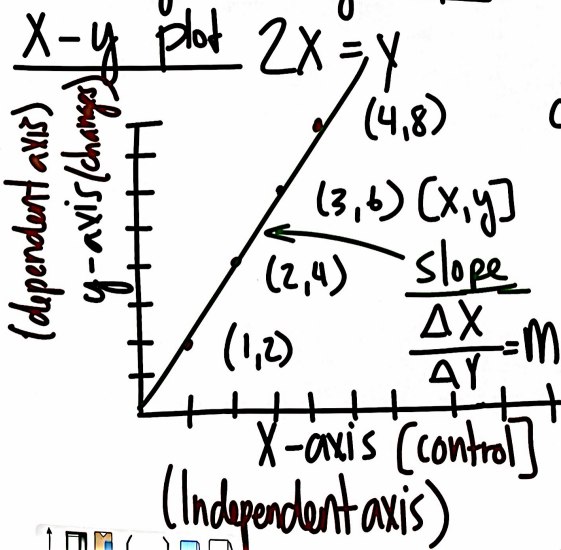
Indirect Relationship

One variable changes opposite of the other variable

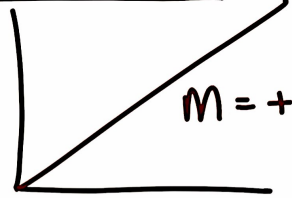
$A \uparrow B \downarrow$ $A \downarrow B \uparrow$

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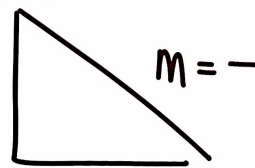
Reading Density Graph



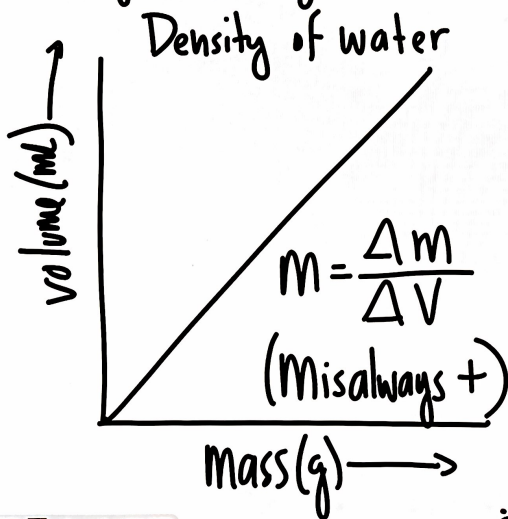
Direct Rel. ($m = +$)



Indirect Rel. ($m = -$)



Reading Density Graph



Ind. axis

Mass (unit: g)

Dep. axis

Volume (unit: mL)

Slope (m)

$$\frac{\Delta X}{\Delta Y} = \frac{\Delta \text{mass}}{\Delta \text{volume}}$$

(Δ = change, fin - ini)

Comparing Density

