Solubility & Concentration

Dissolving a substance in another makes a **Solution**

Substance that is dissolved → **Solute**

Substance that does the dissolving → **Solvent**

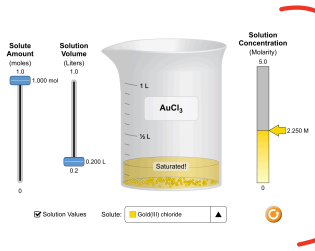


Kool Aid Powder **Solute** +  Water **Solvent** = 

Juice **Solution**

Concentrated Solution: Large amounts of Solute in Solvent

Diluted Solution: Small Amounts of Solute in Solvent



→ PhET INTERACTIVE SIMULATIONS → Molarity Interactive: Solute & Solution

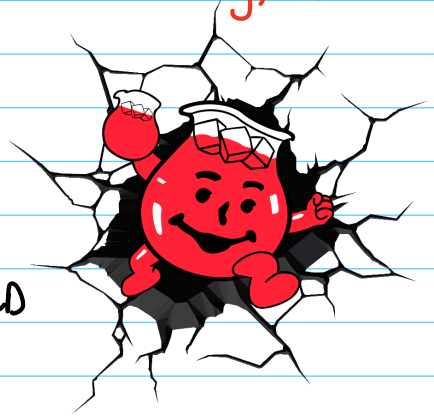
https://phet.colorado.edu/sims/html/molarity/latest/molarity_all.html

Concentration of Solution = Amount of Solute dissolved in a Specific Amount of Solvent.

Ex: 50g of solute dissolved in 100mL of water = 50g/100mL water.

Unsaturated Solution

→ More solute **can** be dissolved in the solvent



Saturated Solution

→ **No more** solute can be dissolved in the solvent

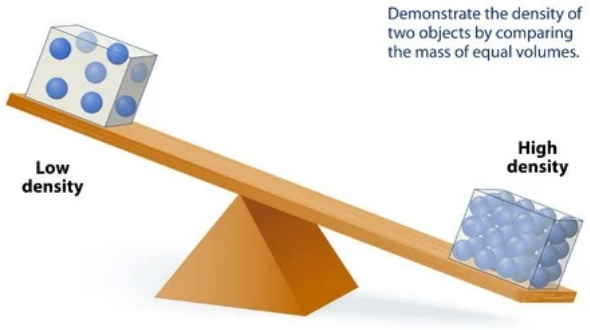
SOLUBILITY is the MAXIMUM AMOUNT of a SOLUTE you can dissolve in a fixed VOLUME of SOLVENT at a given TEMPERATURE.

Solubility in g/100 mL of Water at 0°C	
Compound	**Solubility (g)**
salt	35.7
baking soda	6.9
carbon dioxide	0.35
sugar	180
hydrogen	0.00019
oxygen	0.007
ammonia	92

DENSITY is the RELATIONSHIP BETWEEN the MASS of the SUBSTANCE & HOW MUCH SPACE it TAKES up.

$$\text{DENSITY} = \frac{\text{MASS}}{\text{VOLUME}}$$

MASS PER UNIT VOLUME



Demonstrate the density of two objects by comparing the mass of equal volumes.