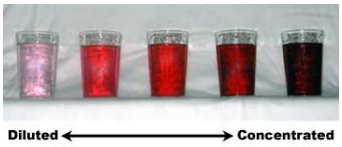
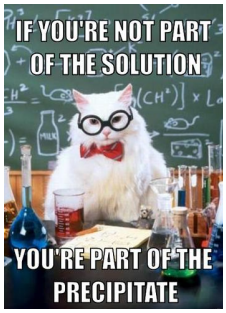
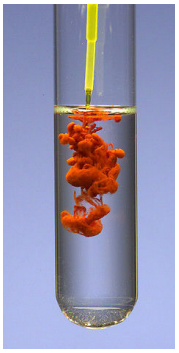
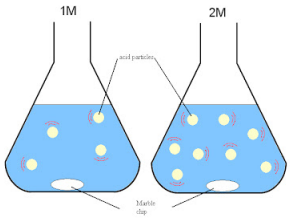
SOLUTIONS





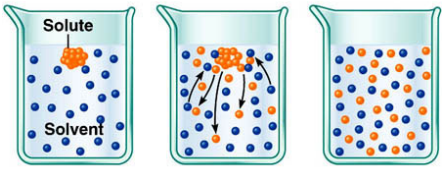


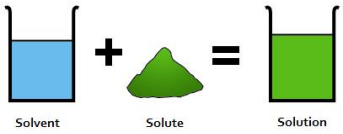


Solution

Homogeneous mixture in which one substance is dissolved in another

- **SOLUTE**: substance that is dissolved
- **SOLVENT**: substance doing the dissolving



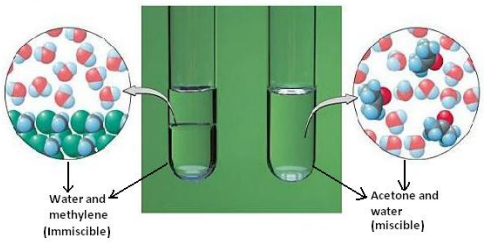


- **INSOLUBLE**: does NOT dissolve
- **SOLUBLE**: does dissolve

What factors influence solubility?

Aqueous Solution

Solution in which H_2O is the solvent

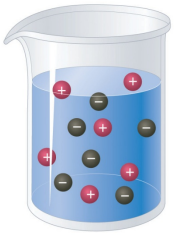


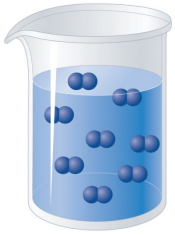
- Ionic and polar molecules dissolved best… **WHY?**
- **MISCIBLE**: liquids completely mix (alcohol and water)
- **IMMISCIBLE**: don't mix (oil and water)

Aqueous Solution

Solution in which H_2O is the solvent

- **Two Types:**
  - **ELECTROLYTES**: forms ions, conducts electric current (ex: NaCl or $MgCl_2$) / **IONIC**
  - **NONELECTROLYTES**: does not form ions or conduct electric current (ex: Sugar or Ethanol) / **POLAR**

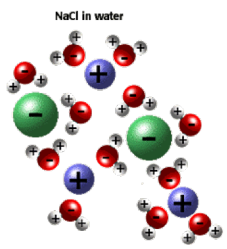


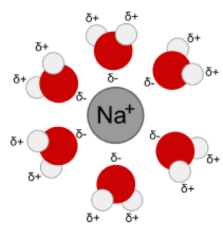


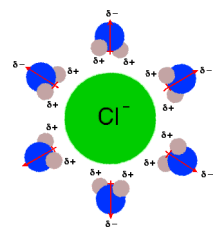
Aqueous Solution

Solution in which H_2O is the solvent

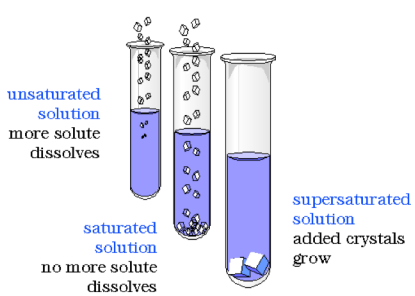
- **DISSOCIATION**: ionic solid dissolves in water and separates into its ions (+ and -)
- **SOLVATION**: process that stabilizes ions and prevents cations and anions from recombining

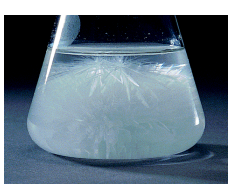






Classification of Solutions





1) **SATURATED**: contains maximum quantity of solute that dissolves at that temperature
2) **UNSATURATED**: contains less than the maximum amount of solute that can be dissolved
3) **SUPERSATURATED**: contain more solute than is possible to be dissolved by warming or evaporating (unstable and temporary)