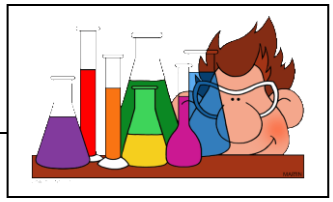
Week 18 – SCIENCE NOTE PAGE
Solutions

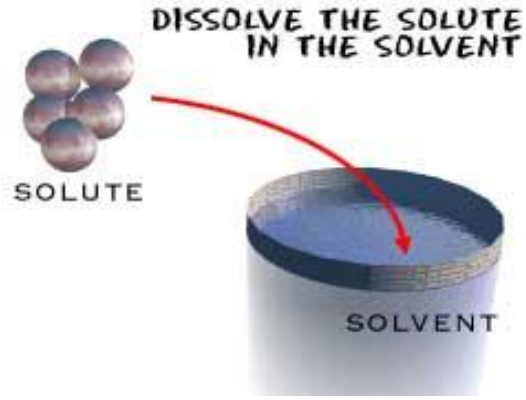


REMEMBER, Solutions?

- **Solution:** a _____ with one or more of the substances **dissolved** in another
  - A type of **homogeneous mixture**
  - Can be a mixture of solids, liquids, or gases

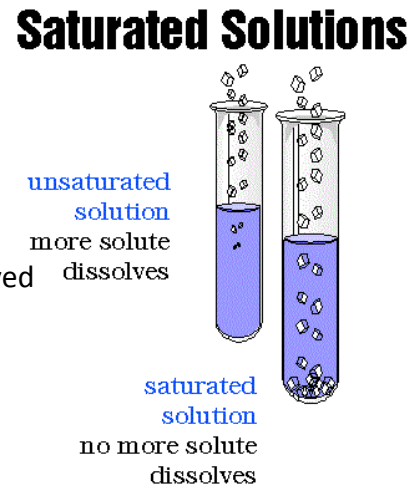
Solution: The PARTS

- **Solution: has at least two parts**
  - **Solvent:** what is _____ the dissolving
    - **Main part** of the solution; the one that provides a solution's main physical property
    - Example: water
  - **Solute:** what is _____ dissolved
    - **Minor part** of a solution
    - Example: salt
  - So, … a **SOLUTION = Solvent + Solute**
    - Example: Salt Water = Water + Salt



How Much Solute Can Dissolve in a Solvent?

- All solutions **have limits** on how much **solute** will be dissolved in the **solvent.**
- **Saturated:** dissolving the greatest possible amount of a substance in a _____
  - Example: If you tried to add more sugar to lemonade- it would sit, un-dissolved at the bottom of the pitcher
- **Solubility:** how much solute _____ be dissolved in a solvent
  - Example: the solubility of the sugar increased when we raised the temperature



Supersaturated

- **Supersaturated Solution:** a solution contains _____ of a dissolved material than it could typically dissolve under normal circumstances;
  - it is **more highly-concentrated** than is normally possible
- **How a Solution Becomes Supersaturated:** There are two main ways that solutions become supersaturated.
  - Change of Temperature: increasing the temperature of water (to boiling) allows a greater amount of solute (sugar or salt) to be dissolved in the solvent (water).
    - This is how Rock Candy is made.
  - Evaporation: If you have salt water slowly evaporate, the solute (water) becomes less leaving more of the solvent (salt) in the solution, thus causing the solution to become supersaturated.
    - This is what happens when carbon dioxide escapes from soda