

Tuesday, November 27th

1. Notes on Solutions

2. Solubility Lab

Monday October 6th

- Review Chapter 7 Test
- Turn in Solubility Lab
- Notes on Solutions
- Drawing Solubility Curves
- Review Chapter 8 Sections 1 and 2
- Do Chapter 8 Section 3 Page 245 (1-7)

SOLUTIONS

- Special case of homogeneous mixture.
- Consists of 2 parts:
 - **solute** = what's getting dissolved
 - **solvent** = what's dissolving the solute

SOLUTIONS AND DISSOLVING

- **SOLUBLE** = will dissolve
- **INSOLUBLE** = will not dissolve

Ways to dissolve

- **Dissociation** of Ionic Compounds (Salt in Water) – the ionic bonds are pulled apart (Polar and Polar)
- **Dispersion** (Sugar in water) – the molecules spread out in the solvent (polar and nonpolar)
- **Ionization** of Molecular compounds (Acids and Bases) – a chemical reaction occurs

Properties of Solutions

- The properties of a solution can differ from the properties of the solvent and solute
- **Conductivity** – salt will not conduct electricity, but it will if dissolved in water
- **Freezing Point** – salting the road lowers the freezing point of water
- **Boiling Point** – Coolant in your radiator

FACTORS AFFECTING DISSOLVING

3 WAYS TO SPEED UP DISSOLVING:

- Increase surface area (crush it up)
- Increase temperature
- Stir or agitate

SOLUBILITY

- **SATURATED** = all of the solute that a given solvent can hold at a given temperature
- **UNSATURATED** = not all of the solute that a solvent can hold at a given temperature
- **SUPERSATURATED** = more solute than a solvent can hold at a given temperature

SOLUBILITY GRAPH

- You can only dissolve so much of a substance into water at a certain temperature. The graph; a solubility curve, helps you determine how many grams of a substance you can dissolve at a certain temperature (into 100 mL of water.)

Concentration

- **Concentration** – the amount of solute dissolved in a given amount of solvent
- We can measure by volume
 - 5% acetic acid (Vinegar)
- We can measure by Mass
 - Add up the total mass (100g of solution)
 - Add up the mass of the NaCl (10 grams)
 - Concentration of NaCl is 10%
- Molarity – Moles of Solute/Liters of solution

FOR THE SOLUBILITY LAB

- You will need:
- Bunsen Burner
- Ring stand with Ring and Wire Gauze
- 2- 400 mL beaker
- 4- test tubes and test tube rack
- Filter paper (to mass chemicals on balance)
- Safety equipment (Goggles and apron)
- Spatula
- Thermometer
- glass stirring rod
- marker
- 10 mL graduated cylinder