SCH 3UI: Unit 4 - Solutions and Solubility

Essential Learnings

- Properties of solutions can be described qualitatively and quantitatively, and can be predicted.
- The survival of living things depends on the unique physical and chemical properties of water.

Learning Goals

By the end of this unit, I will be able to…

Date	Learning Goal	Red	Yellow	Green
	1. Distinguish between the following terms: a. solution, solvent and solute. b. dilute, concentrated and aqueous solution. c. miscible and immiscible. d. dissolving and dissociation e. unsaturated, saturated and supersaturated solution and how to test for each.			
	2. Outline the factors that affect the rate of dissolving (how to make things dissolve faster) 3. Outline the factors that affect solubility (will something dissolve?)			
	4. Interpret a solubility curve 5. ~~Generate a solubility curve based on experimental data to show how solubility of a salt varies with temperature~~			
	6. Represent and calculate concentration of solutions using the following: a. m/v % b. m/m % c. v/v % d. ppm, ppb 7. Calculate the molar concentration of a solution using the amount of solute and volume of solution.			
	8. Prepare a standard solution from a solid or from a more concentration solution			

	9. Be able to move between c, n, v or m to find the concentration or mass of a particular reactant or product in a given chemical equation			
	10. Outline the general properties of acids and bases 11. Distinguish between the Arrhenius Theory and Bronsted-Lowry Theory of acids and bases 12. Recognize conjugate Acid/Base Pairs for a given acid-base reaction 13. Write out the net ionic equations			
	14. Distinguish between a strong and weak acid/base 15. Distinguish between a monoprotic, diprotic and triproptic acid 16. Calculate between pH, pOH or $[H_3O^+]$, $[OH^-]$			
	17. Perform stoichiometry calculations involving neutralization reactions in titrations			
	18. Perform a titration to determine the concentration of an analyte 19. Distinguish between endpoint and equivalence point 20. Calculate the pH or ion concentration (H_3O^+ or OH^-) from a neutralization reaction between a strong acid and base (Not on test, but on assignment)			