M5 Summary Sheet

Chemical Reactivity: Acid-base Chemistry

Read: Chapter 2 pp. 17-18 (Compounds); Chapter 7 pp. 95-102.

Slides: Acid bases & Salts sets I-III

If you are missing a set of slides find them here:

http://www.dorjegurung.com/chemistry/MYP_Chemistry/Unit_4_Chemical_Reactivity.htm

Concepts to be mastered

To master a concept, you must be able to do three things:

1. define the concept,
2. explain the concept, and
3. give an example of the concept.

- Ion, hydrogen ion, anion, concentration, concentrated, dilute, indicator, blue litmus paper, red litmus paper, universal indicator paper, pH scale,
- neutralization, base, alkali, salt, limestone ($CaCO_3$)
- Oxide, basic oxide, acidic oxide, amphoteric oxide, neutral oxide, metallic oxide, nonmetallic oxide, ionic equation,
- Hydrogen ion, proton donor, anion, strong acid, weak acid, dissociation, concentration, concentrated, dilute, proton donor, proton acceptor
- Salt, filtration, crystallization, titration, indicator, anhydrous, hydrated, crystal, crystal hydrates, water of crystallization, soluble, insoluble, solubility rules, precipitation,

Skills to be mastered

To master a skill, you must be able to

1. recognize when the skill is needed,
2. recognize what information is needed to execute the skill,
3. execute the skill, and
4. assess whether the skill has been executed correctly.

- Be able to explain that the pH scale is a measure of H^+ ion concentration in solution
- Be able to describe neutrality and relative acidity and alkalinity in terms of pH (whole numbers only) measured using Universal Indicator paper
- Explain the term neutralization and explain that salts are formed when acids are neutralized by bases
- Be able to describe the characteristic macroscopic properties of acids
- When given the chemical formula of simple acids and bases name them and when given the name write the chemical formula
- Be able to describe the characteristic macroscopic properties of bases as reactions with acids and with ammonium salts and effect on litmus
- When given the chemical formula of simple acids and bases name them and when given the name write the chemical formula
- Be able to classify oxides as either acidic, amphoteric, basic and neutral
- Be able to define the acids and bases in terms of hydrogen exchanges.
- Be able to differentiate between strong and weak acids and bases, and give examples of the common ones
- Describe the consequences of acid rain
- Be able to give examples of reactions that form salts.
- Be able to give several examples of common salts and what materials they are used in.
- Be able to describe the preparation, separation and purification of soluble salts
- Be able to describe the term crystals hydrates and explain how they are formed.
- Be able to explain the importance of titrations in the study of acids and bases.
- Be able to describe the preparation of insoluble salts by precipitation
- Suggest a method of making a given salt from suitable starting material, given appropriate information.

Revision questions in the text book: pp. 74, 77, 79 (Q's 1-3), 99 (Q's 2-3), 104, 110 (Q's. 1d, 1e, 2, 3, 5), 253 (Q's 7bi-iii,), 259 (Q's 22, 23b, 24b, 25, 33a, 34a-c, 36.