

# Science 1206 – Unit 2 Chemistry Study Guide

## Key Terms:

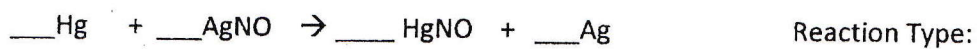
WHMIS	MSDS	Aqueous	Electrolyte
Atomic Mass	Atomic Number	Energy Level Diagram	
Non-electrolyte	Ionic Compound	Molecular Compound	Proton
Neutron	Electron	Nucleus	Cation
Anion	Simple Ion	Polyatomic Ion	Diatomic Molecule
Electrical Conductivity		Soluble	Insoluble
Chemical Formula	Empirical Formula	Molecular Formula	Hydrated Compound
Formation (synthesis) Reaction		Decomposition Reaction	
Single Replacement		Double Replacement	
Complete Hydrocarbon Combustion		Acid	Base
pH Scale	Litmus Test	Conservation of Mass	

## Practice Questions:

- Draw out the 8 WHMIS symbols and identify what they mean.
- List 5 things you would expect to see on an MSDS sheet.
- List the 7 elements that exist as diatomic molecules.
- For each element, write down the number of protons, neutrons and electron it has.
  - Cu
  - P
  - H
  - Hg
  - U
- Draw an energy level diagram for the following pairs of atoms and their ions. Also, state how many electrons each ion has lost or gained.
  - Li and  $\text{Li}^+$
  - Mg and  $\text{Mg}^{2+}$
  - P and  $\text{P}^{3-}$
  - O and  $\text{O}^{2-}$
  - Cl and  $\text{Cl}^-$
- How can you tell if a compound is molecular or ionic by looking at its formula?
- For each of the following write down the formula:
  - $\text{P}_6\text{H}_8$
  - $\text{C}_4\text{H}_{12}$
  - $\text{S}_3\text{F}_5$
  - $\text{P}_3\text{Cl}_6$
  - $\text{N}_4\text{O}_8$

14. State the reaction type and balance the reaction for each of the following:

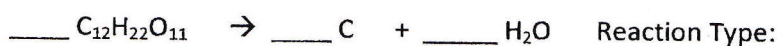
- a) mercury and silver nitrate solution react



- b) solutions of barium chloride and potassium carbonate react



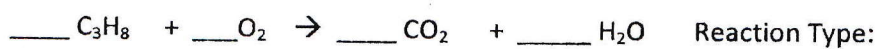
- c) sucrose reacts to form carbon and water



- d) hydrogen gas reacts with nitrogen gas to form ammonia



- e) propane gas burns to form carbon dioxide and water



- f) butane gas burns to form carbon dioxide and water

