Periodic Table Review

- Vertical columns

- Horizontal rows

Oxidation

- How many electrons an atom needs to gain or lose to achieve the maximum number of electrons in its outer most shell.
- Groups IA to IIIA _____
- Groups VA to VIIA _____
- Group VIIIA _____

Octet Rule

- An atom with 8 electrons in its outer most shell (energy level) is chemically stable and unreactive.

- **Metalloids**
  - Separate metals and nonmetals
- **Transition or D-Block Metals**
  - Metals in the middle
  - Can vary in oxidation number

Polyatomic ions

- OH^- hydroxide
- NO_3^- nitrate
- HCO_3^- hydrogen carbonate
- CO_3^{2-} carbonate
- SO_4^{2-} sulphate
- PO_4^{3-} phosphate
- NH_4^+ ammonium

Diatomic gases

- I I_2
- have H_2
- no N_2
- bright Br_2
- or O_2
- clever Cl_2
- friends. F_2

- Other chemical names often seen in workbook:
  - NH_3 _____
  - CH_4 _____

Types of Bonds

- **Ionic**
  - metal + non-metal
  - held together by opposite charges

- **Covalent**
  - everything else (for the purposes of this course)
  - sharing of electrons

Cross-over Rule for Writing Chemical Formulas Ionic Compounds

Step	Example 1	Example 2
Write symbols - place the metal first	Mg O	Al S
Write oxidation #s as superscripts		
Cross over the superscripts		
Divide subscripts by greatest common factor		
Drop any subscript that is a 1		