Chapter 4 Notes

Periodic Table of Elements- chart of all the chemical elements arranged with columns (groups) of elements with similar chemical properties similar

Groups-columns of the periodic table
Periods- rows of the periodic table
Alkali Metals- Group 1 elements
Alkaline Earth Metals- Group 2 elements
Transition Metals- Group 3-12 elements
Halogens- Group 17 elements
Noble Gases- Goup18 elements
Main Group Elements- Group 1, 2, 13-18 elements

Valence Electrons- an electron in the outer most energy levels of an atom, where it can participate in bonding

Octet Rule- the tendency for main group elements to gain or lose electrons so that their s and p orbitals are full with 8 electrons

	Group 1	Group 2	Group 13	Group 14	Group 15	Group 16	Group 17	Group18
Electron Ending	s^1	s^2	s^2p^1	s^2p^2	s^2p^3	s^2p^4	s^2p^5	s^2p^6
Valence Electrons	1	2	3	4	5	6	7	8
Gain or Lose electron	Lose 1 electron	Lose 2 electrons	Lose 3 electrons	Lose or Gain 4 electrons	Gain 3 electrons	Gain 2 electrons	Gain 1 electron	Gain or Lose 0 electrons
Common Charge	+1	+2	+3	+/- 4	-3	-2	-1	0

Ionic Compounds (salts)- compounds that form due to the transfer of electrons, usually bonding a metal to a non-metal, smallest unit is called a formula unit.

Covalent (Molecular) Compounds- compounds that form due to the sharing of electrons between elements, usually bonding non-metals to non-metals, smallest unit is called a molecule.

Main Group Elements (Group 1,2, 13-18) readily form ions to have an electron configuration like the stable Noble Gases. Main Group Elements become isoelectronic with the nearest Noble Gas.