**Objective B: Describe the organization of the periodic table.**
**Objective C: Distinguish between metals, nonmetals, and metalloids.**
**7. Why are groups sometimes called families.**

8. Give the family name of each of the following Groups:

a. Group 1 = Hydrogen ; Akali Metals
b. Group 2 = Alkaline earth metals
c. Group 3 - 12 = Transition metals
d. Group 16 = Oxygen family
e. Group 17 = Halogens
f. Group 18 = Noble gases

Study the quiz given in class. And also the power point.

**Objective D: Using a periodic table, write the electron configuration and orbital diagram for the ground state of any element in the periodic table.**

9) Write the electron configuration for the elements: Na, Ar, Zn, Pt, Er

10) Draw the orbital diagrams for the following elements: Br, C, Co

**Objective E: Be able to identify valence electrons in any give electron configuration.**
Identify the valence electrons on the following configurations.
11) $1s^2 2s^2 2p^6 3s^2 3p^1$

12) $1s^2 2s^2 3s^2 3p^6 4s^2 3d^4$

13) $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^3$

**Objective F: Determine the number of valence electrons of a main group atom. Also be able to predict the charge of the ion that the element will form.**

14) Draw the Lewis Dot structure for the following elements and predict their charge.

Na, Ca, As, Ar, P, Al, C, Cl

**Vocabulary for Test: Octet rule, Orbital, Pauli exclusion principle, Aufbau principle, Hunds rule, and valence electron.**

9) Na ; $1s^2 2s^2 2p^6 3s^1$

Ar ; [Ne] $3s^2 3p^6$

Zn ; [Ar] $4s^2 3d^{10}$

Pt ; [Xe] $6s^2 4f^{14} 5d^8$

Er ; [Xe] $6s^2 4f^{10}$

10.) Br ;

[Ar] ↑↓ ↑↓ ↑↓ ↑↓ ↑↓
4s 3d
↑↓ ↑↓ ↑
4p

C ; ↑↓ ↑↓ ↑ ↑ ○
1s 2s 2p