The Periodic Table

1) Periodic Law - The physical and chemical properties of the elements are periodic functions of their atomic numbers.

2) Periodic table - An arrangement of the elements in order of their atomic numbers so that elements with similar properties fall in the same column, or group.

3) Period or Series - horizontal rows of elements.

4) Family or Group - Vertical column of elements.

5) Alkali metals - Group 1 elements with $\_s^1$ orbital.

6) Alkaline earth metals - Group 2 elements with $\_s^2$ outer orbitals.

7) Transition elements - d-block elements are metals with typical metallic properties.

8) Main-group elements - p-block elements together with the s-block elements.

9) S-block elements - are the alkali metals and alkaline earth metals.

10) p-block elements - are the non-metals group 13-18 and metalloids (B, Si, Ge, As, Sb, Te)

11) Halogen Family - elements in group 17 F, Cl, Br, I, At.

12) Noble gas Family - elements in group 18 He, Ne, Ar, Kr, Xe, Rn.

13) F-block elements - Lanthanides and Actinides series of elements, also known as rare earth elements.

14) Atomic radius - half the distance of the atom's volume. Note: mostly electron cloud.

15) Ionization - any process that results in the formation of an ion.

16) Ionization energy - energy required to remove one electron from a neutral atom of an element.
$A + \text{energy} \rightarrow A^+ + e^-$

17) Electron affinity - energy change that occurs when an electron is acquired by a neutral atom.
$X + e^- \rightarrow X^- + \text{energy}$

18) Cation - positive ion

19) Anion - Negative ion

20) Valence electrons - electrons available to be lost, gained, or shared in the formation of chemical compounds.

21) Electronegativity - Measure of the ability of an atom to pull electrons from another atom.

22) Trends – Electronegativity increases going from left to right and bottom to top moving toward Fluorine.

23) Trends – Atomic radii decreases going from left to right and bottom to top moving toward Fluorine.

24) Trends – Ionization energy increases going from left to right and bottom to top moving toward Fluorine.