The electron configuration of each element is directly related to its position in the periodic table.

The _______________ electrons are the ones involved in chemical bonding, these are called ________________ ___________.

Examples:
The valence electrons for Ca are in the _____ subshell.
The valence electrons for oxygen are in the ____ subshell.
The valence electrons for Fe are in the _____ subshell.

Elements in a group have the ______ _________ of valence electrons:

Group 1A         Sc group
Group 2A         Ti group
Group 3A         V group
Group 4A         Cr group
Group 5A         Mn group
Group 6A         Fe group
Group 7A         Co group
Group 8A         Ni group
          Cu group
          Zn group
Anions and Cations

The ____________ ______ valence electrons (or, ____________ _____ __________ __________ available for valence electrons) can tell us what kind of __________ it will form.

Examples:

Ca  Cl

Ca ion:  Cl ion:

Na  O

Na ion:  O ion:

Isoelectronic:

**Periodic Variation in Chemical Properties**

We can use the location of elements in the periodic table to tell us some things about the element’s properties.

**Atomic Radius:**
Ionic Radius:

Cations: 

Anions: 

Which is larger:
Nitride or fluoride?

Magnesium ion or calcium ion?

Iron(II) ion or iron(III) ion?

Ionization Energy:

Cations: 

Anions: 

Electron Affinity:

Anions: 

Cations: