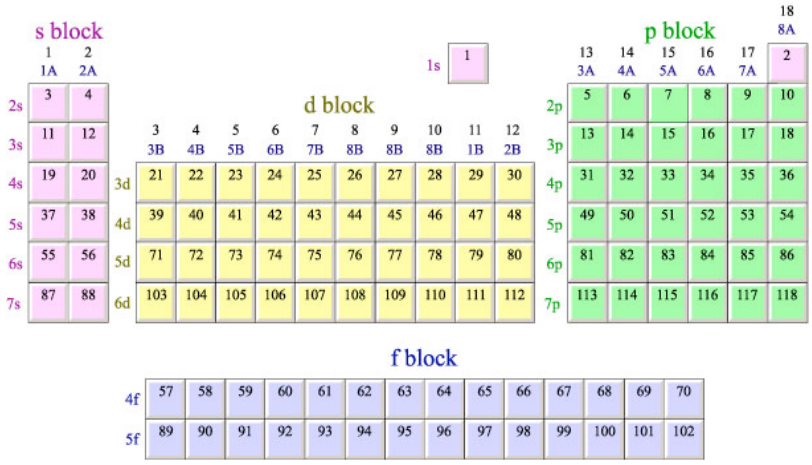
Chapter 8 – The Periodic Table

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:

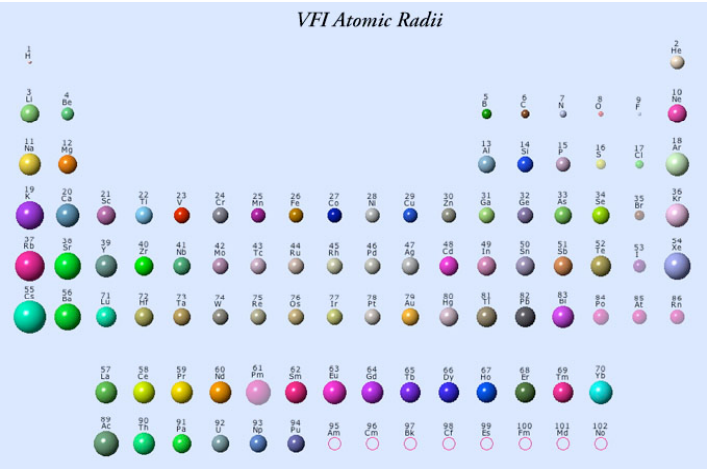
Ca	Cl
Ca ion:	Cl ion:
Na	O
Na ion:	O ion:

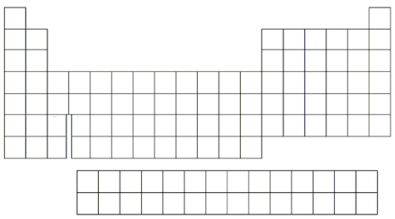
Isoelectronic:

Periodic Variation in Chemical Properties

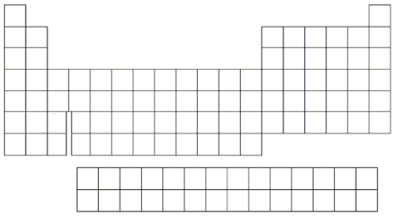
We can use the location of elements in the periodic table to tell us some things about the element's properties.

Atomic Radius:





Ionic Radius:



Cations:

Anions:

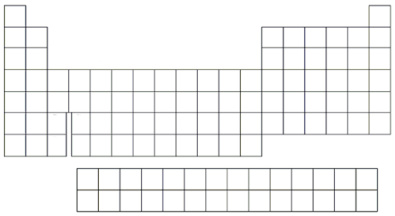
Which is larger:

Nitride or fluoride?

Magnesium ion or calcium ion?

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

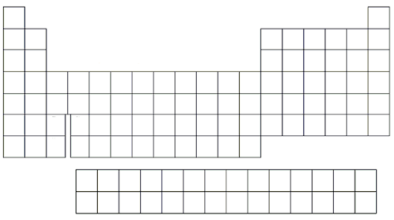
Ionization Energy:



Cations:

Anions:

Electron Affinity:



Anions:

Cations: