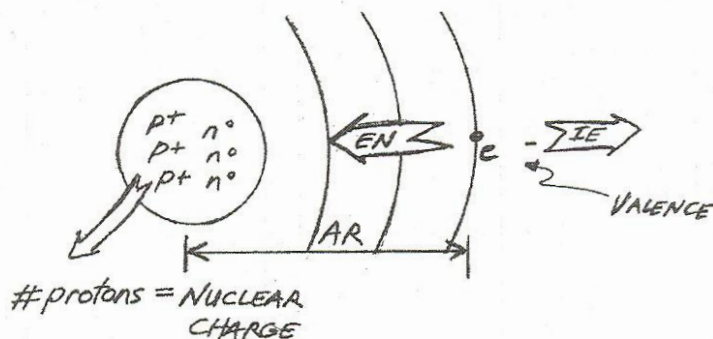


Aim: What are the **Periodic Trends**? Periodic means in patterns (repeating regularly)



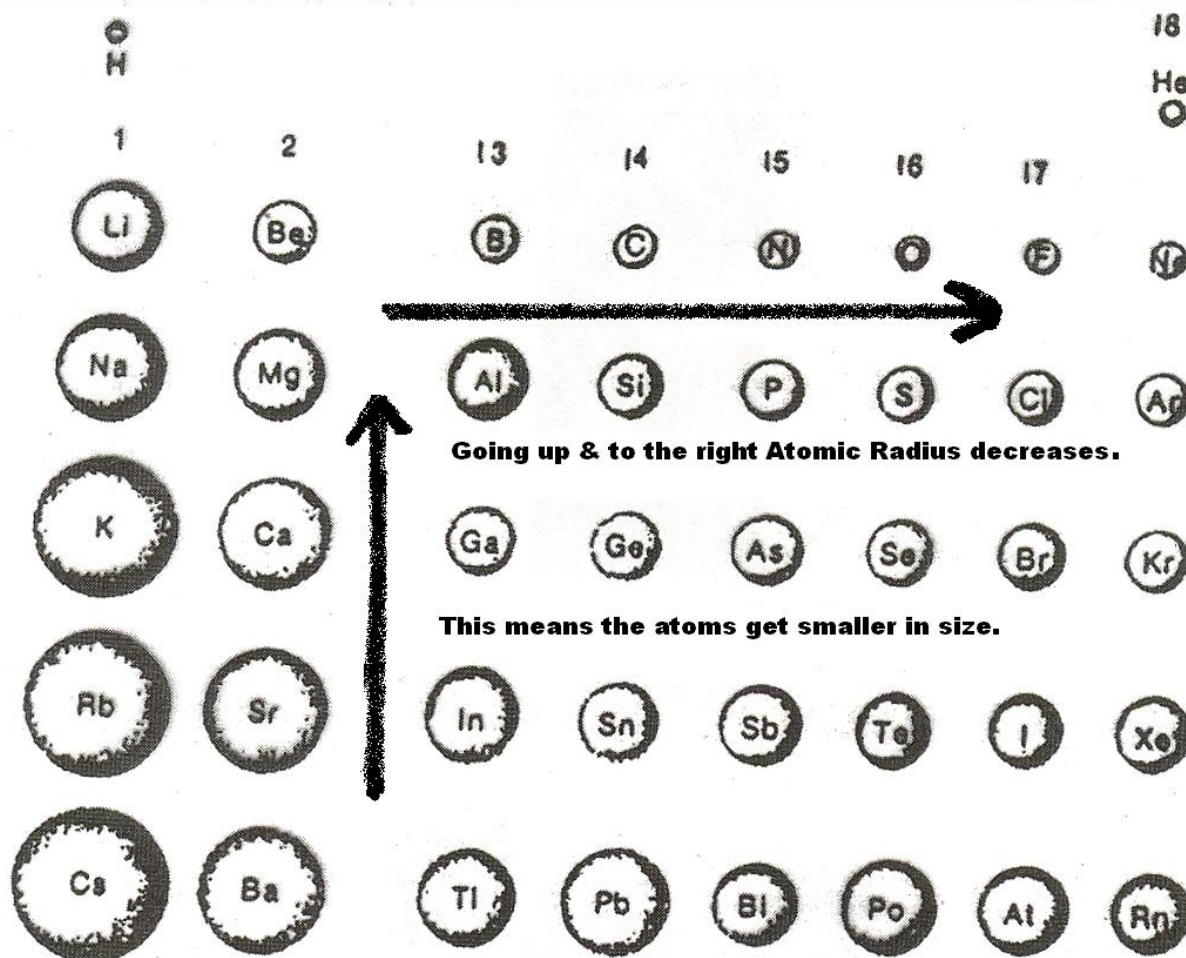
Nuclear Charge – positive charge of nucleus due to its **protons**

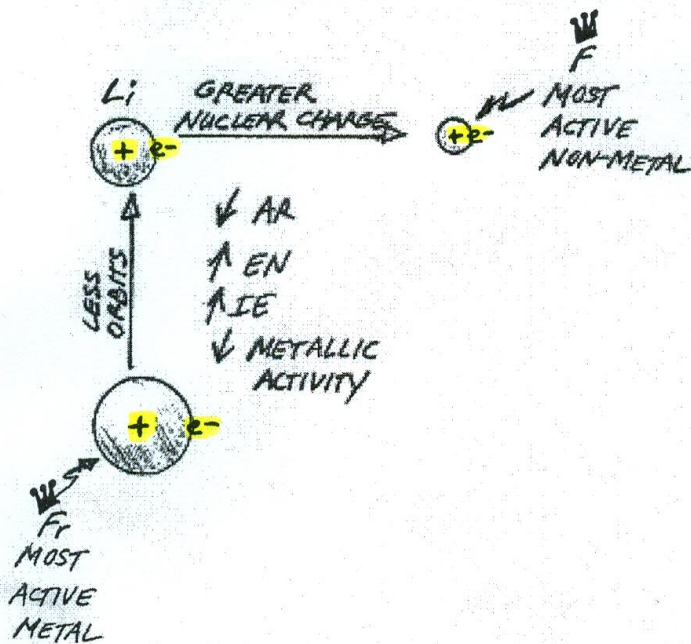
Atomic Radius- the distance from the nucleus to the last orbit; the “size” of an atom

ElectroNegativity- attraction of an atom for electrons; the “pull” of the nucleus on electrons

1st Ionization Energy- the energy needed to remove the **first** most loosely bound electron in an atom; the energy needed to “pull off” an electron

Metallic Activity (MA) – the tendency of an atom to **LOSE** electrons.





	AR	EN	IE	MA
Fr	242 pm	0.7	393 $\frac{KJ}{mol}$	HIGHEST
Li	130.	1.0	520	
F	60.	4.0	1681	LOWEST

- Which has a smaller AR, Ca or Ba?
 Ca (197) vs Ba (222)
 Higher further up in Grp 2
- Which has a higher EN, Fe or Cu?
 Fe (1.8) vs Cu (1.9)
 further to right in Period 4
- Which has a lower IE? B or Al?
 B (801) vs Al (578)
 Lower in Grp 13
- Which is a more active (reactive) metal, Li or Na?
 Li
 *Further down (closer to Fr) in Grp 1
 METALS*
- Which is a more active (reactive) metal, Li or Be?
 Li
 *Grp 1 more active than Grp 2
 METALS*
- Which is a more active (reactive) metal, Li or Mg?
 Li
 ALKALINE EARTH METALS
- Which is a more active (reactive) nonmetal, O, Cl or F?
 F
 *Grp 17 - Most Active
 HALOGENS
 Nonmetals*

There's no reference table listing values of Metallic Activity or NONMETALLIC. You have to refer to the periodic table to see the locations of these elements.

Fluorine is "King" of Nonmetals