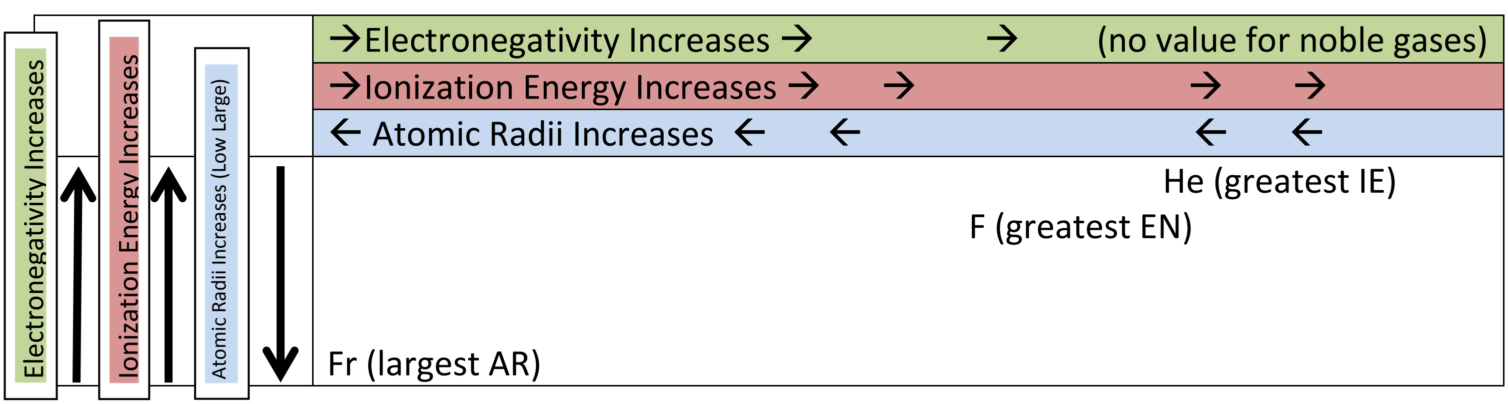
Feedback from electron configuration quizzes:

Study the scientists, it is important to find ways to remember each of them and to be able to distinguish them by name.

Bohr	Planetary model of the atom, designated energy levels as "n"	Bohr-rings
Mendel**ee**v	Designed the first periodic table by atomic ma**ss**	Two e's in his name like two s's in mass
Moseley	Designed the current periodic table based on periodic law (inc. atomic #)	Mo in Moseley and in modern
Planck	Quantum nature of energy	The planck is a certain quantity
Einstein	Photon, photo electric effect	Pic of Einstein with his hair all static and on end
Compton	Proved photon has mass by colliding it with an electron	Compton collision
DeBroglie	Wave theory	DeBroglie Dual Nature – D -D
Heisenberg	Uncertainty Principle	Heisenberg is uncertain if he's arrived or still moving
Pauli Principle	Two electrons sharing an orbital must have opposite spins	Two p's in **P**auli **P**rinciple and in o**pp**osite
Hund's Rule	Orbitals of equal energy are each occupied by one electron before a second electron can join	Nosy neighbor Mr. Hund says each person must have a room alone if possible
Aufbau Principle	electrons fill orbitals starting at the lowest available (possible) energy states before filling higher states	Bouncing balls always fall back to lowest level possible – aufbouncing balls

Be able to define and distinguish atomic radii, ionic radii, ionization energy and electronegativity. Be able to illustrate each trend and list the element that is the greatest or least for the trend.



Be able to create the chart we made and use it to answer problems for the energy levels.

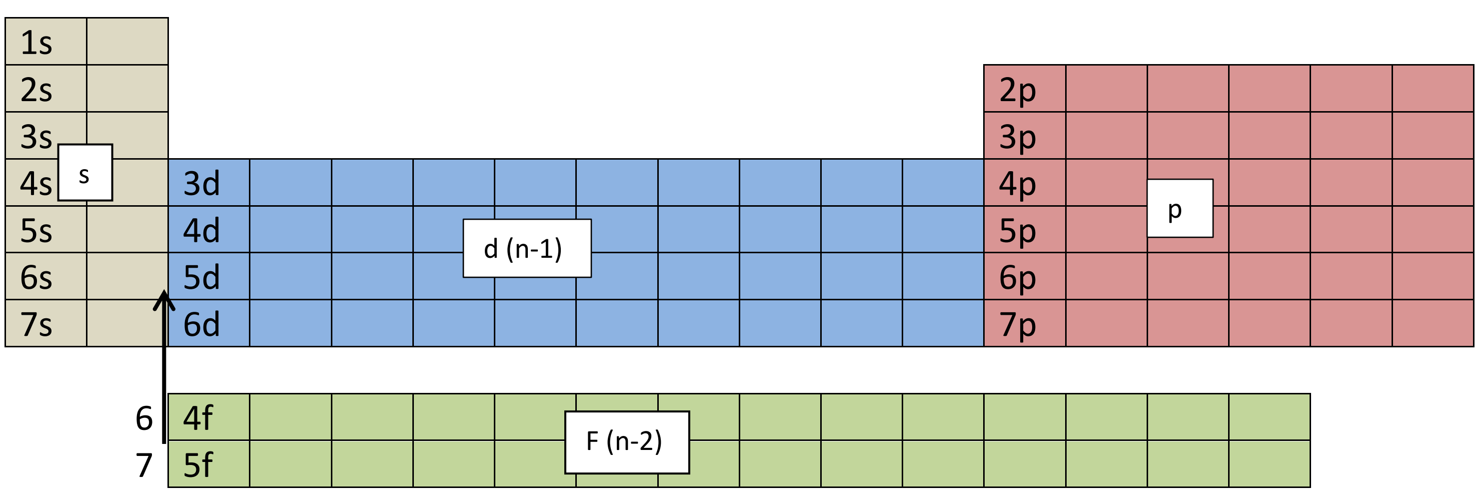
n ***Energy level***	***l*** ***sublevels present***	***m*** ***possible directions for orbitals***	***# of orbitals present***	***Maximum Electrons possible***
n=1	s	s is spherical with only one direction (0)	1 orbital	2 e-
n=2	s p	s = 0 p is infinity shaped with three orientations (-1,0,1) or (x,y,z)	1 + 3 = 4 total	8 e-
n=3	s p d	s = 0 p = -1,0,1 d= -2,-1,0,1,2 (five orbitals)	1 + 3 + 5 = 9 total	18 e-
n=4 (5,6,7)	s p d f	s = 0 p = -1,0,1 d = -2,-1,0,1,2 f = -3,-2,-1,0,1,2,3 (seven orbitals)	1 + 3 + 5 + 7 = 16 total	32 e-

Be able to use the periodic table to determine the electron configuration of an element. Three styles:

Full electron configuration always starts at the beginning with Hydrogen and continues until you reach the element.

Short hand refers to the last completed noble gas in brackets and then begins the electron configuration beginning on the next row. (the row the element is on)

Orbital box notation uses the short hand configuration above and adds the boxes that represent the number of orbitals present and arrows to represent the electrons and their spins.



Lewis Dot Diagram: Takes the number of valence electrons and applies them to the outside of the element symbol. Remember there are several ways to find the number of valence electrons:

1. it is the group # for the group A elements and all of group B only have two.
2. Using the electron configuration it is the number of s and p electrons in the highest energy level.

The dots are applied in a clockwise manner in four possible positions. The positions are filled in a manner that allows the greatest repulsion between the electrons, for example two electrons would be on opposite sides (180* apart) and three would form a triangle shape. The exception is helium because it has two valence electrons but is a noble gas, so we place helium's electrons side by side He**:**