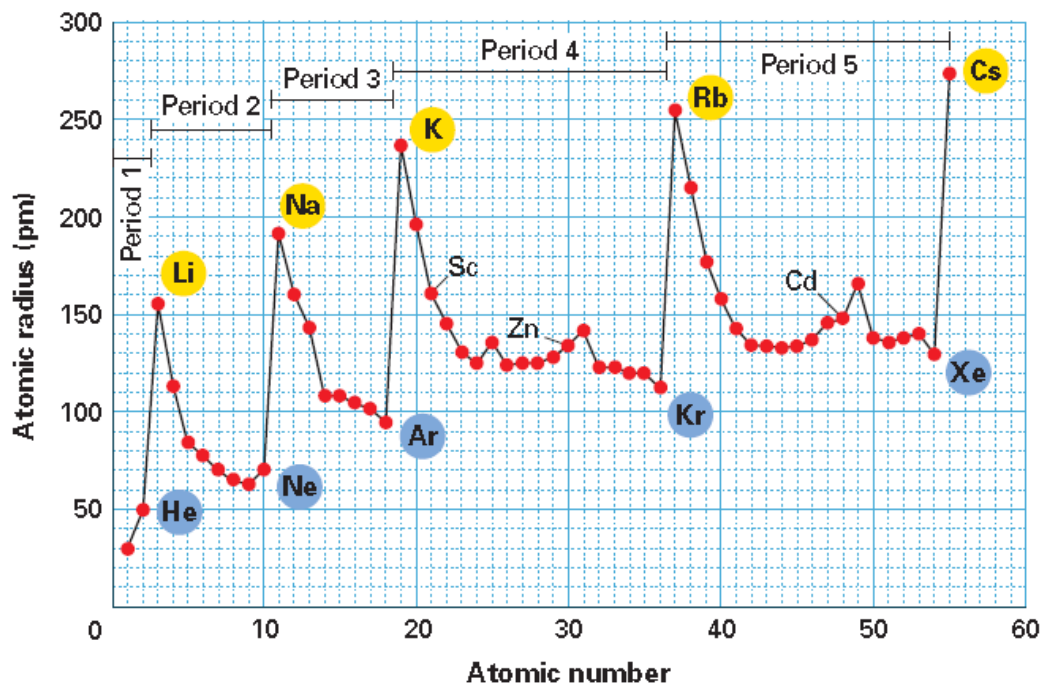
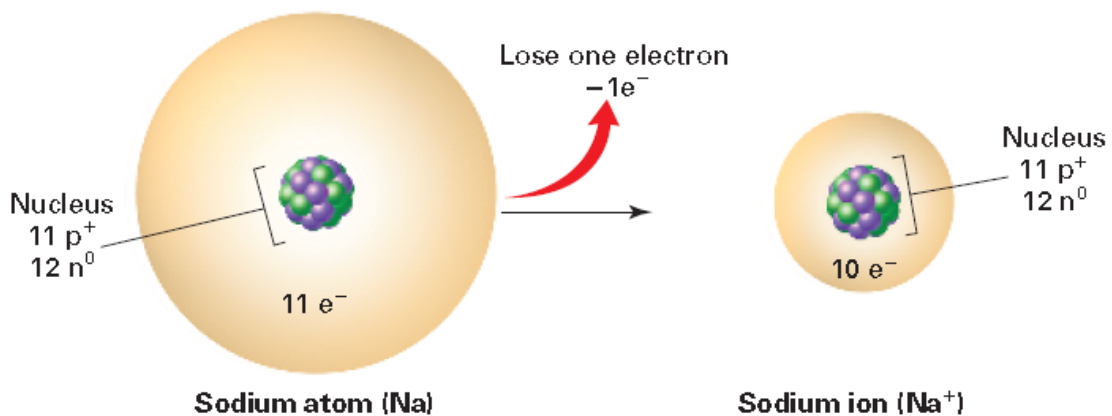


Periodic Trends

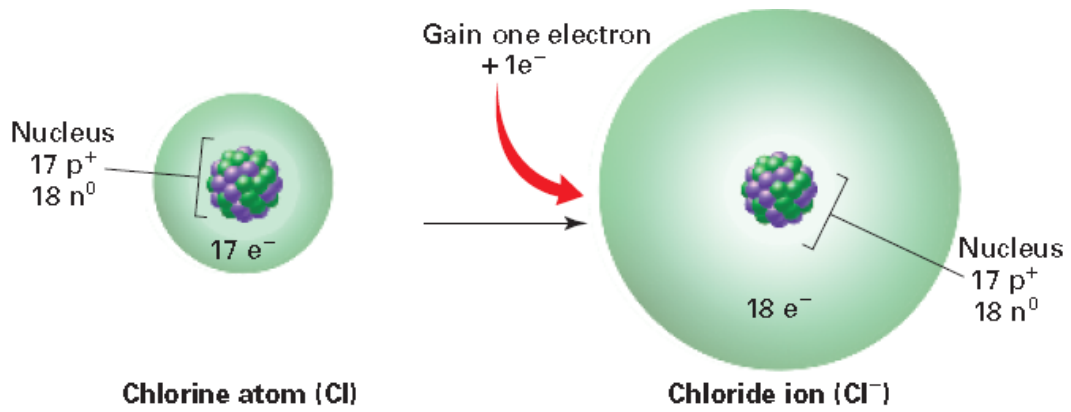
- In general, atomic radius increases from top to bottom within a group and decreases from left to right



Ions



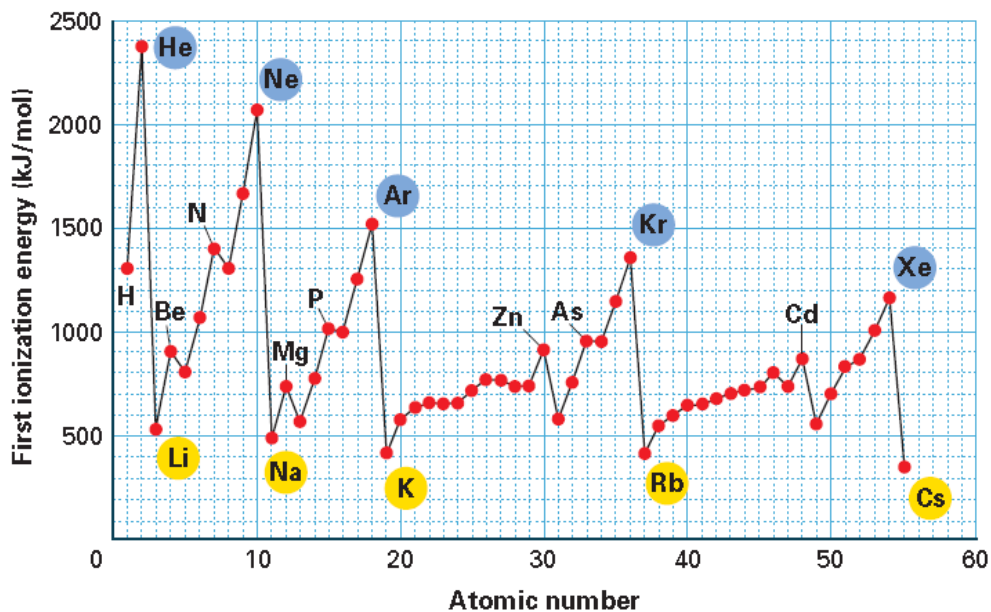
- positive and negative ions form when electrons are transferred between atoms
- an ion with a positive charge is called a cation



- ions with a negative charge are called anions

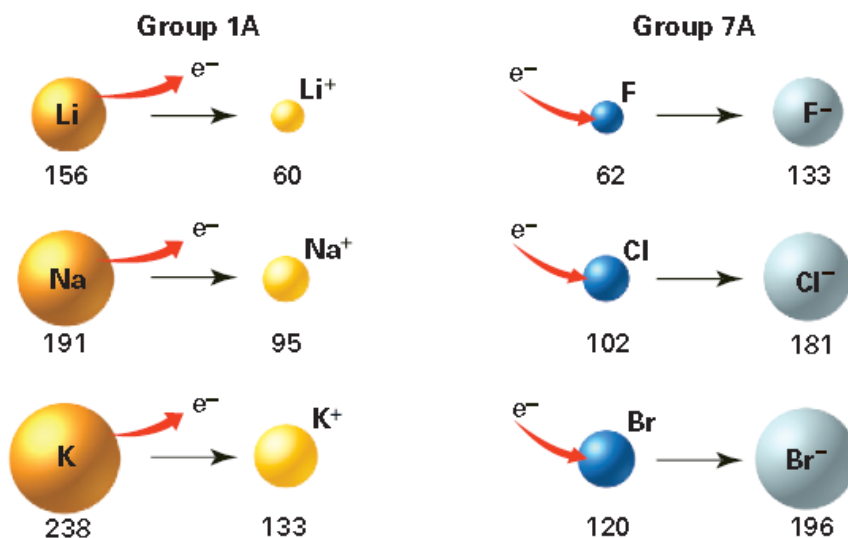
Trends in Ionization Energy

- electrons gaining energy move farther away from the nucleus
- might gain enough energy to overcome the attractive forces of the nucleus completely and leave
- energy required to remove an electron is called *ionization energy*
- energy needed for the 1st electron is the 'first ionization energy'
- each subsequent electron removal is called the 2nd, 3rd and so on



Trends in Ionic Size

- cations are always smaller than the atoms from which they form.
- anions are always larger than the atoms from which they form



Trends in Electronegativity

- defined as the ability of an atom of an element to 'attract' an electron when combined in a compound.

Electronegativity Values for Selected Elements						
H						
2.1						
Li	Be	B	C	N	O	F
1.0	1.5	2.0	2.5	3.0	3.5	4.0
Na	Mg	Al	Si	P	S	Cl
0.9	1.2	1.5	1.8	2.1	2.5	3.0
K	Ca	Ga	Ge	As	Se	Br
0.8	1.0	1.6	1.8	2.0	2.4	2.8
Rb	Sr	In	Sn	Sb	Te	I
0.8	1.0	1.7	1.8	1.9	2.1	2.5
Cs	Ba	Tl	Pb	Bi		
0.7	0.9	1.8	1.9	1.9		

Summary

