



**Ions**  
Chapter 6

### Ion

An atom that has gained or lost ELECTRONS

+ charge = lost electrons  
(metals)

- charge = gained electrons  
(non-metals)

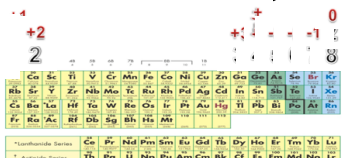
Ions form because an atom wants to have a FULL outer shell  
Octet Rule: a FULL shell = 8 electrons

### Valence Electrons

Electrons in the outermost energy level - the ones involved in bonding

**Oxidation State:** +2, +1, 0

**Charge:** 2, 1, 0



**Electron dot diagrams**

Na• Mg• •Al• •Si• •P• •S• •Cl• •Ar•

### Transition Metals

Oxidation state varies - given in parenthesis

