### Formula writing and Naming Rules for Ionic and Covalent Compounds

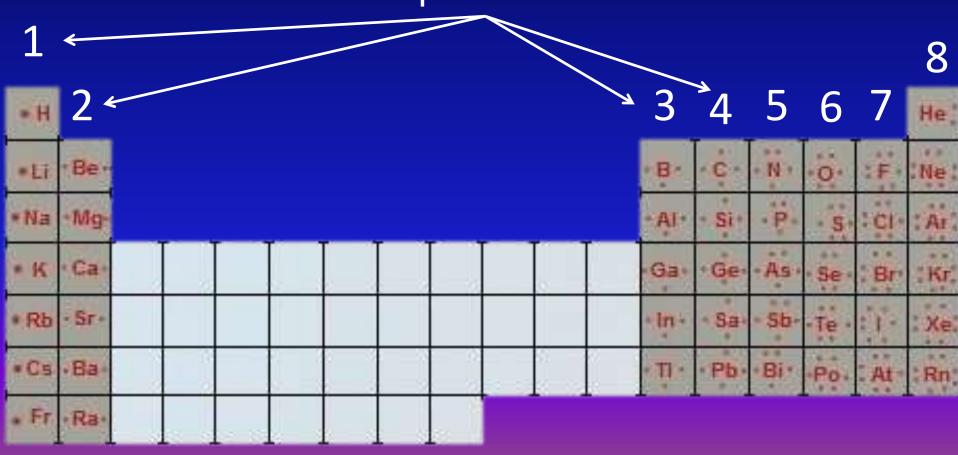
# Make sure you have this information on your periodic table!!! Valence Electrons

Every Element wants 8 Valence electrons



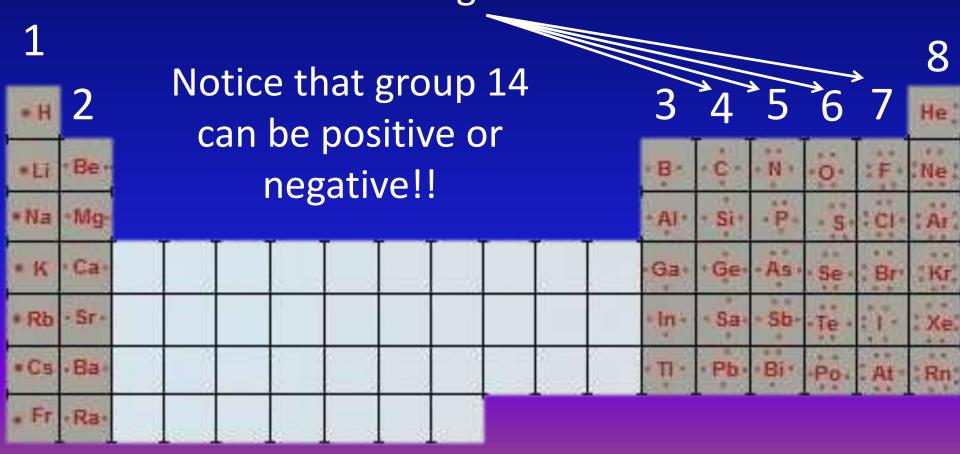
## Make sure you have this information on your periodic table!!! Valence Electrons

These Groups will loose electrons, making them positive

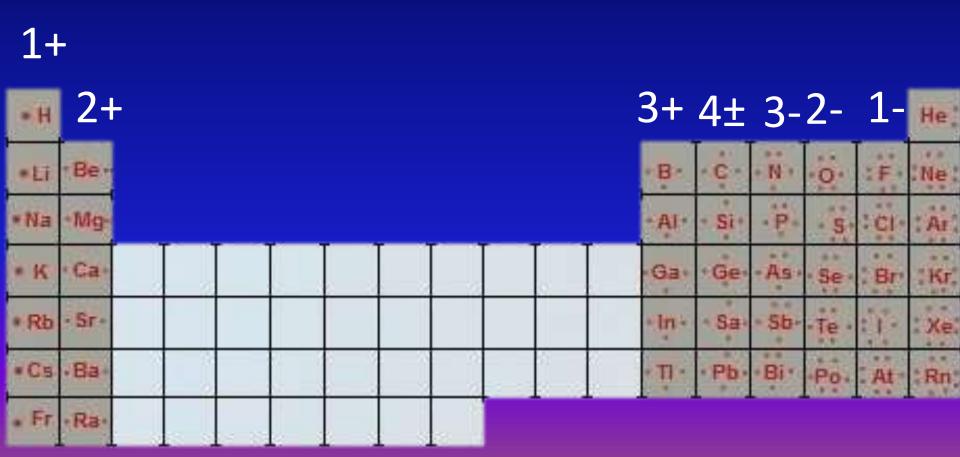


## Make sure you have this information on your periodic table!!! Valence Electrons

These Groups will gain electrons, making them negative



# Make sure you have this information on your periodic table!!! Ionic Charges



#### Ionic Compounds – Formula (Binary)

- 1. Write the ions with their charges.
- 2. Cross the charges, drop the + and -

Ex: Magnesium Phosphide Ex: Aluminum Nitride

$$Mg_{3}^{2+}P_{2}^{3-}$$



#### Ionic Compounds – Naming (Binary)

- 1. Write the first ion's name, no changes.
- 2. Write the second ion's name, changing the ending to –ide.

Ex: NaCl Ex: Mg<sub>3</sub>P<sub>2</sub>

Sodium Chloride Magnesium Phosphide

#### Ionic Compounds Practice

Sodium Sulfide

• Li<sub>2</sub>O

Barium Nitride

• K<sub>2</sub>O

• Aluminum Bromide

• CaBr<sub>2</sub>

Potassium Phosphide

• Al<sub>2</sub>S<sub>3</sub>

Ammonium Fluoride

•  $Rb_2S$ 

#### Covalent Compounds - Formula

- 1. Write out the 1<sup>st</sup> element, using the numerical prefix as the subscript.
- 2. Write out the 2<sup>nd</sup> element, using the numerical prefix as the subscript.

Ex: Dihydrogen Oxide Ex: Carbon Dioxide

 $H_2O$ 

 $CO_2$ 

#### Covalent Compounds - Naming

- 1. Write out the numerical prefix of the 1<sup>st</sup> element, then write it's name.
- 2. Write out the numerical prefix of the 2<sup>nd</sup> element, then write it's name, changing the ending to -ide.

Ex: N<sub>2</sub>O<sub>5</sub>

Ex: CCl<sub>4</sub>

Dinitrogen Pentoxide

Carbon Tetrachloride

#### **Covalent Compounds Practice**

- Trinitrogen Hexafluoride
- I<sub>2</sub>O

Silicon Dioxide

NO

Carbon Tetra bromide

•  $F_7Br_2$ 

- Triphosphorous Nona sulfide
- P<sub>2</sub>S<sub>3</sub>

 Chlorine Trioxide (Chlorate)

• SO<sub>4</sub>