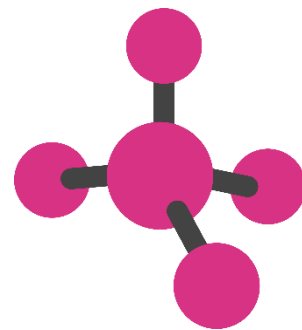


## Ionic Bonding – Basics

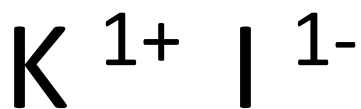
### Warm-Up

Element	Number of Electrons	Number of Valence Electrons	Ion formed
Potassium (K)			
Iodine (I)			
Phosphorus (P)			
Magnesium (Mg)			



### Learning the Criss-Cross Method (do the charges balance out?)

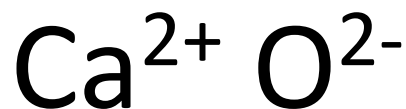
#### Example 1: Potassium (K) + Iodine (I)



Do the charges on each element cancel out?  
They do, so no further action needed.



#### Example 3: Calcium (Ca) + Oxygen (O)



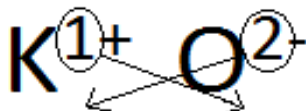
Do the charges on each element cancel out?  
They do, so no further action needed.



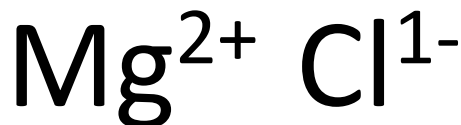
#### Example 2: Potassium (K) + Oxygen (O)



The charges do NOT cancel out (1+ and 2-).  
Therefore, we must "criss-cross" them!



#### Example 4: Magnesium (Mg) + Chlorine (Cl)



The charges do NOT cancel out (2+ and 1-).  
Therefore, we must "criss-cross" them!



Name \_\_\_\_\_ Period \_\_\_\_\_

## **Ionic Bonding – Practice Problems**

Complete the problems below to create the correct compound when both elements are bonded.

1) Calcium (Ca) + Sulfur (S)

2) Magnesium (Mg) + Oxygen (O)

3) Boron (B) + Phosphorus (P)

4) Calcium (Ca) + Oxygen (O)

5) Sodium (Na) + Phosphorus (P)

6) Potassium (K) + Oxygen (O)

7) Sodium (Na) + Oxygen (O)

8) Sodium (Na) + Iodine (I)

9) Boron (B) + Nitrogen (N)

10) Potassium (K) + Nitrogen (N)

11) Aluminum (Al) + Chlorine (Cl)

12) Beryllium (Be) + Fluorine (F)

13) Lithium (Li) + Oxygen (O)

14) Aluminum (Al) + Bromine (Br)

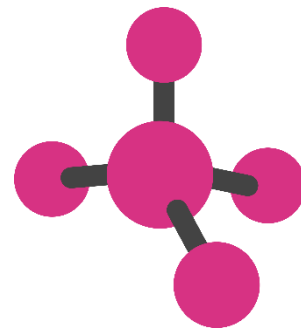
15) Calcium (Ca) + Iodine (I)

16) Potassium (K) + Sulfur (S)

## **Bonding Basics – Ionic Bonding**

### Warm-Up

Element	Number of Electrons	Number of Valence Electrons	Ion formed
Potassium (K)			
Iodine (I)			
Phosphorus (P)			
Magnesium (Mg)			



### Learning the Criss-Cross Method (do the charges balance out?)

<b>Example 1:</b> Potassium (K) + Iodine (I)	<b>Example 3:</b> Calcium (Ca) + Oxygen (O)
<b>Example 2:</b> Potassium (K) + Oxygen (O)	<b>Example 4:</b> Magnesium (Mg) + Chlorine (Cl)