Bonding Basics Name

Section A: Complete the chart using a periodic table to help you.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Element** | **Atomic Symbol** | **Total # of**  **Electrons** | **# of Valence**  **Electrons** | **# of Electrons**  **Gained or Lost** | **Oxidation**  **Number** |
| Chlorine |  |  |  |  |  |
| Potassium |  |  |  |  |  |
| Magnesium |  |  |  |  |  |
| Fluorine |  |  |  |  |  |
| Aluminum |  |  |  |  |  |
| Sodium |  |  |  |  |  |
| Nitrogen |  |  |  |  |  |
| Oxygen |  |  |  |  |  |
| Hydrogen |  |  |  |  |  |
| Carbon |  |  |  |  |  |
| Iodine |  |  |  |  |  |

**Answer these questions:**

 An atom that gains one or more electrons will have a charge.

 An atom that loses one or more electrons will have a charge.

 An atom that gains or loses one or more electrons is called an .

 A positive ion is called a and a negative ion is called an .

Section B: What is an ionic bond?

 Atoms will transfer one or more to another to form the bond.

 Each atom is left with a outer shell.

 An ionic bond forms between a ion with a positive charge and a

ion with a negative charge.

**Example B1: Magnesium + Chlorine Example B2: Potassium + Chlorine**

**Example B3: Beryllium + Bromine Example B4: Sodium + Phophorus**

**Example B5: Calcium + Sulfur Example B6: Cesium + Oxygen**

Section C: What is a covalent bond?

 Atoms one or more electrons with each other to form the bond.

 Each atom is left with a outer shell.

 A covalent bond forms between two .

**Example C1: Hydrogen + Chlorine Example C2: 2 Hydrogen + Sulfur**

**Example C3: Fluorine + Fluorine Example C4: Silicon + 2 Oxygen**

**Example C5: Carbon + 4 Chlorine Example C6: Nitrogen + Nitrogen**

***Challenge****: What are some other ionic or covalent bonds that can be formed by the elements you see? Write the chemical formula for the compound and its name on a separate piece of paper and attach to this page.*