

# 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: Sodium + Chlorine**

**Example B2: Magnesium + Iodine**

**Example B3: Potassium + Iodine**

**Example B4: Sodium + Oxygen**

**Example B5: Calcium + Chlorine**

**Example B6: Aluminum + Chlorine**

**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 + Hydrogen**

**Example C2: 2 Hydrogen + Oxygen**

**Example C3: Chlorine + Chlorine**

**Example C4: Oxygen + Oxygen**

**Example C5: Carbon + 2 Oxygen**

**Example C6: Carbon + 4 Hydrogen**

***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.*