

A chemical bond - forms when 2 or more atoms rearrange \_\_\_\_\_  
 \_\_\_\_\_ to increase \_\_\_\_\_.

ionic bond - forms when valence \_\_\_\_\_ are \_\_\_\_\_  
 from one atom to another

cation - atom \_\_\_\_\_ electrons to become \_\_\_\_\_ charged

anion - atom \_\_\_\_\_ electrons to become \_\_\_\_\_ charged

In ionic compounds the ions are arranged in a \_\_\_\_\_.  
 \_\_\_\_\_ forces hold the ions together.

Properties of ionic compounds:

- high \_\_\_\_\_ and \_\_\_\_\_ points
- \_\_\_\_\_ - not easily \_\_\_\_\_
- \_\_\_\_\_ electricity when \_\_\_\_\_ or  
 \_\_\_\_\_ because the ions are free to \_\_\_\_\_.

covalent bond - \_\_\_\_\_ are \_\_\_\_\_, forming  
 \_\_\_\_\_.

Covalent compounds have \_\_\_\_\_ forces holding the  
 \_\_\_\_\_ together.

Properties of covalent compounds:

- lower \_\_\_\_\_ and \_\_\_\_\_ points
- Many covalent compounds are \_\_\_\_\_ liquids or gases.
- \_\_\_\_\_ - easier to \_\_\_\_\_
- are not \_\_\_\_\_ of electricity

electronegativity - property that tells how strong an atom's \_\_\_\_\_  
 is for \_\_\_\_\_.

Since oxygen has a \_\_\_\_\_ electronegativity than hydrogen, oxygen  
 holds onto shared electrons \_\_\_\_\_, giving the oxygen a \_\_\_\_\_  
 negative charge and the hydrogen a partial \_\_\_\_\_ charge.

polar covalent bonds:

- electrons are shared \_\_\_\_\_, creating partially charged ends or \_\_\_\_\_.

nonpolar covalent bonds:

- electrons are shared \_\_\_\_\_ because atoms have the same electronegativities

Electronegativity difference:	Type of Bond
greater than or equal to 1.7	
between 1.7 and 0.3	
less than or equal to 0.3	

Examples: Mg and F?

S and O?

Program 501, problem set 1:

metallic bond - electrons are \_\_\_\_\_  
(creates a "\_\_\_\_\_ of \_\_\_\_\_")

properties of metals:

- 1.
- 2.
- 3.
- 4.

### The Chemistry Quiz

CR1. \_\_\_\_\_

CR2. \_\_\_\_\_

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

**CHEMISTRY: A Study of Matter**

© 2004, GPB

5.2