

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Period: \_\_\_\_\_

## Formulas and Covalent Bonds Homework

Correctly fill in the box below.

METALS \_\_\_\_\_ electrons and carry a \_\_\_\_\_ charge.  
(Group \_\_\_\_ is the most willing to lose electrons)

NONMETALS \_\_\_\_\_ electrons and carry a \_\_\_\_\_ charge.  
(Group \_\_\_\_ is the most willing to gain electrons)

Write the correct formula for the compounds that each of the following pairs of ions will make.

$\text{H}^+$   $\text{F}^-$  \_\_\_\_\_  $\text{NH}_4^+$   $\text{O}^{2-}$  \_\_\_\_\_

$\text{Mg}^{+2}$   $\text{Cl}^-$  \_\_\_\_\_  $\text{Cu}^{+2}$   $\text{I}^-$  \_\_\_\_\_

$\text{Ba}^{+2}$   $\text{CN}^-$  \_\_\_\_\_  $\text{Ca}^{+2}$   $\text{NO}_3^-$  \_\_\_\_\_

$\text{NH}_4^+$   $\text{Cl}^-$  \_\_\_\_\_  $\text{Sr}^{+2}$   $\text{F}^-$  \_\_\_\_\_

$\text{Mg}^{+2}$   $\text{O}^{2-}$  \_\_\_\_\_  $\text{Fe}^{+2}$   $\text{Br}^-$  \_\_\_\_\_

$\text{Ca}^{+2}$   $\text{OH}^-$  \_\_\_\_\_  $\text{Ba}^{+2}$   $\text{NO}_3^-$  \_\_\_\_\_

$\text{Al}^{+3}$   $\text{SO}_4^{2-}$  \_\_\_\_\_  $\text{Cr}^{+3}$   $\text{O}^{2-}$  \_\_\_\_\_

$\text{Fe}^{+3}$   $\text{O}^{2-}$  \_\_\_\_\_  $\text{Al}^{+3}$   $\text{NO}_3^-$  \_\_\_\_\_

Ionic bonds are always formed between a \_\_\_\_\_ and a \_\_\_\_\_.

Covalent bonds are ONLY formed between \_\_\_\_\_.

Decide whether the following compounds contain ionic (I) or covalent (C) bonds:

$\text{HgO}$  \_\_\_\_\_  $\text{CCl}_4$  \_\_\_\_\_  $\text{NaCl}$  \_\_\_\_\_

$\text{AgI}$  \_\_\_\_\_  $\text{SiO}_2$  \_\_\_\_\_  $\text{CO}$  \_\_\_\_\_

$\text{HgO}$  \_\_\_\_\_  $\text{CCl}_4$  \_\_\_\_\_  $\text{NaCl}$  \_\_\_\_\_

Complete each set of blanks with the appropriate vocabulary word.



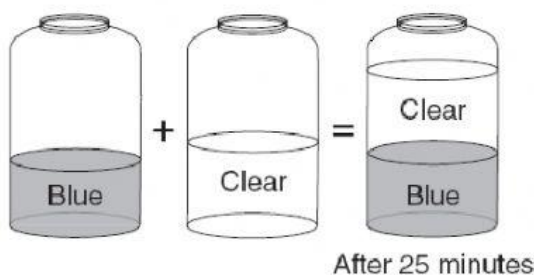
When electrons are NOT shared equally, the molecule is \_\_\_\_\_.

Water is an example of a \_\_\_\_\_ molecule.



When electrons are shared equally, the molecule is \_\_\_\_\_.

Oil is an example of a \_\_\_\_\_ molecule.



Explain why the two liquids in the picture are not mixing. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Finish this sentence:

A molecule is \_\_\_\_\_  
\_\_\_\_\_

He	<sup>2</sup>
Ne	<sup>10</sup>
Ar	<sup>18</sup>
Kr	<sup>36</sup>
Xe	<sup>54</sup>
Rn	<sup>86</sup>

**Important Fact: GROUP 18** is known as the \_\_\_\_\_  
\_\_\_\_\_. They do not gain, lose or share their electrons. They do NOT \_\_\_\_\_ with other elements. You will NOT see them making compounds with other elements.