

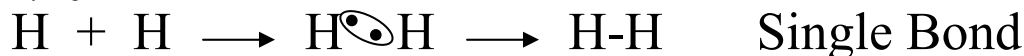
Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

## Covalent Bonding Worksheet

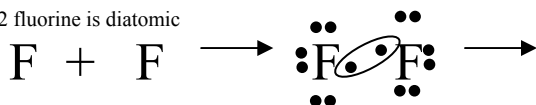
Covalent bonding occurs when two or more NON\_METALS share electrons, attempting to attain a stable octet (8 outer electrons) in their outer shell for at least part of the time.

Draw a Lewis dot diagram for each element listed. Circle the unpaired electrons that will be shared between the elements.

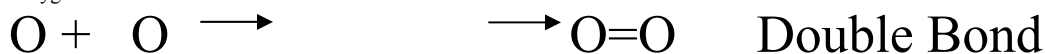
1.) H<sub>2</sub> hydrogen is diatomic



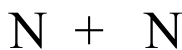
2.) F<sub>2</sub> fluorine is diatomic



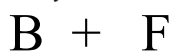
3.) O<sub>2</sub> oxygen is diatomic



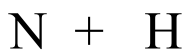
4.) N<sub>2</sub> nitrogen is diatomic. Is this a triple bond?



5.) BF<sub>3</sub> you need 3 fluorine atoms here



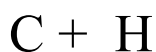
6.) Ammonia NH<sub>3</sub> hint: how many hydrogen atoms are needed?



7.) Carbon dioxide CO<sub>2</sub>



8.) Methane CH<sub>4</sub> careful here 4 hydrogen atoms needed



9.) Dihydrogen monoxide: the most dangerous substance on the planet. It has killed more people than any other substance known to mankind!!



10.) SO<sub>2</sub> hint: one pair of electrons from sulfur must be slit up for this one to work.



## Types of Chemical Bonds

Classify the following compounds as **ionic** (a metal + a nonmetal), **covalent** (a nonmetal + a nonmetal) or **both** (a compound containing a metal and a polyatomic ion)

In the other column list the number of atoms in each compound.

	Type of Bond
1.) $\text{CaCl}_2$	_____
2.) $\text{CO}_2$	_____
3.) $\text{H}_2\text{O}$	_____
4.) $\text{Sr}_3(\text{PO}_4)_2$	_____
5.) $\text{K}_2\text{O}$	_____
6.) $\text{NaF}$	_____
7.) $\text{Al}_2(\text{CO}_3)_3$	_____
8.) $\text{CH}_4$	_____
9.) $\text{SO}_3$	_____
10.) $\text{LiBr}$	_____
11.) $\text{Mg}_3(\text{PO}_4)_2$	_____
12.) $(\text{NH}_4)_2\text{HPO}_4$	_____
13.) $\text{C}_{12}\text{H}_{22}\text{O}_{11}$	_____
14.) $\text{H}_2\text{O}$	_____

15.)  $\text{C}_2\text{H}_5\text{OH}$  \_\_\_\_\_

List each atom and how many are in the compound. Follow the example below.

Ca = 1    Cl = 2