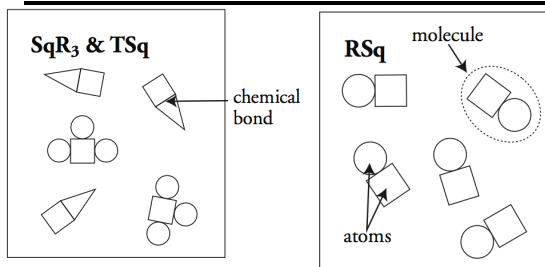


## CLASSWORK: Defining Covalent Compounds



A.) Review. Examine the pictures to the right. What is a **chemical bond**?

B.) What's a **molecule**?

C.) Draw the Lewis Dot Structures for the following atoms:

C                      N                      P                      F                      Si                      O

D.) If the atoms above wanted to bond (for example, carbon monoxide (CO)) would it work for them to transfer electrons from one atom to another like in an ionic bond? Why or why not?

E.) Two fluorine atoms are often found bonded together. Based on the Lewis Dot structure you drew above, how do you think these atoms would combine together?

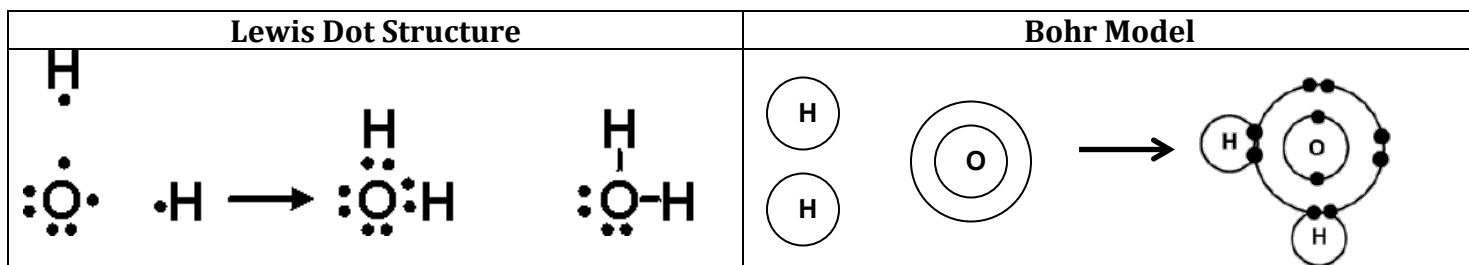
### Covalent Compounds

All covalent compounds are composed of \_\_\_\_\_.

All nonmetals have \_\_\_\_\_, so they want to \_\_\_\_\_.

Therefore, the atoms in covalent compounds \_\_\_\_\_

By sharing electrons, \_\_\_\_\_



Practice: Write **ionic**, **covalent**, or **metallic** (\*metallic=2 or more metals) to identify the following compounds.

a. NO<sub>2</sub> \_\_\_\_\_

e. MgBr<sub>2</sub> \_\_\_\_\_

b. NaCl \_\_\_\_\_

f. PO<sub>4</sub><sup>3-</sup> \_\_\_\_\_

c. CaO \_\_\_\_\_

g. H<sub>2</sub>O \_\_\_\_\_

d. CuZn \_\_\_\_\_

h. O<sub>2</sub> \_\_\_\_\_

## Properties of Covalent Compounds

Property	Ionic Compounds (Review)	Covalent Compounds
Melting/Boiling Point		
Electrical Conductivity		
Malleability		
Appearance		

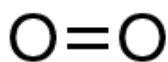
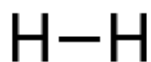
### Practice

1. Gasoline has a relatively low boiling point, does not conduct electricity and is a liquid at room temperature. Is gasoline ionic or covalent, why?

2. You have a tablespoon of baking soda. You put it on the stove and it does not melt and you dissolve it in water and it will conduct electricity. What type of compound is baking soda? How do you know?

3. A mystery substance is a crystalline solid and room temperature, a low melting point and it does not conduct electricity. Can you determine for sure what type of compound this is? Why or why not?

### Multiple Bonds



Examine the covalent compounds to the right. What do you notice is different about them? Why do you think this is?



Single Bond:

Double Bond:

Triple Bond:

### Diatomic Molecules

Diatomic molecules are \_\_\_\_\_

The common diatomic elements are:

*How can I remember these?!?!*

A.

B.