

Warm Up

1. How can you tell which of the following is the ionic compound and which is the polyatomic? Write the symbols of each.

Aluminum Carbonate

Potassium Chloride

2. How can you tell which of the following is the ionic compound and which is the polyatomic? Write the names of each.

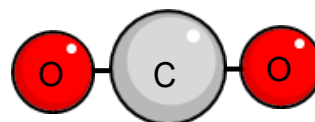
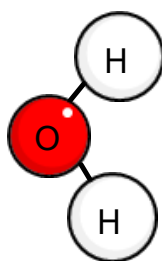
NaO

BeNO₃

Molecular Compounds

Most of the compounds that you encounter everyday do not contain ions. Rather, they contain neutral groups of atoms called **molecules**.

Examples:



They are made up of non-metal atoms sharing electrons to become stable.

Open your book to page 201 and take a look at figure 1.

The bonds between ionic compounds tend to be made up of ions of opposite charges. Here however, with molecular compounds, they are made up of neutral charges.

COVALENT BONDS

The bonds in molecules are called **covalent bonds**.

A covalent bond is a shared pair of electrons between atoms in such a way that it fills the outer shell of each atom. That is, it fills the valence electrons for that shell.

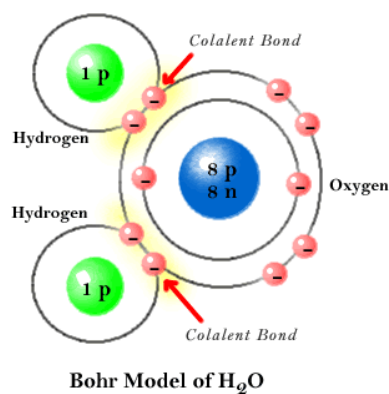
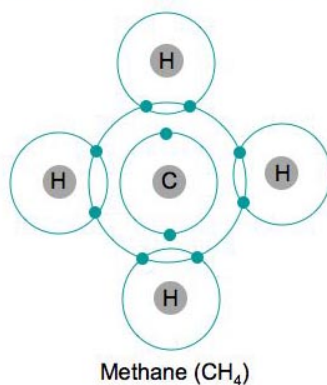
Example:



Many non-metallic elements exist as covalently bonded molecules. They are called the diatomic elements. See Table 1 in your book (page 202)

These covalent bonds can also form together to make **Molecular Compounds!!**

Electron sharing in covalent bond



Molecular Compounds

Naming Molecular Compounds

There are many common names for molecular compounds that do not follow any rules:

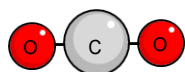
- Water H_2O
- Ammonia NH_3
- Methane CH_4
- Hydrogen Peroxide H_2O_2

Prefixes are also used to indicate the number of each element in the molecule.

1 - mono	6 - hexa
2 - di	7 - hepta
3 - tri	8 - octa
4 - tetra	9 - nona
5 - penta	10 - deca

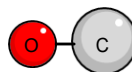
These prefixes are placed before the elements name to show how many atoms of that element is present in the compound. *Note, when there is only one atom of the first element, the prefix "mono" can be left out.*

Examples:

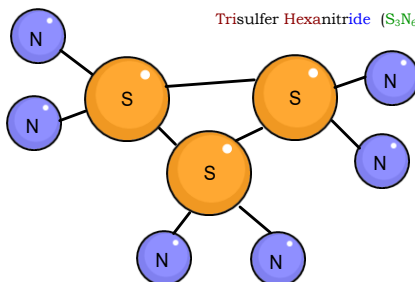


Carbon Dioxide (CO_2)

Carbon Monoxide (CO)

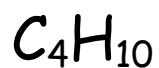


Trisulfur Hexanitride (S_3N_6)



Examples

Write the names or formulas for each molecular compound.



tetraphosphorus trichloride

dinitrogen monoxide

