

Covalent Bonds

Name: _____

Date: _____ Hr: _____

In the space provided, draw a Lewis Dot Structure (electron dot diagram) of each molecule listed below.

1. Cl_2

2. H_2O

3. H_2S

4. SCl_2

5. What elements form diatomic molecules?

6. Write the definition of polyatomic ions in your own words below.

7. What is the symbol and charge of the following polyatomic ions:

a. ammonium _____

c. phosphate _____

b. carbonate _____

d. nitrate _____

Names of Covalent Compounds

Part of the name of a covalent compound is a prefix telling you the number of atoms of each element in the compound.

Naming covalent compounds made of two different elements follows some basic rules.

Rules for naming covalent compounds made of two elements.

- The first element in the formula is named first, using the entire element name.
- The second element drops the last part of its name and adds the ending "ide."
- Prefixes are used to tell the number of atoms of each element.

Complete the table to the right summarizing the prefixes used in covalent compounds.

Number of Atoms	Prefix
1	1.
2.	di
3	3.
4	4.
5.	penta
6	6.
7.	hepta
8	8.
9.	nona
10	10.

Name the compound P_2O_5 .

Compound	Element Name	Number of Atoms	Prefixes	Compound Name
P_2O_5	Phosphorus Oxygen (Oxide)	2 5	11. _____ and _____	Diphosphorus pentoxide

Name each of the following compounds. (Use the table above.)

Compound	Element Name	Number of Atoms	Prefixes	Compound Name
CF_4	12.	13.	14.	15.
As_2O_3	16.	17.	18.	19.
NO_3	20.	21.	22.	23.
NF_3	24.	25.	26.	27.
S_4N_4	28.	29.	30.	31.
SeO_2	32.	33.	34.	35.

Naming Molecular Compounds

Name the following covalent compounds.

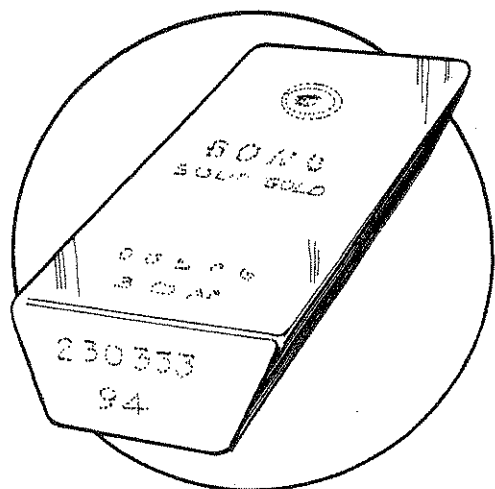
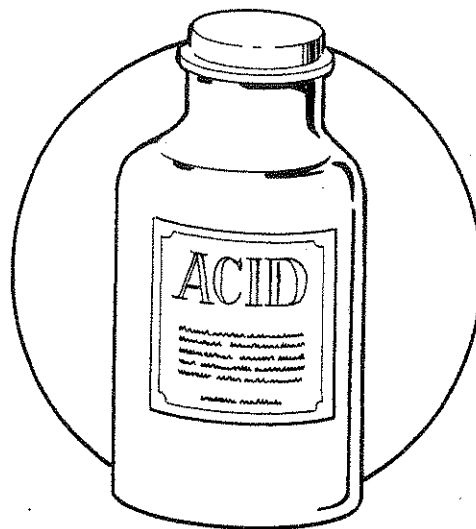
1. CO_2 _____
2. CO _____
3. SO_2 _____
4. SO_3 _____
5. N_2O _____
6. NO _____
7. N_2O_3 _____
8. NO_2 _____
9. N_2O_4 _____
10. N_2O_5 _____
11. PCl_3 _____
12. PCl_5 _____
13. NH_3 _____
14. SCl_6 _____
15. P_2O_5 _____
16. CCl_4 _____
17. SiO_2 _____
18. CS_2 _____
19. OF_2 _____
20. PBr_3 _____

TYPES OF CHEMICAL BONDS

Name _____

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

1. CaCl_2 _____
2. CO_2 _____
3. H_2O _____
4. BaSO_4 _____
5. K_2O _____
6. NaF _____
7. Na_2CO_3 _____
8. CH_4 _____
9. SO_3 _____
10. LiBr _____



11. MgO _____
12. NH_4Cl _____
13. HCl _____
14. KI _____
15. NaOH _____
16. NO_2 _____
17. AlPO_4 _____
18. FeCl_3 _____
19. P_2O_5 _____
20. N_2O_3 _____