

Naming and Writing Formulas of Compounds Notes

We will have 2 types of problems:

I give you:

1. A chemical formula
2. A chemical name

You give me:

- A chemical name
- A chemical formula

A challenge is that Ionic and Covalent will have different rules for each type...

How do we know if a name/formula is Ionic or Covalent?

Ionic → Metal with non-metal

Covalent → non-metal with non-metal

Ex. I or C?

Al₂O₃

C₂H₆

MnO₂

AgCl

C₆H₁₂O₆

Covalent Compounds

To name covalent compounds:

1. Name each element involved. Change the ending of the LAST element to “ide.”
2. Use PREFIXES to indicate how many of each element were present.

NOTE: the FIRST element never gets “mono”

Ex. CO₂ = Carbon Dioxide

Ex. CO = Carbon monoxide

Ex. N₂O₅ = Dinitrogen pentoxide

To make formulas:

1. Write the symbol for each element
2. Use subscripts after the symbols corresponding to any prefixes (how many of each element)

Ex. Carbon Tetrachloride

Ex. Disulphur mononitride

Ex. Dihydrogen monoxide

<u>number of atoms</u>	<u>prefix</u>
1	mono
2	di
3	tri
4	tetra
5	penta
6	hexa
7	hepta
8	octa
9	nona
10	deca

Naming and Writing Formulas of Covalent Compounds

Part 1 - Write the formulas for the following compounds:

- | | |
|---------------------------|-----------------------------|
| a) diphosphorous trioxide | i) phosphorus pentaselenide |
| b) sulphur trioxide | j) dinitrogen monoxide |
| c) nitrogen dioxide | k) Tellurium dichloride |
| d) carbon tetrabromide | l) di-iodine pentoxide |
| e) boron tri-iodide | m) trisilicon dinitride |
| f) tellurium monoxide | n) carbon tetrafluoride |
| g) silicon tetra-astenide | o) radon hexafluoride |
| h) selenium hexafluoride | |

Part 2 - Write the names of the following compounds:

- | | |
|----------------------------|----------------------------|
| a) Cl_2O_7 | f) NO_2 |
| b) S_2O_4 | g) CO |
| c) KrF_4 | h) BF_3 |
| d) P_2O_5 | i) Cl_2S_7 |
| e) NI_3 | j) XeCl_6 |