Writing Chemical Formulas (Binary Molecular)

Binary Molecular compounds are usually formed by the combination of two nonmetals. In this lesson we will look at some fairly simple formulas that are based on common Greek prefixes. Here are the prefixes you will need to know:

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

Here are some examples:

Carbon Dioxide CO_2

This means there is one carbon and two oxygen atoms in the molecule of carbon dioxide.

Carbon Tetrachloride CCl_4

This means is one carbon and four chlorine atoms in a molecule of carbon tetrachloride.

Diphosphorus Pentoxide P_2O_5

Di means two and penta means five.

Sulfur Tioxide SO_3

You can see that frequently the mono is not used on the first element in the compound even if there is only one of them present. The “tri” means three oxygen atoms.

Another thing you may notice from this lesson is that quite often compounds with only two elements in them, “binary compounds” have an “-ide” ending.

STUDENT PRACTICE

Write the formulas of the following compounds:

1. Manganese Dioxide
2. Carbon Disulfide
3. Phosphorus Trichloride
4. Dinitrogen Tetroxide
5. Sulfur Dichloride
6. Uranium Hexafluoride
7. Gallium Triiodide
8. Silicon Dioxide
9. Diphosphorus Pentachloride
10. Dinitrogen Monoxide
11. Nitrogen Dioxide
12. Phosphorus Pentachloride
13. Nitrogen Monoxide
14. Carbon Monoxide
15. Sulfur Dioxide