Chemical Formulae

Formulae of compounds tell you about the atoms of each different element in the compound.

1. State the definition of a compound.

_____

_____

2. State the definition of a molecule.

_____

_____

You will need a copy of the Periodic Table to complete this exercise.

Read the first example, and then do the same for all the other formulae of compounds listed below. Circle the compounds that would form molecules.

3. Nitric acid, HNO_3
   Nitric acid contains: 1 hydrogen atom, 1 nitrogen atom and 3 oxygen atoms.

4. Ammonia, NH_3
   Ammonia contains: _____

5. Copper sulfate, $CuSO_4$
   Copper sulfate contains: _____

6. Sodium hydroxide, NaOH
   Sodium hydroxide contains: _____

7. Methane (natural gas), CH_4
   Methane contains: _____

Write the formula for the following compounds and circle the compounds that would form molecules:

8. Cobalt chloride = $CoCl_2$
   (For every 1 cobalt atom there are 2 chlorine atoms.)

9. Zinc sulfate = _____
   (1 zinc atom, 1 sulfur atom and 4 oxygen atoms.)

10. Ethanol = _____
    (2 carbon atoms, 6 hydrogen atoms and 1 oxygen atom.)

11. Butane = _____
    (4 carbon atoms, 10 hydrogen atoms.)

12. Iron oxide = _____
    (2 iron atoms there are 3 oxygen atoms.)

Stretch:

Identify how many atoms of each element are present in the following compounds:

13. Calcium hydroxide: $Ca(OH)_2$

14. Magnesium nitrate: $Mg(NO_3)_2$

15. Aluminium sulfate: $Al_2(SO_4)_3$