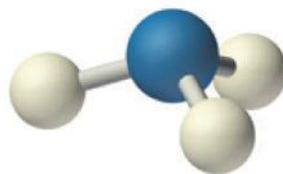


Lesson-2. Chemical formulae and molecular models

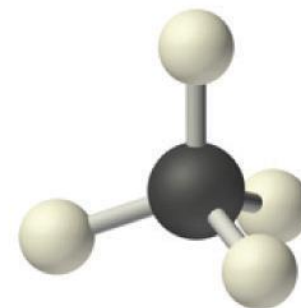
- Chemical formulae and molecular models
- Chemical equation



(a) Water, H_2O



(b) Ammonia, NH_3



(c) Methane, CH_4

- Write the full name of the metal (or element furthest left on the Periodic Table), then the non-metal but cut the end of the name off
- Two elements: always end in - **ide**



Copper Ox **ide**

- Three elements including oxygen: always end in - **ate**



Copper Sulf **ate**



Which elements are present in the following compounds?

- a) Zinc oxide (zinc, oxygen)
- b) Boron dioxide (Boron, oxygen)
- c) Aluminium oxide (Aluminium, oxygen)
- d) Tin hydroxide (tin,oxygen, hydrogen)
- e) Copper carbonate (Copper, carbon, oxygen)
- f) Barium hydroxide (barium, hydrogen, oxygen)
- g) Lithium oxide (lithium, oxygen)
- h) Sodium sulfide (sodium, sulfur)
- i) Copper nitrate (copper, nitrogen, oxygen)
- j) Iron oxide (Iron, oxygen)

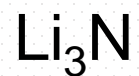


**Write the
formula for:**

- a) Zinc oxide (zinc-1, oxygen-1)
- b) Boron dioxide (Boron-2, oxygen-3)
- c) Aluminium oxide (Aluminium-2, oxygen-3)
- d) Tin hydroxide (tin-1,oxygen-2, hydrogen-2)
- e) Copper carbonate (Copper-1, carbon-1, oxygen-3)
- f) Barium hydroxide (barium-1, hydrogen-2, oxygen-2)
- g) Lithium oxide (lithium-2, oxygen-1)
- h) Sodium sulfide (sodium-2, sulfur-1)
- i) Copper nitrate (copper-1 nitrogen-2, oxygen-6)
- j) Iron oxide (Iron-2, oxygen-3)



Name the following compounds:



Chemical equation

Write the formula for:

Iron + sulfur \rightarrow Iron sulfide



When a word equation is changed into one where chemical **formulae** are used it becomes a **chemical equation**.

Notice that the number of atoms on the left-hand side of the equation balances the number on the right and so describes the movement of atoms during the reaction.

Naming Simple compounds.

Element 1	Element 2	Name of compound
iron	sulphur	iron sulphide
magnesium	nitrogen	magnesium nitride
sodium	chlorine	sodium chloride
tin	oxygen	tin oxide
aluminium	bromine	aluminium bromide
nickel	iodine	nickel iodide
zinc	sulphur	zinc sulphide
lithium	nitrogen	lithium nitride

Please write
down **word**
equations.



Word equation

1. *iron + sulfur → iron sulfide*
2. *magnesium + nitrogen → magnesium nitride*
3. *sodium + chlorine → sodium chloride*
4. *tin + oxygen → tin oxide*
5. *aluminium + bromine → aluminium bromide*
6. *nickel + iodine → nickel iodide*
7. *zinc + sulfur → zinc sulfide*
8. *lithium + nitrogen → lithium nitride*



Chemical equation

1. *iron + sulfur → iron sulfide*

2. *magnesium + nitrogen → magnesium nitride*

3. *sodium + chlorine → sodium chloride*

4. *tin + oxygen → tin oxide*



Chemical equation

5. *aluminium + bromine → aluminium bromide*

6. *nickel + iodine → nickel iodide*

7. *zinc + sulfur → zinc sulfide*

8. *lithium + nitrogen → lithium nitride*



Word equation

1. *iron + oxygen* →

2. *Zinc + hydrogen sulfate* →

3. *silver + sulfur* →

4. *copper chloride + hydrogen nitrate* →

Homework

- Write the word equations for the symbol equations and then balance the symbol equations.

