

Learning Objectives

- Rules of Writing Chemical Equation
- Balancing Chemical Equation

Rules of Writing Chemical Equation

Let us prepare water (H₂O)

Q. What do you need?

Rules of Writing Chemical Equation

1. The **reactants** taking part in the reaction are written in terms of their symbols or molecular formulae on the **left hand side** of the equation



Hydrogen



Oxygen

Rules of Writing Chemical Equation

2. A **sign of plus** (+) is added **between** the symbols or formulae of the reactants.



Q. What will be the product?

Rules of Writing Chemical Equation

3.

- i. The **products** of reaction are written in terms of their symbols or molecular formulae on the **right side** of the equation.



Rules of Writing Chemical Equation

- 3.
- ii. In **between** the reactants and the products an **arrow sign** ().

Tail towards reactants and head towards products.



Balancing Chemical Equation

Balancing Chemical Equation: Hit and Trial Method

Steps 1

First of all write the skeleton equation.

Symbol and *formulae* of reactants and products.



Balancing Chemical Equation: Hit and Trial Method

Step 2

Count the **number of ATOM** present on **reactant side** and **product side**



Hydrogen (H)	Oxygen (O)
2	2

Hydrogen (H)	Oxygen (O)
2	1

Balancing Chemical Equation: Hit and Trial Method

Step 3

Balancing **starts** with the molecules that contain **maximum number of atoms**



Hydrogen (H)	Oxygen (O)
2	2

Hydrogen (H)	Oxygen (O)
4	2

Balancing Chemical Equation: Hit and Trial Method

Step 4

Now, **examine** the effect of multiplication of the molecule



Hydrogen (H)	Oxygen (O)
2	2

Hydrogen (H)	Oxygen (O)
4	2

Balancing Chemical Equation: Hit and Trial Method

Step 5

Further count the number of atoms of atoms of each type on both reactant and product sides in the equation.

If the number of atoms on the both sides is **not equal**, **continue** with above steps till balanced equation is obtain.



Hydrogen (H)	Oxygen (O)
4	2

Hydrogen (H)	Oxygen (O)
4	2

Q. Balance the following chemical equation.



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