Class - 10

Chapter - 1

Chemical Reactions and Equations

Part-2

Chemical Equations

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1) Magnesium + Oxygen ⟶ Magnesium Oxide
→ new product
→ dazzling white flame

2) Lead Nitrate + Potassium Iodide
↓
Lead Iodide + Potassium Nitrate
Yellow precipitate → change in colour
→ change in state

3) Zinc + Hydrochloric acid (dil)
↓
Zinc Sulphate + Hydrogen(g) + △ Heat

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△

① change in state

② change in colour

iron → rusted iron

Silver + Hydrogen sulphide → silver sulphide

black.

③ change in temperature

$CaO + H_2O \rightarrow Ca(OH)_2 + \triangle$

(Quicklime) — Slaked lime

④ Evolution of gas.

—

S. No.	CHARACTERISTICS OF A CHEMICAL REACTION	
1.	Change in state	Hydrogen (g) + Oxygen (g) → Water (l)
2.	Change in colour	Silver + Hydrogen Sulphide → Silver sulphide + Hydrogen (g)
3.	Change in temperature	Calcium Oxide + water → Calcium hydroxide + Heat
4.	Evolution of gas	Zinc + Hydrochloric acid → Zinc Chloride + Hydrogen (g)

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Word Equation

Magnesium + Oxygen → Magnesium Oxide

Chemical Equation

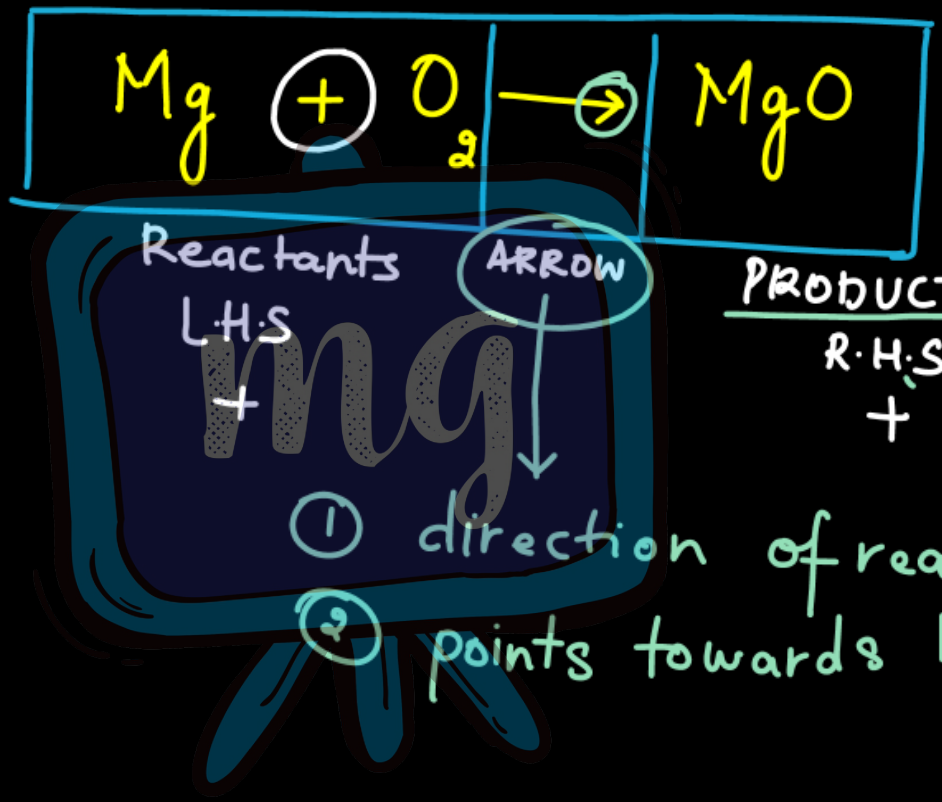
$Mg + O_2 \longrightarrow MgO$

→ Concise (short)

→ informative

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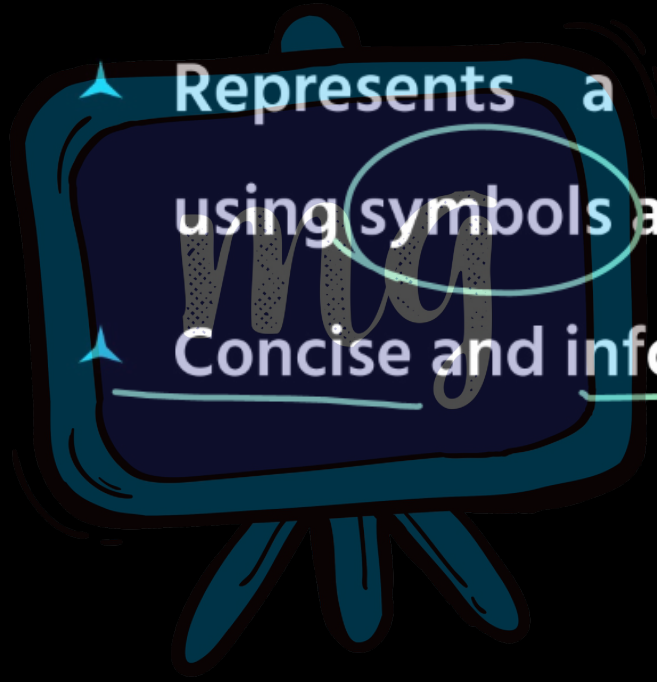
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CHEMICAL EQUATION



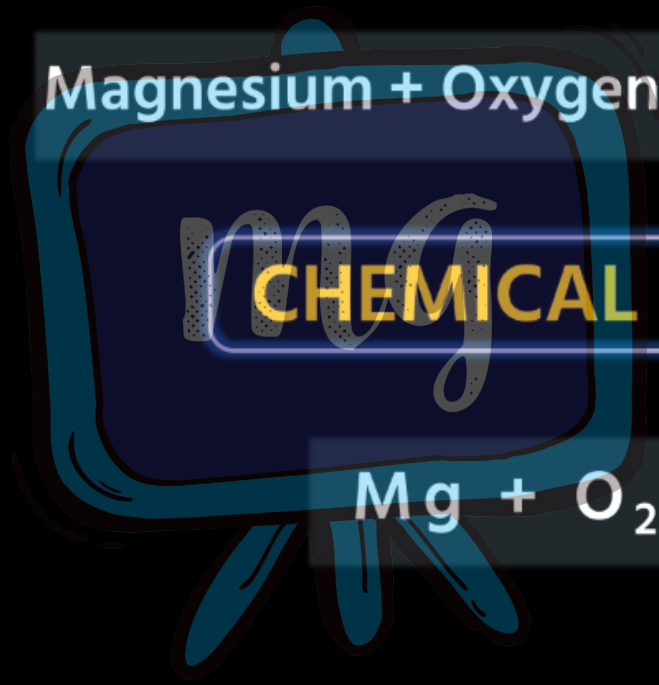
- Represents a chemical reaction using symbols and formula.
- Concise and informative way.

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WORD EQUATION

Magnesium + Oxygen → Magnesium Oxide



CHEMICAL EQUATION

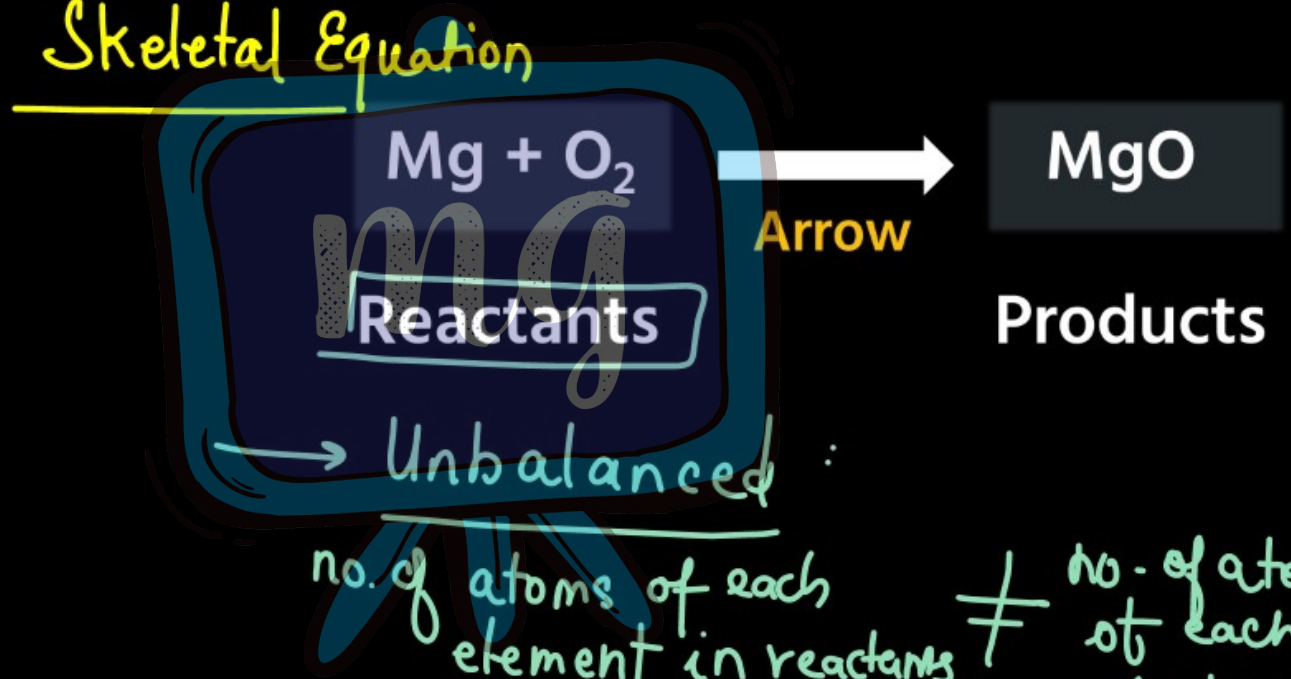
$$Mg + O_2 \rightarrow MgO$$

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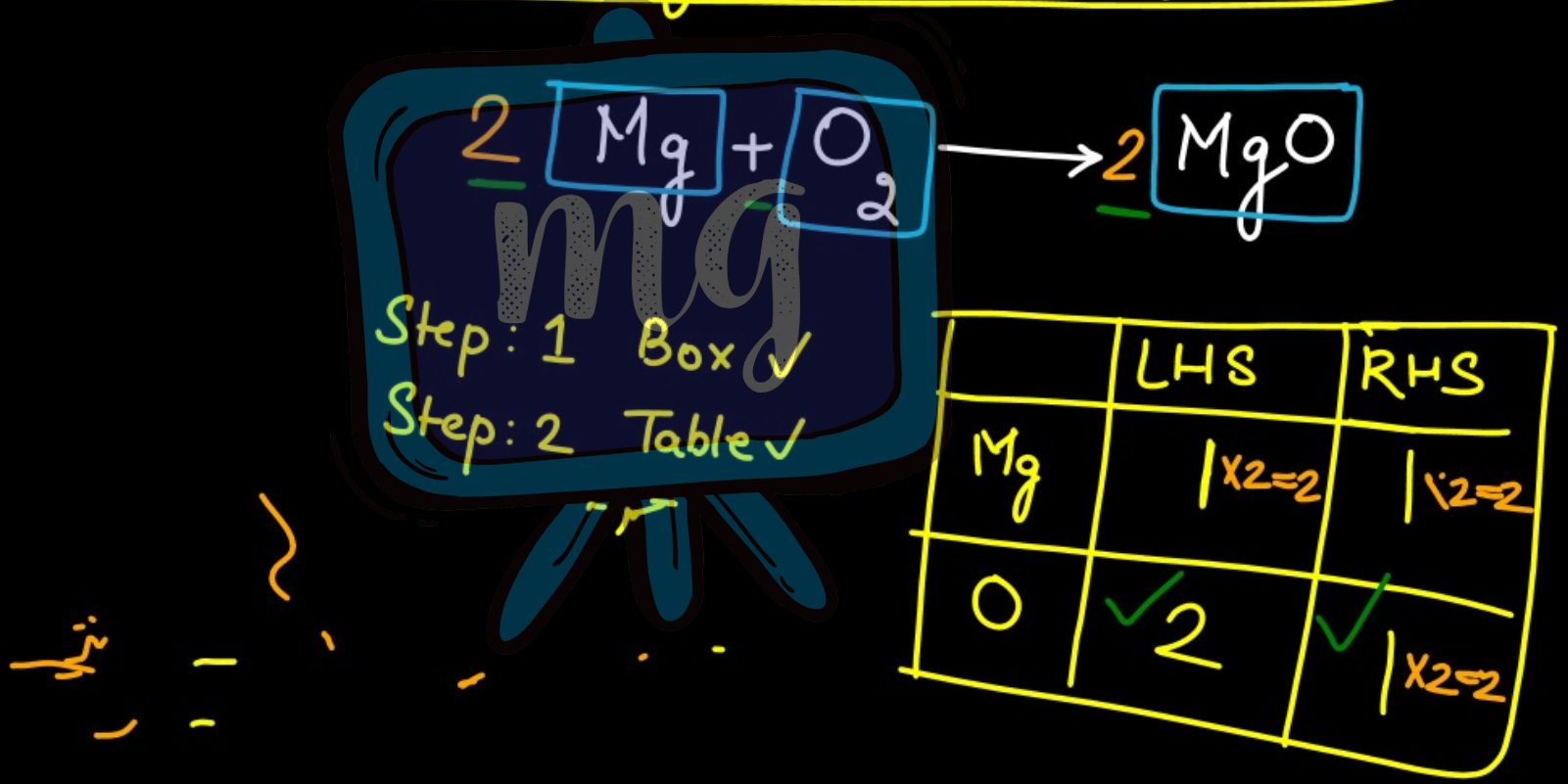
Reactants and Products

Skeletal Equation



no. of atoms of each element in reactants ≠ no. of atoms of each element in product

Law of Conservation of Mass



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$$3\,BaCl_2 + Al_2(SO_4)_3 \rightarrow 3\,BaSO_4 + 2\,AlCl_3$$

Elements	L.H.S	R.H.S
Ba	1 X 3 = 3	1 X 3 = 3
Cl	2 X 3 = 6	3 X 2 = 6
Al	2	1 X 2 = 2
S	3	1 X 3 = 3
O	12	4 X 3 = 12

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Reactants and Products

Reactants	Products
1. Undergo chemical change in a reaction.	New substances formed in a reaction.
2. Written on left hand side (LHS) with (+) plus sign between them.	Written on right hand side with (+) plus sign between them.

Arrow (→) :

1. Indicates direction of the reaction.
2. Points towards the products.