

# Chapter 1 – Quick Revision Sheet

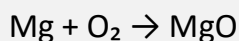
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## Chemical Reactions and Equations

### Chemical Reaction

A chemical reaction is a process in which new substances with different properties are formed.

**Example:**

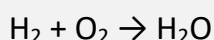


### Chemical Equation

A symbolic representation of a chemical reaction.

**Example:**

Hydrogen + Oxygen  $\rightarrow$  Water

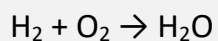


### Balanced Equation

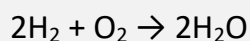
An equation where the **number of atoms of each element is equal on both sides**.

**Example:**

Unbalanced:



Balanced:

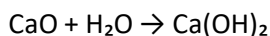


**Law followed:** Law of Conservation of Mass

### Combination

Two or more substances combine to form **one product**.

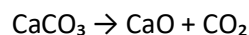
Example:



### Decomposition

A compound **breaks into simpler substances**.

Example:

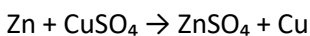


## Types of reactions

### Displacement

A **more reactive element displaces a less reactive element**.

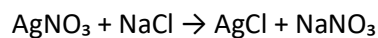
Example:



### Double Displacement

Exchange of ions between two compounds.

Example:

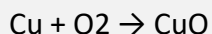


Often forms **precipitate**.

## Oxidation

- Addition of Oxygen
- Removal of Hydrogen

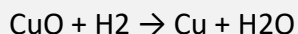
Example:



## Reduction

- Addition of Hydrogen
- Removal of Oxygen

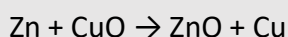
Example:



## Redox Reaction

Both oxidation and reduction occur together.

Example:



## Corrosion

Slow destruction of metals due to reaction with air and moisture.

### Example:

Rusting of iron

Rust =  $\text{Fe}_2\text{O}_3 \cdot x\text{H}_2\text{O}$

### Prevention:

- Painting
- Galvanization
- Oiling/greasing

## Rancidity

Oxidation of **fats and oils** causing bad smell and taste.

### Prevention:

- Antioxidants
- Refrigeration
- Airtight containers
- Nitrogen packaging

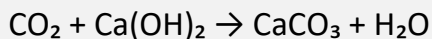
**Example:** Chips packets filled with **nitrogen gas**.

## Important Exam Reactions

### 1. Rusting



### 2. Limewater Test



### 3. Electrolysis of Water



### 4. Burning of Magnesium

