

Chapter 1: Chemical Reactions and Equations

1.1 What is a chemical reaction?

A chemical reaction changes reactants into new products.

Example: $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$ (burning magnesium ribbon).

1.2 Balancing chemical equations

Law of conservation of mass: atoms are neither created nor destroyed.

Worksheet 1 (sample)

Q1. Balance: $\text{Fe} + \text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + \text{H}_2$

Q2. Why is respiration an exothermic reaction?

Q3. Identify the type: $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$

Q4. What is rancidity? Give one prevention.

Answer key provided in the full licence.

SAMPLE - Your Institute