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NAME OF SCHOOL - B.K. BAJORIA SCHOOL

CLASS - X (TEN)

SUBJECT - SCIENCE

CHAPTER- CHEMICAL REACTIONS AND EQUATIONS

TOPICS- 1. INTRODUCTION

2. CHEMICAL REACTIONS

3. CHEMICAL EQUATIONS

INTRODUCTION

Changes are of two types:

- ❖ **Physical Change**
- ❖ **Chemical Change**

Physical Change: It is a kind of change which can be easily reversed. For example, **Evaporation, Freezing of water, etc.,**.

Chemical Change: It is a kind of change which cannot be reversed easily. For example, **Curdling of Milk, Rusting of iron, etc .,.**

All chemical changes are accompanied by chemical reactions and these are represented with the help of chemical equations.

In this chapter, we will study about the various types of **Chemical Reactions** and **Chemical Equations** which represent chemical changes.

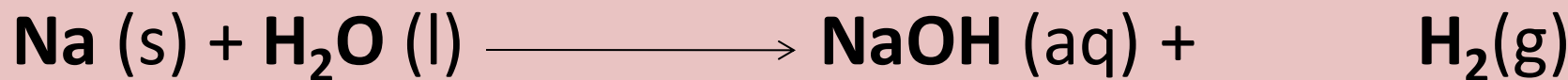
CHEMICAL REACTIONS

A chemical reaction is a change in which one or more substance(s) or reactants(s) reacts(s) to form new substances with entirely different properties.

Chemical Reaction consists of two parts:

- ❖ **Reactants:** The substances which takes part in chemical reaction are called reactants.
- ❖ **Products:** The new substances that are formed as a result of the reaction are called products.

For example,



Sodium

Water

Sodium Hydroxide

Hydrogen

Reactants

Products

IDENTIFICATION OF CHEMICAL REACTION

A chemical reaction can be identified by either of the following observations:

- ❖ **Change in State.**
- ❖ **Change in colour.**
- ❖ **Evolution of gas.**
- ❖ **Change in temperature.**
- ❖ **Formation of precipitate.**

What is a **Precipitate**?

- **Precipitate** is the creation of solid from a solution. The chemical that causes the solid to form is called the **precipitant**.

CHEMICAL EQUATIONS

A chemical equation is a symbolic representation of a chemical reaction. In chemical equations we use the symbols and formulae.

How do we write a Chemical Equation?

- ❖ On the left hand side, reactants are written with a plus (+) sign between them.
- ❖ On the right hand side, products are written with a plus sign (+) between them.
- ❖ An arrow ($\longrightarrow$) is placed between the reactants and products.

Let us consider the reaction between Sodium(Na) and Water (H_2O):

The reaction can be written in two forms:

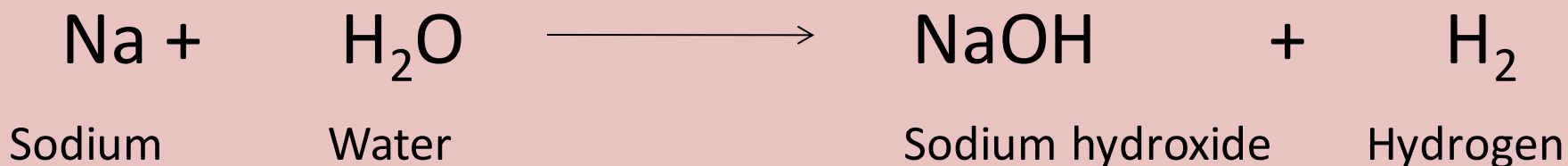
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1. Word Equation:

Sodium + Water $\longrightarrow$ Sodium Hydroxide + Hydrogen

Here we write the reaction in words.

2. Skeletal Equation:



Here we write the equation using symbols and formulae.

Related Questions:

1. Differentiate between Physical and Chemical changes.
2. Define chemical reaction with examples.
3. How do we identify the chemical reaction?
4. Differentiate between Reactants and Products with examples.
5. Define Chemical Equation and explain its two forms.

THANK YOU.