

Study Material Details

Commission: SCHOOL EXAMINATION (6-12)

Category: GRADE X

Sub Category: NCERT CONCEPT BOOSTER

Subject: SCIENCE

Chapter:

CHEMICAL REACTIONS AND EQUATIONS, ACIDS, BASES AND SALTS, METALS AND NON-METALS, CARBON AND ITS COMPOUNDS

Material Type: Combined Chapter Based

Language: English

Title: CHEMISTRY NCERT

Short Description:

Chemical reactions form new substances, shown by balanced equations. Acids, bases and salts show characteristic ion behavior. Metals and non-metals differ in properties. Carbon compounds display catenation and versatile bonding.

Paid: No

Status: Active

PDF Downloadable: Yes

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Detail Content

- Chemical reactions and equations
- acid , base and salts
- Metal and non- Metals
- Carbon and its Compounds

Sections

1. CHEMICAL REACTIONS AND EQUATIONS

CHEMICAL REACTION AND EQUATIONS

- A chemical equation is a shorthand description of a reaction.
- It symbolically represents the reactants, products and their physical states. In a balanced chemical equation, number of atoms of each type involved in the chemical reaction is equal on the reactants and products sides of the equation.
- If charged species are involved, the sum of the charges on reactants should be equal to sum of charges on the products. During balancing of a chemical equation, no change in the formula of reactant(s) and product(s) is allowed.
- A balanced chemical equation obeys the law of conservation of mass and the law of constant proportions.
- In a combination reaction two or more substances combine to form a new single substance. In a decomposition reaction, a single substance decomposes to give two or more substances.
- Thus decomposition reactions are opposite to combination reactions.
- Reactions in which heat is given out during product formation are called exothermic reactions and reactions in which heat is absorbed during product formation are called endothermic reactions.
- A displacement reaction is one in which an element displaces another element from its compound.
- When two different ions are exchanged between two reactants double displacement reaction occurs.
- Precipitation reactions are the result of ion exchange between two substances, producing insoluble salts.
- Oxidation is the gain of oxygen or loss of hydrogen and reduction is loss of oxygen or gain of hydrogen.
- Oxidation and reduction reactions occur simultaneously and are jointly called redox reactions.
- Redox reactions can broadly be defined in terms of loss and gain of electrons. Gain of electron(s) is reduction and loss of electrons is oxidation. Redox reactions are very important in our life situations as well as in industries.