

MBD**Super
Refresher****Science****10****TERM-I**

- ➡ **NCERT Textbook Activities** and **Exercises** with answers
- ➡ Comprehensive explanation of each sub-topic
- ➡ Large pool of objective, short and long answer type questions



Highlights important information which must be remembered

Includes **HOTS** and **Value Based** questions

Based on the latest syllabus and textbook(s) issued by CBSE/NCERT

MBD

**Super
Refresher**

Science

10

TERM I

By

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Based on the latest syllabus and
textbook(s) issued by **CBSE/NCERT**

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We are committed to serve students with best of our knowledge and resources. We have taken utmost care and attention while editing and printing this book but we would beg to state that Authors and Publishers should not be held responsible for unintentional mistakes that might have crept in. However, errors brought to our notice, shall be gratefully acknowledged and attended to.

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SYLLABUS

SCIENCE (CLASS-X)

First Term

Marks: 90

Unit No.	Unit	Marks
I	Chemical Substances-Nature and Behaviour	33
II	World of Living	21
III	Effects of Current	29
V	Natural Resources	07
	Total	90

Theme: Materials

(30 Periods)

Unit I: Chemical Substances – Nature and Behaviour

Chemical reactions: Chemical equation, Balanced chemical equation, implications of a balanced chemical equation, types of chemical reactions: combination, decomposition, displacement, double displacement, precipitation, neutralization, oxidation and reduction.

Acids, bases and salts: Their definitions in terms of furnishing of H^+ and OH^- ions, General properties, examples and uses, concept of pH scale (Definition relating to logarithm not required), importance of pH in everyday life; preparation and uses of Sodium Hydroxide, Bleaching powder, Baking soda, Washing soda and Plaster of Paris.

Metals and non metals: Properties of metals and non-metals; Reactivity series; Formation and properties of ionic compounds; Basic metallurgical processes; Corrosion and its prevention.

Theme: The World of the Living

(20 Periods)

Unit II: World of Living

Life processes: 'Living Being'. Basic concept of nutrition, respiration, transport and excretion in plants and animals.

Control and co-ordination in animals and plants: Tropic movements in plants; Introduction of plant hormones; Control and co-ordination in animals: Nervous system; Voluntary, involuntary and reflex action; Chemical co-ordination: animal hormones.

Theme: How Things Work

(32 Periods)

Unit IV: Effects of Current

Electric current, potential difference and electric current. Ohm's law; Resistance, Resistivity, Factors on which the resistance of a conductor depends. Series combination of resistors, parallel combination of resistors and its applications in daily life. Heating effect of electric current and its applications in daily life. Electric power, Interrelation between P, V, I and R.

Magnetic effects of current: Magnetic field, field lines, field due to a current carrying conductor, field due to current carrying coil or solenoid; Force on current carrying conductor, Fleming's Left Hand Rule. Electromagnetic induction. Induced potential difference, Induced current. Fleming's Right Hand Rule, Direct current. Alternating current : frequency of AC. Advantage of AC over DC. Domestic electric circuits.

Theme: Natural Resources

(08 Periods)

Unit V: Natural Resources

Sources of energy: Different forms of energy, conventional and non-conventional sources of energy: Fossil fuels, solar energy; biogas; wind, water and tidal energy; Nuclear energy. Renewable versus non-renewable sources of Energy.

PRACTICALS

Practicals should be conducted alongside the concepts taught in theory classes.

LIST OF EXPERIMENTS

- To find the pH of the following samples by using pH paper/universal indicator:
 - Dilute Hydrochloric Acid
 - Dilute NaOH solution
 - Dilute Ethanoic Acid solution
 - Lemon juice
 - Water
 - Dilute Sodium Bicarbonate solution
- To study the properties of acids and bases (HCl & NaOH) by their reaction with:
 - Litmus solution (Blue/Red)
 - Zinc metal
 - Solid sodium carbonate
- To perform and observe the following reactions and classify them into:
 - Combination reaction
 - Decomposition reaction
 - Displacement reaction
 - Double displacement reaction
 - Action of water on quick lime
 - Action of heat on ferrous sulphate crystals
 - Iron nails kept in copper sulphate solution
 - Reaction between sodium sulphate and barium chloride solutions
- To observe the action of Zn, Fe, Cu and Al metals on the following salt solutions:
 - ZnSO_4 (aq)
 - FeSO_4 (aq)
 - CuSO_4 (aq)
 - $\text{Al}_2(\text{SO}_4)_3$ (aq)
 - Arrange Zn, Fe, Cu and Al (metals) in the decreasing order of reactivity based on the above result.
- To study the dependence of potential difference (V) across a resistor on the current (I) passing through it and determine its resistance. Also plot a graph between V and I.
- To determine the equivalent resistance of two resistors when connected in series.
- To determine the equivalent resistance of two resistors when connected in parallel.
- To prepare a temporary mount of a leaf peel to show stomata.
- To show experimentally that light is necessary for photosynthesis.
- To show experimentally that carbon dioxide is given out during respiration.

QUESTION PAPER DESIGN

(CODE NO. 086/090)

Class–X

Time: 3 Hours

Max. Marks: 90

S. No.	Typology of Questions	Very Short Answer (VSA) 1 Mark	Short Answer –I (SAI) 2 Marks	Short Answer –II (SAII) 3 Marks	Long Answer (LA) 5 Marks	Total Marks	% Weight age
1	Remembering (Knowledge based simple recall questions, to know specific facts, terms, concepts, principles, or theories, Identify, define or recite, information)	3	–	1	1	11	15%
2	Understanding (Comprehension - to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)	–	1	4	1	19	25%
3	Application (Use abstract information in concrete situation, to apply knowledge to new situations, use given content to interpret a situation, provide an example, or solve a problem)	–	–	4	1	17	23%
4	High Order Thinking Skills (Analysis & Synthesis - Classify, compare, contrast, or differentiate between different pieces of information, Organize and/or integrate unique pieces of information from a variety of sources)	–	2	–	1	9	12%
5	Inferential and Evaluative (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)	–	–	2+1*	2	19	25%
	Total (Theory Based Questions)	3x1=3	3x2=6	12x3= 36	6x5=30	75(24)	100%
	Practical Based Questions (PBQs)	9x1=9	3x2=6	–	–	15(12)	
	Total	12x1=12	6x2=12	12x3= 36	6x5=30	90(36)	

*One question of 3 marks will be included to assess the values inherent in the texts.

1

Chemical Reactions and Equations
(NCERT Textbook Chapter 1)

CONCEPTS

- 1.1 Chemical Equations
- 1.2 Types of Chemical Reactions
- 1.3 Effects of Oxidation Reactions in Daily Life

CHAPTER IN A NUTSHELL

- There are four main types of chemical reactions:
 - Combination reaction
 - Decomposition reaction
 - Displacement reaction
 - Double displacement reaction
- A reaction in which an insoluble salt or a precipitate is produced is called a precipitation reaction.
- A reaction that involves the gain of oxygen or loss of hydrogen by a substance is called an oxidation reaction.
- A reaction that involves the loss of oxygen or gain of hydrogen by a substance is called a reduction reaction.
- A reaction in which both oxidation and reduction take place simultaneously is called a redox reaction.
- Corrosion is the slow oxidation of some metals in the presence of air and moisture. Corrosion in case of iron is called rusting. The rust has the formula, $Fe_2O_3 \cdot xH_2O$.
- Rancidity is a reaction in which oils and fats present in the food are oxidised resulting into production of foul smell and taste of food.
- Rancidity can be prevented by adding antioxidants to foods and keeping food in the atmosphere of liquid nitrogen and in air tight containers.

● All chapters as per **NCERT Textbook**

● Every chapter divided into **CONCEPTS** and each **CONCEPT** dealt with as a complete topic

● **Chapter in a Nutshell**

 **Highlights** essential information which must be remembered

● **Important Terms and Definitions** provide a complete and comprehensive summary of the chapter

Each sub-topic dealt with as a **complete unit**

Includes NCERT Textbook **Activities**

IMPORTANT TERMS AND DEFINITIONS

- Combination reaction:** A chemical reaction in which two or more substances combine to form a new substance is called a combination reaction.
- Decomposition reaction:** A chemical reaction in which a more reactive element displaces a less reactive element from its compound is called a decomposition reaction.
- Displacement reaction:** A chemical reaction in which two substances exchange their atoms or ions to form products is called a displacement reaction.
- Double displacement reaction:** A chemical reaction in which two substances exchange their atoms or ions to form products is called a double displacement reaction.
- Endothermic reaction:** A chemical reaction in which heat is absorbed is called an endothermic reaction.
- Exothermic reaction:** A chemical reaction in which heat is given out is called an exothermic reaction.

1.1 Chemical Equations

The change can be considered as a chemical reaction if it results in one or all of the given observations:

- Change in state
- Change in colour
- Evolution of a gas

A chemical equation gives a brief explanation of a chemical reaction in which the state of the species involved and the conditions in which the reaction takes place is illustrated. In a chemical equation, the reactants and products are represented by their symbols or formulae. **Reactants** are written on the left hand side, while **products** are written on the right hand side and are separated by '+' sign.

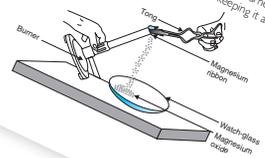
NCERT Activity 1 – Page 1

Aim: To study the reaction of magnesium with oxygen

Caution: The activity needs teacher's assistance. It would be better if students wear eye protection.

Procedure:

- Clean a magnesium ribbon about 2 cm long by rubbing it with sand paper.
- Hold it with a pair of tongs. Burn it using a spirit lamp or burner and collect the ash so formed in a watch glass as shown. (Burn the magnesium ribbon keeping it as far as possible from your eyes).



Science

HOTS CORNER

A housewife wanted her house to be whitewashed. She bought 10 kg of quick lime from the market and dissolved it in 30 litres of water. On adding lime to water she noticed that the water started boiling even when it was not being heated. Give reason for her observation. Write the corresponding chemical equation and name the product formed.

This happens because an exothermic reaction takes place when quick lime is dissolved in water.
 $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2 + \text{Heat energy}$
 Quick lime slaked lime
 The product is calcium hydroxide or slaked lime.



● **HOTS** questions with answers in every chapter

PRACTICE EXERCISE

Objective Type Questions

A. Fill in the Blanks.

- $\text{Zn(s)} + \text{CuSO}_4(\text{aq}) \rightarrow \text{ZnSO}_4(\text{aq}) + \text{_____}$
- The chemical formula of rust is _____ reaction
- $\text{Fe}_2\text{O}_3 + 2\text{Al} \rightarrow \text{Al}_2\text{O}_3 + 2\text{Fe}$ is a _____ reaction to Pb.
- In the reaction, $\text{PbO} + \text{H}_2 \rightarrow \text{Pb} + \text{H}_2\text{O}$, PbO is _____ reaction.
- $\text{C} + \text{O}_2 \rightarrow \text{CO}_2$ is an _____ reaction. 4. reduced 5. endothermic

SELF ASSESSMENT

Objective Type Questions

Multiple Choice Questions

- Which of the statements about the reaction given below are incorrect?
 $2\text{PbO} + \text{C} \rightarrow 2\text{Pb} + \text{CO}_2$
 - Lead is getting reduced
 - Carbon dioxide is getting oxidised
 - Lead oxide is being reduced
 - Carbon is getting oxidised

VALUE BASED QUESTION

- A student has the habit of collecting copper coins. One day he observed a green coating on his copper coins. Which chemical phenomenon is responsible for this? Write the chemical names of the coating on the copper coins. How can he remove this green coating? What methods can he use to save the coins from further deterioration?
 Corrosion is responsible for the green coatings over the coins. The green coating on the copper coins is of basic copper carbonate. He can remove this green coating by cleaning the coins with vinegar solution. He can save the coins from further deterioration by protecting the coins from air and moisture. This can be done by greasing the coins with a layer of oil or Vaseline.

Maximum Marks = 20
1 mark each

● **Practice Exercise** equaling 20 marks for every chapter

● **Self Assessment** with answers at the end of the book

● **Value Based Questions** to assess the students for social responsibilities

● **Model Test Papers** of 90 marks each

MODEL QUESTION PAPERS FOR PRACTICE

CLASS—X
SUBJECT—SCIENCE (THEORY)
FIRST TERM (SA—1)

Max. Marks : 90

Time Allowed : 3 Hours

General Instructions :

- The question paper comprises two sections, A and B, you are to attempt both the sections.
- All questions are compulsory. There is no overall choice. However internal choice has been provided in all the three sections of five marks category. Only one option in each question is to be attempted.
- Question numbers 1 to 3 in Section A and all questions of Section B are to be attempted separately. Question numbers 1 to 3 in Section A are one mark questions. These are to be answered in one word or one sentence.
- Question numbers 4 to 6 are two marks questions, to be answered in about 30 words.
- Question numbers 7 to 18 are three marks questions, to be answered in about 50 words.
- Question numbers 19 to 24 in Section B are based on practical skills. Each question is of one mark.
- Question numbers 25 to 33 in Section B are based on practical skills. Each question is of two marks.
- Question numbers 34 to 36 are based on practical skills. Each question is of two marks.

SECTION-A

- Name any sodium compound used for softening hard water.
- What is biogas? Write the main constituent of biogas.
- Why do fire flies glow at night?
- Draw diagram of stomata. Write function of guard cells.
- What happens when :
 - Zinc metal is added to copper sulphate?
 - Aluminium metal is added to dil. HCl?
 - Silver metal is added to copper sulphate?
- Compound such as alcohols and glucose also contain hydrogen but are not categorised as acids. Also write balanced equation if reaction occurs.
- Describe an activity to prove it.
- Hydrogen is combustible and oxygen is a supporter of combustion, then how water is able to put off fire?
- Define double displacement and redox reactions. Also give one example in each case.

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1

Chemical Reactions and Equations

(NCERT Textbook Chapter 1)

CONCEPTS >>

- I.1 Chemical Equations
- I.2 Types of Chemical Reactions
- I.3 Effects of Oxidation Reactions in Daily Life

CHAPTER IN A NUTSHELL

- The process in which two or more substances react to give new substances having different properties is called a chemical reaction.
- The substances which react in a chemical reaction are called **reactants** and the substances that are produced as a result of a chemical reaction are called **products**.
- A chemical equation is the symbolic representation of a chemical reaction.
- A chemical equation represents the reactants, products and their physical states.
- For writing the physical states of reactants and products, we use the notations, (s) for solids, (l) for liquids, (g) for gases and (aq) for aqueous solutions.
- A chemical equation in which the number of atoms of each type involved in the reaction is equal on both sides of the chemical equation is called a balanced chemical equation.
- There are four main types of chemical reactions:
 - (i) Combination reaction
 - (ii) Decomposition reaction
 - (iii) Displacement reaction
 - (iv) Double displacement reaction
- A reaction in which an insoluble salt or a precipitate is produced is called a precipitation reaction.
- A reaction that involves the gain of oxygen or loss of hydrogen by a substance is called an oxidation reaction.
- A reaction that involves the loss of oxygen or gain of hydrogen by a substance is called a reduction reaction.
- A reaction in which both oxidation and reduction take place simultaneously is called a redox reaction.
- **Corrosion** is the slow oxidation of some metals in the presence of air and moisture. Corrosion in case of iron is called **rusting**. The rust has the formula, $\text{Fe}_2\text{O}_3 \cdot x\text{H}_2\text{O}$.
- **Rancidity** is a reaction in which oils and fats present in the food are oxidised resulting into production of foul smell and taste of food.
- Rancidity can be prevented by adding antioxidants to foods and keeping food in the atmosphere of liquid nitrogen and in air tight containers.

IMPORTANT TERMS AND DEFINITIONS

Combination reaction: A chemical reaction in which two or more substances combine to form a new substance is called a combination reaction.

Decomposition reaction: A chemical reaction in which a substance breaks down to produce two or more simpler substances is called a decomposition reaction.

Displacement reaction: A chemical reaction in which a more reactive element displaces a less reactive element from its compound is called a displacement reaction.

Double displacement reaction: A chemical reaction in which two substances exchange their atoms or ions to form products is called a double displacement reaction.

Exothermic reaction: A chemical reaction, in which heat is given out, is called an exothermic reaction.

Endothermic reaction: A chemical reaction, in which heat is absorbed, is called an endothermic reaction.

1.1 Chemical Equations

The change can be considered as a chemical reaction if it results in one or all of the given observations.

- Change in state
- Change in colour
- Change in temperature
- Evolution of a gas

A chemical equation gives a brief explanation of a chemical reaction in which the state of the species involved and the conditions in which the reaction takes place is illustrated. In a chemical equation, the reactants and products are represented by their symbols or formulae. **Reactants** are written on the left hand side, while **products** are written on the right hand side and are separated by an arrow (\longrightarrow). Different reactants or products are separated by '+' sign.

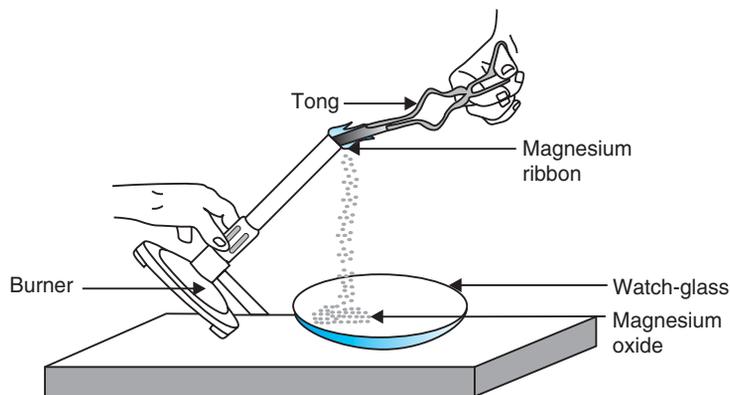
NCERT Activity 1 – Page 1

Aim: To study the reaction of magnesium with oxygen

[**Caution:** The activity needs teacher's assistance. It would be better if students wear eye protection.]

Procedure:

1. Clean a magnesium ribbon about 2 cm long by rubbing it with sand paper.
2. Hold it with a pair of tongs. Burn it using a spirit lamp or burner and collect the ash so formed in a watch glass as shown. (Burn the magnesium ribbon keeping it as far as possible from your eyes).



Observation: It is observed that magnesium ribbon burns with a dazzling white flame and leaves residue as to a white powder.

Conclusion: It is concluded that magnesium ribbon reacts with oxygen present in air to form a white powder of magnesium oxide.

Activity 2 – Page 2

Aim: To study the chemical reaction between aqueous solutions of lead nitrate and potassium iodide

Procedure:

1. Take lead nitrate solution in a test tube.
2. Add potassium iodide solution to this.
3. Record your observations.

Observation: It is observed that a yellow precipitate is formed.

Conclusion: It is concluded that aqueous solution of lead nitrate reacts with aqueous solution of potassium iodide to form a yellow precipitate of lead iodide.

Activity 3 – Page 2

Aim: To study the chemical reaction between zinc metal and a dilute acid

Procedure:

1. Take a few zinc granules in a conical flask or a test tube.
2. Add dilute hydrochloric acid or sulphuric acid to this.
[Caution: Handle the acid with care.]
3. Record your observations.
4. Touch the conical flask or test tube and observe if there is a change in temperature of the flask after adding the acid to zinc granules.

Observation: It is observed that bubbles start rising from the surface of zinc granules in the flask. The bubbles are produced due to the evolution of hydrogen gas formed in the flask.

Also the flask feels hot to touch after the acid is added to the zinc granules.

Conclusion: It is concluded that zinc metal reacts with a dilute acid resulting in the evolution of hydrogen gas and rise in temperature.

Objective Type Questions

1 mark each

A. Multiple Choice Questions

1. In the equation: $C_2H_4 + xO_2 \longrightarrow yCO_2 + zH_2O$; x, y and z are:
(a) 2, 3, 2 (b) 3, 2, 2 (c) 2, 2, 3 (d) 2, 2, 2
2. Which of the following chemical equations is balanced?
(a) $K + H_2O \longrightarrow KOH + H_2$ (b) $2K + H_2O \longrightarrow 2KOH + H_2$
(c) $2K + 2H_2O \longrightarrow 2KOH + 2H_2$ (d) $2K + 2H_2O \longrightarrow 2KOH + H_2$
3. The symbol (s) in a chemical equation represents
(a) solid state (b) gaseous state (c) aqueous solution (d) liquid state

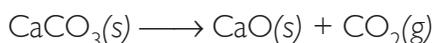
Answers: 1. (b) 3, 2, 2 2. (d) $2K + 2H_2O \longrightarrow 2KOH + H_2$ 3. (a) solid state

Short Answer Type Questions**2-3 marks each**

- A. Identify the state of species involved in the following chemical reaction. Also write the balanced chemical equation for the reaction with the physical state of the species involved in the reaction.



In the given chemical reaction, CaCO_3 and CaO are in solid state, while CO_2 is in gaseous state. The balanced chemical equation with the physical state of the species involved in the reaction can be written as:



- B. Write the balanced chemical equation for the following reactions:

- (i) Aqueous solution of sulphuric acid and aqueous solution of sodium hydroxide react to form aqueous sodium sulphate solution and water
- (ii) Phosphorous burns in chlorine gas to form phosphorous pentachloride
- (i) $\text{H}_2\text{SO}_4(aq) + 2\text{NaOH}(aq) \longrightarrow \text{Na}_2\text{SO}_4(aq) + 2\text{H}_2\text{O}(l)$
- (ii) $\text{P}_4(s) + 10\text{Cl}_2(g) \longrightarrow 4\text{PCl}_5(s)$

1.2 Types of Chemical Reactions

Main types of chemical reactions are:

- a. **Combination Reaction:** Some examples are:

- Burning of coal $[\text{C}(s) + \text{O}_2(g) \longrightarrow \text{CO}_2(g)]$
- Slaking of Lime $[\text{CaO}(s) + \text{H}_2\text{O}(l) \longrightarrow \text{Ca}(\text{OH})_2(aq)]$

- b. **Decomposition Reaction:** Some examples are:

- Thermal decomposition of calcium carbonate $[\text{CaCO}_3(s) \longrightarrow \text{CaO}(s) + \text{CO}_2(g)]$
- Electrolytic decomposition of water $[2\text{H}_2\text{O}(l) \longrightarrow 2\text{H}_2(g) + \text{O}_2(g)]$
- Photo decomposition of silver bromide $[2\text{AgBr}(s) \longrightarrow 2\text{Ag}(s) + \text{Br}_2(g)]$

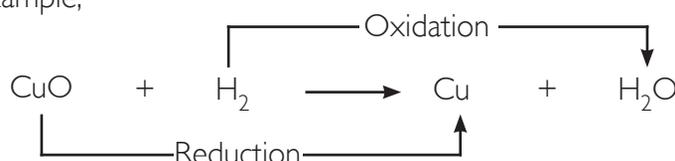
- c. **Displacement Reaction:** Some examples are:

- Displacement of sulphate ion from copper sulphate by zinc
 $[\text{Zn}(s) + \text{CuSO}_4(aq) \longrightarrow \text{ZnSO}_4(aq) + \text{Cu}(s)]$
- Displacement of nitrate ion from silver nitrate by copper
 $[\text{Cu}(s) + 2\text{AgNO}_3(s) \longrightarrow \text{Cu}(\text{NO}_3)_2(aq) + 2\text{Ag}(s)]$

- d. **Double Displacement Reaction:** Some examples are:

- Double displacement reaction between silver nitrate and sodium chloride
 $\text{AgNO}_3(aq) + \text{NaCl}(aq) \longrightarrow \text{AgCl}(s) + \text{NaNO}_3(aq)$
- Double displacement reaction between sodium sulphate and barium chloride
 $\text{Na}_2\text{SO}_4(aq) + \text{BaCl}_2(aq) \longrightarrow 2\text{NaCl}(aq) + \text{BaSO}_4(aq)$

A reaction that involves oxidation of one substance and reduction of the other is called a redox reaction. For example,



The substance that gains oxygen or loses hydrogen is said to be oxidised and the substance that loses oxygen or gains hydrogen is said to be reduced.

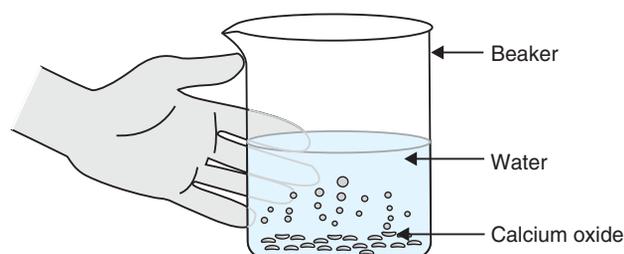
In different types of chemical reactions, some require heat energy (endothermic reactions) while some give out heat energy (exothermic reactions).

NCERT Activity 4 – Page 6

Aim: To study a combination reaction

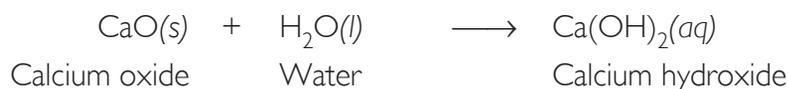
Procedure:

1. Take a small amount of calcium oxide or quick lime in a beaker.
2. Slowly add water to this.
3. Touch the beaker and observe.



Observation: It is observed that a vigorous reaction occurs in the beaker and the beaker feels hot to touch. The vigorous reaction is the combination reaction of calcium oxide with water to form slaked lime or calcium hydroxide. The beaker is hot because this reaction results in the release of heat energy.

Conclusion: It is concluded that calcium oxide undergoes a combination reaction with water forming slaked lime or calcium hydroxide with the evolution of heat energy.

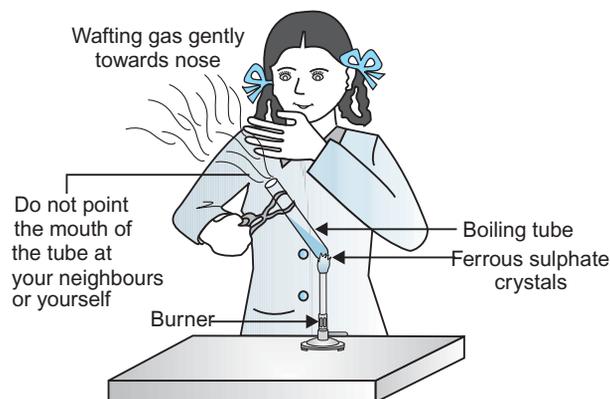


Activity 5 – Page 8

Aim: To study a decomposition reaction

Procedure:

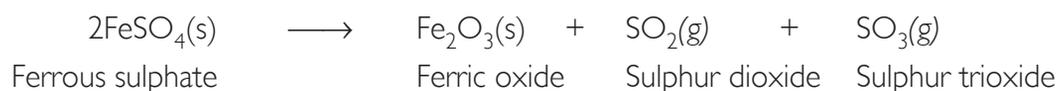
1. Take about 2 g ferrous sulphate crystals in a dry boiling tube.
2. Note the colour of the ferrous sulphate crystals.
3. Heat the boiling tube over the flame of a burner or spirit lamp.



4. Observe the colour of the crystals after heating.

Observation: It is observed that the green colour of the ferrous sulphate crystals has changed. Also, a gas is evolved having characteristic odour of burning sulphur. It happens because on heating ferrous sulphate decomposes to give another solid ferric oxide along with gases, sulphur dioxide and sulphur trioxide.

Conclusion: It is concluded that ferrous sulphate on heating undergoes a decomposition reaction forming ferric oxide, sulphur dioxide and sulphur trioxide.

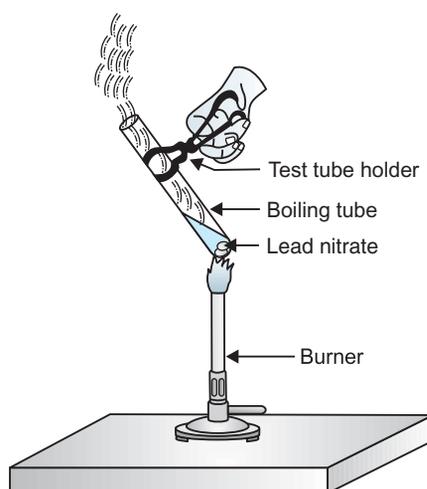


Activity 6 – Page 8

Aim: To study thermal decomposition of lead nitrate powder

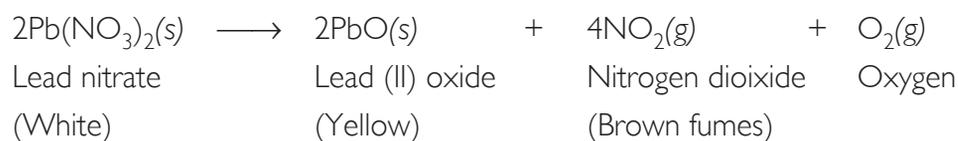
Procedure:

1. Take about 2 g lead nitrate powder in a boiling tube.
2. Hold the boiling tube with a test tube holder and heat it over a flame.



Observation: It is observed that brown fumes evolve from the boiling tube and the powder in the boiling tube turns into yellow residue. The brown fumes are of nitrogen dioxide gas and the yellow residue is of lead (II) oxide. These two are the product of the thermal decomposition of lead nitrate.

Conclusion: It is concluded that lead nitrate undergoes thermal decomposition to give lead (II) oxide, nitrogen dioxide gas and oxygen gas.



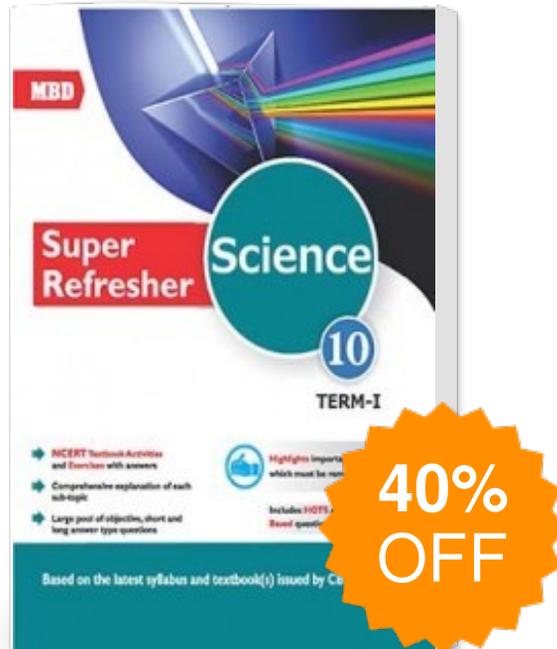
Activity 7 – Page 9

Aim: To study electrolytic decomposition of water

Procedure:

1. Take a plastic mug. Drill two holes at its base and fit rubber stoppers in these holes. Insert carbon electrodes in these rubber stoppers.
2. Connect these electrodes to a 6 volt battery.

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