

**CBSE X 2025**

**Chapter and Topic-Wise  
Solved Papers  
2011-2024**

**Science**

 **Career  
Launcher**

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# Science

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# ▶ PREFACE

Class X Board Exams are a race against time. You must know how to manage time efficiently if you want to ace your exams. At Career Launcher, we understand the struggle of attempting such a crucial examination for the first time and the pressure that comes along with it. Which is why, our Chapter and Topic-Wise Solved Papers for Science have been designed to help you become acquainted with the exam pattern and hone your time management skills, both at the same time.

Exclusively designed for the students of CBSE Class X by highly experienced teachers, the book provides answers to all actual questions of Science Board Exams conducted from 2011 to 2024. The solutions have been prepared exactly in coherence with the latest marking pattern; after a careful evaluation of previous year trends of the questions asked in Class X Boards and actual solutions provided by CBSE.

The book follows a three-pronged approach to make your study more focused. The questions are arranged Chapter-wise so that you can begin your preparation with the areas that demand more attention. These are further segmented topic-wise and eventually the break-down is as per the marking scheme. This division will equip you with the ability to gauge which questions require more emphasis and answer accordingly. Apart from this, several value-based questions have also been included.

We hope the book provides the right exposure to Class X students so that you not only ace your Boards but mold a better future for yourself. And as always, Career Launcher's school team is behind you with its experienced gurus to help your career take wings.

Let's face the Boards with more confidence!

Wishing you all the best,

**Team CL**





## Blueprint & Marks Distribution

### Class 10<sup>th</sup> Science 2024-25 Analysis Unit Wise

Units	Name of Units	No of Periods	Marks Distribution
I	Chemical Substances-Nature and Behaviour	55	25
II	World of Living	50	25
III	Natural Phenomena	23	12
IV	Effects of Current	32	13
V	Natural Resources	20	05
	<b>Total</b>		<b>80</b>
	<b>Internal assessment</b>		<b>20</b>
	<b>Grand Total</b>	<b>180</b>	<b>100</b>



# Course Structure

**THEME: MATERIALS**

**(55 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 Nonmetals:** Properties of metals and non-metals; Reactivity series; Formation and properties of Ionic Compounds; Basic Metallurgical Processes; Corrosion and its prevention.

**Carbon compounds:** Covalent bonding in carbon compounds; Versatile nature of carbon; Homologous series; Nomenclature of carbon compounds containing functional groups (halogens, alcohol, ketones, aldehydes, alkanes and alkynes); difference between saturated hydrocarbons and unsaturated hydrocarbons; Chemical properties of carbon compounds (combustion, oxidation, addition and substitution reaction); Ethanol and Ethanoic acid (only properties and uses); Soaps and Detergents.

**THEME: THE WORLD OF THE LIVING**

**(50 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.

**Reproduction:** Reproduction in animals and plants (asexual and sexual) reproductive health-need and methods of family planning. Safe sex vs HIV/AIDS. Child bearing and women's health.

**Heredity and Evolution:** Heredity; Mendel's contribution- Laws for inheritance of traits: Sex determination: brief introduction: (topics excluded - evolution; evolution and classification and evolution should not be equated with progress).

**THEME: NATURAL PHENOMENA**

**(23 PERIODS)**

**Unit III: Natural Phenomena**

Reflection of light by curved surfaces; Images formed by spherical mirrors, Centre of Curvature, Principal axis, Principal focus, Focal length, Mirror formula (Derivation not required), Magnification.

Refraction; Laws of Refraction, Refractive Index.

Refraction of light by Spherical Lens; Image formed by Spherical Lenses; Lens formula (Derivation not required); Magnification. Power of a lens.

Functioning of a lens in human eye, defects of vision and their corrections, applications of spherical mirrors and lenses.

Refraction of light through a prism, dispersion of light, scattering of light, applications in daily life. (excluding colour of the sun at sunrise and sunset).

**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, Electric Motor, Electromagnetic induction. Induced potential difference, Induced current. Fleming's Right Hand Rule, Electric Generator, Direct current. Alternating current : frequency of AC. Advantage of AC over DC. Domestic electric circuits.

## THEME: NATURAL RESOURCES

(20 PERIODS)

### Unit V: Natural Resources

**Our environment:** Eco-system, Environmental problems, Ozone depletion, Waste Production and their solutions. Biodegradable and Non-biodegradable substances.

#### Note for the Teachers:

1. The chapter Management of Natural Resources (NCERT Chapter 16) will not be assessed in the year-end examination. However, learners may be assigned to read this chapter and encouraged to prepare a brief write up to any concept of this chapter in their Portfolio. This may be for Internal Assessment and credit may be given Periodic Assessment/Portfolio).
2. The NCERT text books present information in boxes across the book. These help students to get conceptual clarity. However, the information in these boxes would not be assessed in the year-end examination.

# PRACTICALS

Practical should be conducted alongside the concepts taught in theory classes

## LIST OF EXPERIMENTS

1. A. Finding the pH of the following samples by using pH paper/universal indicator:

Unit-I

- (i) Dilute Hydrochloric Acid
  - (ii) Dilute NaOH solution
  - (iii) Dilute Ethanoic Acid solution
  - (iv) Lemon juice
  - (v) Water
  - (vi) Dilute Hydrogen Carbonate solution
- B. Studying the properties of acids and bases (HCl & NaOH) on the basis of their reaction with:

Unit-I

- a) Litmus solution (Blue/Red)
- b) Zinc metal
- c) Solid sodium carbonate

2. Performing and observing the following reactions and classifying them into:

Unit-I

- A. Combination reaction
- B. Decomposition reaction
- C. Displacement reaction
- D. Double displacement reaction
  - (i) Action of water on quicklime
  - (ii) Action of heat on ferrous sulphate crystals
  - (iii) Iron nails kept in copper sulphate solution
  - (iv) Reaction between sodium sulphate and barium chloride solutions

3. Observing the action of Zn, Fe, Cu and Al metals on the following salt solutions:

Unit-I

- (i)  $\text{ZnSO}_4(\text{aq})$
- (ii)  $\text{FeSO}_4(\text{aq})$
- (iii)  $\text{CuSO}_4(\text{aq})$
- (iv)  $\text{Al}_2(\text{SO}_4)_3(\text{aq})$

Arranging Zn, Fe, Cu and Al (metals) in the decreasing order of reactivity based on the above result.

4. Studying the dependence of potential difference ( $V$ ) across a resistor on the current ( $I$ ) passing through it and determine its resistance. Also plotting a graph between  $V$  and  $I$ . Unit-IV
5. Determination of the equivalent resistance of two resistors when connected in series and parallel. Unit-IV
6. Preparing a temporary mount of a leaf peel to show stomata. Unit- II
7. Experimentally show that carbon dioxide is given out during respiration. Unit-II
8. Study of the following properties of acetic acid (ethanoic acid): Unit- I
  - (i) Odour
  - (ii) solubility in water
  - (iii) effect on litmus
  - (iv) reaction with Sodium Hydrogen Carbonate
9. Study of the comparative cleaning capacity of a sample of soap in soft and hard water. Unit- I
10. Determination of the focal length of: Unit-III
  - (i) Concave mirror
  - (ii) Convex lensby obtaining the image of a distant object.
11. Tracing the path of a ray of light passing through a rectangular glass slab for different angles of incidence. Measure the angle of incidence, angle of refraction, angle of emergence and interpret the result. Unit - III
12. Studying (a) binary fission in Amoeba, and (b) budding in yeast and Hydra with the help of prepared slides. Unit-II
13. Tracing the path of the rays of light through a glass prism. Unit-III
14. Identification of the different parts of an embryo of a dicot seed (Pea, gram or red kidney bean). Unit-II

