

CLASS X SCIENCE LESSON PLAN

Subject: Science | Class: X | Board: NCERT/CBSE

MONTH-WISE DISTRIBUTION

Month	Topic / Chapter
April	Light – Reflection and Refraction
May	The Human Eye and the Colourful World
June	Summer Break – No new chapter
July	Electricity
August	Revision – Light, Human Eye & Electricity
September	Revision, Concept Reinforcement & Pre-Assessment
October	Magnetic Effects of Electric Current – Complete Chapter

APRIL

Topic: Light – Reflection and Refraction

Approx. Duration: 18–20 days

Learning Objectives

- Explain reflection and refraction of light.
- State and apply the laws of reflection.
- Differentiate between concave and convex mirrors.
- Draw and interpret ray diagrams.
- Apply mirror and lens formulae and magnification.
- Understand refractive index and power of a lens.
- Solve numerical and competency-based questions.

Previous Knowledge

- What is light?
- How do we see objects?
- What happens when light falls on a mirror?
- Why does a pencil appear bent in water?
- Which mirror is used as a rear-view mirror?

Teaching-Learning Strategies

- Demonstrations using mirrors, lenses and glass slab.
- Smart-board animations and ray-diagram simulations.
- Practical activities on reflection and refraction.
- Real-life applications such as spectacles, rear-view mirrors and magnifying glasses.
- NCERT and Exemplar-based questions.

Student Activities

- Verify the laws of reflection.
- Trace the path of light through a glass slab.

- Draw and label ray diagrams.
- Solve numerical problems individually and in groups.
- Prepare a comparison chart of mirrors and lenses.

Assessment

- MCQs, oral questioning, ray diagrams, numericals, assertion-reasoning, case-based questions and class test.

Learning Outcome

Students will be able to explain optical phenomena, construct accurate ray diagrams and apply formulae to solve numerical and application-based problems.

MAY

Topic: The Human Eye and the Colourful World

Approx. Duration: 10–12 days

Learning Objectives

- Describe the structure and functioning of the human eye.
- Explain accommodation of the eye.
- Understand myopia, hypermetropia and presbyopia.
- Explain correction of eye defects using suitable lenses.
- Understand dispersion, atmospheric refraction and scattering.
- Explain common optical phenomena scientifically.

Previous Knowledge

- What helps us to see?
- What is the function of the eye lens?
- Why do some people wear spectacles?
- Why do stars appear to twinkle?
- Why does the sky appear blue?

Teaching-Learning Strategies

- 3-D/smart-board model of the human eye.
- Prism demonstration.
- Ray diagrams for eye defects.
- Videos and animations.
- Discussion of real-life optical phenomena.

Student Activities

- Draw and label the human eye.
- Construct ray diagrams for eye defects.
- Observe dispersion through a prism.
- Explain everyday optical phenomena.
- Participate in group discussions.

Assessment

- MCQs, diagrams, oral questioning, assertion-reasoning, case-based questions and class test.

Learning Outcome

Students will be able to explain the functioning of the human eye, identify common eye defects and scientifically explain important phenomena related to light.

JUNE

Topic: Summer Break

Academic Note: Summer Break

Teaching-Learning Strategies

- No new chapter will be introduced.

Learning Outcome

Students will resume the academic programme with the next scheduled chapter.

JULY

Topic: Electricity

Approx. Duration: 15–18 days

Learning Objectives

- Understand electric current, potential difference and resistance.
- State and apply Ohm's law.
- Understand factors affecting resistance.
- Compare series and parallel combinations of resistors.
- Explain the heating effect of electric current.
- Calculate electrical power and energy.
- Solve numerical and application-based problems.

Previous Knowledge

- What is an electric circuit?
- What is a cell?
- What is electric current?
- Why are household appliances connected in parallel?
- What happens when resistance increases?

Teaching-Learning Strategies

- Circuit-building activities.
- Ammeter and voltmeter demonstrations.
- Ohm's law experiment.
- Circuit simulations.
- Household electricity examples.

Student Activities

- Construct simple electric circuits.
- Take ammeter and voltmeter readings.
- Plot V-I graphs.
- Solve numerical problems.
- Compare series and parallel circuits.
- Discuss electricity consumption in daily life.

Assessment

- Practical observation, MCQs, circuit diagrams, numerical worksheets, case-based questions and class test.

Learning Outcome

Students will be able to understand electrical quantities, verify Ohm's law and solve problems involving current, resistance, power and electrical energy.

AUGUST

Topic: Revision – Light, Human Eye & Electricity

Approx. Duration: 12–15 days

Learning Objectives

- Reinforce important concepts and formulae.
- Improve numerical-solving skills.
- Strengthen ray-diagram and circuit-diagram skills.
- Practise competency-based and application-oriented questions.
- Identify and correct common errors.

Teaching-Learning Strategies

- Chapter-wise concept revision.
- Formula recap.
- Ray-diagram practice.
- Numerical worksheets.
- MCQs and assertion-reasoning.
- Case-based questions.
- Previous CBSE-style questions.
- Doubt-clearing sessions.

Student Activities

- Group quiz.
- Formula challenge.
- Peer teaching.
- Error-analysis activity.
- Diagram practice.
- Competency-based worksheets.

Assessment

- Weekly worksheets
- Oral quiz
- Numerical test
- Diagram-based assessment
- Competency-based questions
- Chapter tests

Learning Outcome

Students will demonstrate improved conceptual understanding, numerical accuracy, confidence in diagrams and the ability to apply concepts to unfamiliar situations.

SEPTEMBER

Topic: Revision, Concept Reinforcement & Pre-Assessment

Approx. Duration: 12–15 days

Learning Objectives

- Reinforce concepts covered during April–August.
- Strengthen numerical and diagram-solving skills.
- Identify and overcome learning gaps.
- Improve competency-based question-solving skills.
- Prepare themselves for the next unit.

Teaching-Learning Strategies

- Chapter-wise revision of Light, Human Eye and Electricity.
- Formula and concept recap.
- Ray and circuit diagram practice.
- MCQs and assertion-reasoning.
- Case-based questions.
- Numerical worksheets.
- Doubt-clearing sessions.
- Pre-assessment test.

Student Activities

- Group quiz.
- Peer teaching.
- Formula challenge.
- Error-analysis activity.
- Diagram-based practice.
- Practice worksheets.

Assessment

- Oral questioning, worksheets, numerical test, diagram-based assessment, competency-based questions and pre-assessment test.

Learning Outcome

Students will demonstrate stronger conceptual clarity, numerical accuracy and confidence in applying previously learned concepts.

OCTOBER

Topic: Magnetic Effects of Electric Current – Complete Chapter

Approx. Duration: 20–22 days

Learning Objectives

- Explain the magnetic field produced by electric current.
- Draw magnetic field lines around a straight conductor and circular loop.
- Apply the Right-Hand Thumb Rule.
- Explain the magnetic field of a solenoid.
- Understand electromagnets and their applications.
- Explain force on a current-carrying conductor in a magnetic field.
- Apply Fleming's Left-Hand Rule.
- Explain the principle and working of an electric motor.

- Understand electromagnetic induction.
- Apply Fleming's Right-Hand Rule.
- Explain the principle and working of an electric generator.
- Differentiate between AC and DC.

Previous Knowledge

- What is a magnet?
- What is a magnetic field?
- Can electric current produce a magnetic effect?
- What happens when a current-carrying conductor is placed in a magnetic field?
- How is electricity generated?

Teaching-Learning Strategies

- Compass and current-carrying wire demonstration.
- Iron-filings activity.
- Solenoid and electromagnet demonstration.
- Motor and generator models.
- Electromagnetic induction activity.
- Smart-board animations.
- Fleming's rules through hand-based activities.
- Real-life applications of motors, generators and electromagnets.

Student Activities

- Observe and draw magnetic field patterns.
- Apply the Right-Hand Thumb Rule.
- Construct/observe an electromagnet.
- Draw and label an electric motor and generator.
- Apply Fleming's rules to different situations.
- Solve competency-based and application-based questions.

Assessment

- MCQs, diagrams, assertion-reasoning, case-based questions, application-based questions, activity-based assessment and chapter test.

Learning Outcome

Students will be able to explain the relationship between electricity and magnetism, apply the relevant rules and describe the working and applications of electromagnets, motors and generators.