

**SURAJ
SCHOOL
MANESAR**

**SURAJ
EDUCATION**

*Summer
Vacation*
**HOLIDAY
HOMEWORK**

SESSION 2026-27

Make your vacation
meaningful, fun-filled
and full of learning!

EXPLORE

LEARN

ENJOY

GROW

Name : _____

Class & Section : _____

Roll No. : _____

READ

LEARN

GROW

MATHS

Do the given previous year questions set of chapter 1 to 7 in your fair notebook.(pdf has already sent to the group)

You can ask doubts at any time.

हिंदी

➤ निम्नलिखित विषय पर अनुच्छेद लेखन कीजिए -

1. जल संरक्षण 2. आत्मनिर्भर भारत
2. दूरदर्शन के निदेशक को पत्र लिखकर राष्ट्रीय एकता सम्बंधित अच्छे कार्यक्रम प्रशारित करने के लिए पत्र लेखन कीजिए ।
3. "ऑनलाइन शिक्षा कक्षा " के प्रचार हेतु एक आवश्यक विज्ञापन तैयार कीजिए ।
4. दी गई अभ्यास पत्रिका को उत्तर पुस्तिका में कीजिए ।
- 5 पाठ्यपुस्तक के गद्य, और पद्य के प्रश्न उत्तर दोहराइए ।

Physics

1. INVESTIGATORY PROJECT

Option A: Laws of Reflection

- *Aim*: Verify laws of reflection using a plane mirror
- *Material*: Plane mirror, drawing sheet, pins, protractor, pencil
- *Procedure*: Draw normal, incident ray at 30° , 45° , 60° . Mark reflected rays using pins. Measure angles.
- *Observation*: Record in table: $\angle i$ vs $\angle r$
- *Conclusion*: State the 2 laws verified

- *Extension*: Paste photos of your setup

Option B: Refraction through Glass Slab

- *Aim*: Trace path of light through rectangular glass slab & verify Snell's law
- *Material*: Glass slab, pins, protractor, white sheet

- *Procedure*: Draw incident ray at 30° , 45° . Trace emergent ray. Draw normal at both surfaces.

- *Observation*: Measure $\angle i$, $\angle r$, $\angle e$. Verify $\angle i \approx \angle e$ and calculate $n = \sin i / \sin r$

- *Conclusion*: Light bends towards normal in denser medium

***2. MODEL MAKING* - Choose any ONE**

- *Human Eye Model*: Use cardboard/thermocool, lens, paper screen. Label cornea, iris, pupil, lens, retina, optic nerve. Show image formation.

- *Newton's Disc*: Cardboard circle with 7 VIBGYOR sectors. Attach to motor/string. Observe white color on rotation. Write principle.

- *Ray Diagram Kit*: Make movable ray diagrams for concave/convex mirror & lens using chart paper and pins. Show 6 cases each.

3. WORKSHEET - Answer in physics notebook

A. Numerical Problems

1. An object 4 cm high is placed 25 cm from a concave mirror of $f = 15$ cm. Find position, size, nature of image.
2. Refractive index of glass is 1.5. Speed of light in air = 3×10^8 m/s. Find speed in glass.
3. A person with myopia has far point 80 cm. What power of lens is required?
4. Find angle of deviation for prism with $A = 60^\circ$ and $\mu = 1.5$ at minimum deviation.

***B. Concept Questions –**

1. Why does a lemon in water appear bigger? Explain with ray diagram.
2. Why is red light used in danger signals?
3. Why do stars twinkle but planets don't?
4. Draw labelled diagram of human eye and explain accommodation.
5. Why does the sky appear blue? What happens at sunrise/sunset?

***C. Diagram Practice* Draw neat ray diagrams**

for:

1. Image formation by concave mirror when object is at C.
2. Image formation by convex lens when object is between F_1 and $2F_1$.
3. Refraction through prism showing angle of deviation.
4. Defects of vision: Myopia & Hypermetropia with correction.

4. CREATIVE CORNER* - Pick ONE

- *Comic Strip*: Make a 6-panel comic explaining why sky is blue or rainbow formation
- *Real-life Physics*: Click 5 photos showing refraction/reflection in daily life. Write 2 lines on each.

5. REVISION

- Learn all definitions, laws, and formulas from NCERT

***Note to students*:**

1. All work should be neat, with proper margins and diagrams drawn with pencil
2. Portfolio must be original – no ready-made kits
3. Cite any sources used for research

English Portfolio Topics

As part of your **English Holiday Homework**, each student is required to prepare a **Portfolio Project** on the topic allotted according to their roll number. The objective of this assignment is to develop research, analytical, and presentation skills while enhancing your knowledge of eminent authors and literary personalities.

Instructions for Portfolio Preparation:

1. Prepare the portfolio on **A4-sized sheets/file**.
2. The work should be **neat, creative, and well-presented**.
3. Include the following details in your portfolio:
 - **Brief Biography** of the author/personality
 - **Major Literary Contributions/Works**
 - **Writing Style and Themes**
 - **Interesting Facts/Achievements**

○ **Conclusion / Personal Learning from the Study**

4. Add **relevant pictures/illustrations** wherever required.
 5. Write in **your own words**. Avoid direct copying from internet sources.
 6. Submit the portfolio after the summer vacation as per school instructions.
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CLASS X A – Topic Allotment

Roll No.	Topic
1	James Herriot
2	Ruskin Bond
3	Robert Arthur
4	Victor Canning
5	H. G. Wells
6	Robert W. Peterson
7	Guy de Maupassant
8	Sinclair Lewis
9	K. A. Abbas
10	Claire Boiko
11	G. L. Fuentes

12	Robert Frost
13	Robin Klein

CLASS X B – Topic Allotment

Roll No.	Topic
1	Nelson Mandela
2	Leslie Norris
3	Liam O'Flaherty
4	Frederick Forsyth
5	Carolyn Wells
6	John Berryman
7	Anne Frank
8	Lucio Rodrigues
9	Lokesh Abrol
10	Arup Kumar Datta

11	Adrienne Rich
12	Gavin Maxwell
13	Carl Sandburg
14	Vallikkannan
15	Ogden Nash
16	William Butler Yeats
17	Anton Chekhov
18	James Herriot
19	Ruskin Bond
20	Robert Arthur
21	Victor Canning
22	H. G. Wells
23	Robert W. Peterson
24	Guy de Maupassant

Biology

Chapters: Life Processes C Control and Coordination

20 Previous Year Questions

1. Define nutrition. Explain different modes of nutrition in living organisms.
 2. Explain the process of photosynthesis with a balanced equation.
 3. Describe the structure and function of stomata.
 4. Explain the human digestive system with a labelled diagram.
 5. Differentiate between aerobic and anaerobic respiration.
 6. Explain the process of respiration in humans.
 7. Describe transportation in plants.
 8. Explain the structure and function of the human heart.
 9. Differentiate between arteries, veins and capillaries.
 10. What is excretion? Explain the human excretory system.
 11. What is the role of the nephron in excretion?
 12. Define control and coordination. Why is it important?
 13. Explain the structure of a neuron with diagram.
 14. Describe reflex action with an example.
 15. Differentiate between voluntary and involuntary actions.
 16. Explain the role of hormones in plants.
 17. What are tropic movements? Explain with examples.
 18. Explain the human endocrine system.
 19. Differentiate between nervous control and hormonal control.
 20. Write short notes on: Brain, Spinal cord, and Reflex arc.
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Chemistry

Chapters: Chemical Reactions and Equations C Acids, Bases and Salts

Assignment

1. Define chemical reaction with two examples.
2. State the law of conservation of mass.
3. What is a balanced chemical equation? Why is it important?
4. Balance: $\text{H}_2 + \text{O}_2 \rightarrow \text{H}_2\text{O}$
5. Balance: $\text{Fe} + \text{O}_2 \rightarrow \text{Fe}_2\text{O}_3$
6. Define combination reaction with example.

7. Define decomposition reaction with example.
8. What is displacement reaction? Give example.
9. Explain oxidation and reduction with examples.
10. What is corrosion? How can it be prevented?
11. What is rancidity? Give examples.
12. Define acids and bases.
13. Write properties of acids.
14. Write properties of bases.
15. Explain pH scale and its importance.
16. What is neutralization reaction? Give example.
17. Name and formula of common salts (baking soda, washing soda, bleaching powder).
18. Write uses of bleaching powder.
19. Explain preparation and uses of Plaster of Paris.
20. Differentiate between strong acids and weak acids.

Social Science

CBSE Previous Year Questions Set

Geography

Chapter 1: Resources and Development

1. What is resource? Explain types of resources.
2. What is sustainable development?
3. Explain resource planning in India.
4. What are the problems caused by land degradation?
5. Suggest measures to conserve soil.

Chapter 2: Forest and Wildlife Resources

6. Explain importance of forests.
7. What is biodiversity?
8. What are endangered species?
9. Explain methods of forest conservation.
10. Write short note on Chipko Movement.

History

Chapter 1: Rise of Nationalism in Europe

1. Explain the French Revolution's role in nationalism.
2. Who was Giuseppe Mazzini?
3. Explain the unification of Germany.
4. What is nationalism?
5. Write short note on Romanticism.

Chapter 2: Nationalism in India

6. Explain Non-Cooperation Movement.
 7. What was the Salt March?
 8. Explain Civil Disobedience Movement.
 9. Role of Mahatma Gandhi in freedom struggle.
 10. Explain Jallianwala Bagh incident.
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Civics

Chapter 1: Power Sharing

1. What is power sharing?
2. Why is power sharing desirable?
3. Explain Belgium model.
4. Explain Sri Lanka case study.
5. Differentiate between horizontal and vertical power sharing.

Chapter 2: Federalism

6. What is federalism?
 7. Explain key features of federalism.
 8. Differentiate between unitary and federal government.
 9. Explain decentralization in India.
 10. What is Panchayati Raj?
 - 11.
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Economics

Chapter 1: Development

1. What is development?
2. Explain different developmental goals.
3. What is per capita income?
4. Explain Human Development Index (HDI).
5. What is sustainable development?

Chapter 2: Sectors of Indian Economy

1. Explain primary, secondary and tertiary sectors.
2. Differentiate between organized and unorganized sector.
3. What is disguised unemployment?
4. Explain importance of service sector.
5. What are public and private sectors?

Information Technology

Theme: Technology Around Us

1. Digital Entrepreneur Activity

Create a small business project with logo, catalog, price list and promotional poster using PowerPoint/Canva.

2. Spreadsheet Investigation

Collect marks of 15 students in 5 subjects and calculate total, average, highest, lowest and charts in Excel.

3. Community Technology Survey

Interview 5 people regarding app usage, online time, advantages and disadvantages of technology. Present findings with charts.

4. QR Code Project

Create QR codes for school website, inspirational quote and educational video.

5. AI Awareness Activity

Write on 'How Artificial Intelligence is Changing Education' including examples, benefits, concerns and your opinion. Max 2 pages.