



Einstein

PUBLIC SCHOOL

Nurturing a better tomorrow

SUMMER VACATION HOLIDAY HOMEWORK- 2025-26

Class- X

हिन्दी

- प्रश्न-1 'नेताजी का चश्मा', 'बालगोबिन भगत', 'सूर के पद' तथा राम-लक्ष्मण परशुराम संवाद पाठों का पुनरावृत्ति कीजिए।
- प्रश्न-2 कृतिका से 'माता का अंचल' पाठ का सारांश लिखिए।
- प्रश्न-3 बिजली मीटर बदलवाने के लिए वरिष्ठ अभियंता विद्युत विभाग, पानीपत को पत्र लिखिए।
- प्रश्न-4 अपने जीवन के लक्ष्य को अपनी सोच से चार्ट पर चित्रित करें।
- प्रश्न-5 मिलावटी सामान की बिक्री की शिकायत करते हुए जिलाधिकारी को ई मेल लिखिए।
- प्रश्न-6 "रचना के आधार पर वाक्य भेद" को उदाहरण सहित परिभाषा एक चार्ट पर सुंदर शब्दों में अंकित कीजिए।
- प्रश्न-7 कृत्रिम बुद्धिमत्ता विषय पर एक अनुच्छेद लिखिए।
- प्रश्न-8 नारी सशक्तिकरण विषय पर एक विज्ञापन तैयार कीजिए।
- प्रश्न-9 सरल वाक्य, संयुक्त वाक्य, मिश्र वाक्यों की परिभाषा 20-20 उदाहरण सहित चार्ट पेपर पर लिखिए।
- प्रश्न-10 "राम-लक्ष्मण परशुराम संवाद" पाठ के सारांश लिखिए।
- प्रश्न-11 उपवाक्य तथा आश्रित उपवाक्य के भेद, परिभाषा 20-20 उदाहरण सहित चार्ट पेपर पर लिखिए।

English

Section A: Literature

1. Chapter: A Letter to God

Activity: Write a diary entry as Lencho after receiving the letter with money.

Word limit: 120-150 words.

2. Chapter: Fire and Ice

Activity: Write a short paragraph explaining the symbolism of "fire" and "ice" in the poem.

Word limit: 100 words.

3. Chapter: Nelson Mandela – Long Walk to Freedom

Activity: Prepare a character sketch of Nelson Mandela using points from the chapter.

Bonus: Create a poster titled "Freedom Fighters Around the World" including Mandela and two others (e.g., Mahatma Gandhi, Martin Luther King Jr.).

4. Poem: A Tiger in the Zoo

Activity: Write a poem from the tiger's point of view about life in a zoo vs. life in the wild.

Word limit: 8–10 lines.

5. Chapter: A Triumph of Surgery

Activity: Imagine you are Tricki. Narrate your experience at the surgery in a humorous tone.

Word limit: 120–150 words.

6. Chapter: The Thief's Story

Activity: Write a letter from the thief to Anil after many years, thanking him for changing his life.

Word limit: 120–150 words.

Section B: Grammar – Determiners

Task: Complete the following exercises in your notebook:

Fill in the blanks with appropriate determiners (10 sentences).

Create 10 sentences using different types of determiners (articles, quantifiers, demonstratives, possessives).

Write a short paragraph (100 words) on "My Favorite Book" using at least 10 determiners and underline them.

Section C: Creative Extension

Book Review: Read any English storybook or novel suitable for your age (suggestions: The Diary of a Young Girl by Anne Frank, Malgudi Days by R.K. Narayan). Write a short review mentioning:

Title and author

Summary in 100–150 words

Your opinion and what you learned

Art Integration (Optional):

Draw a scene from A Letter to God or A Tiger in the Zoo.

Create a comic strip of The Thief's Story in 4–6 panels.

Mathematics

Instructions:

- Solve all questions in a separate notebook.
- Show all the steps clearly.
- Practice similar problems from your textbook for better understanding.
- Revise the key concepts regularly.

Chapter 1: Real Numbers

1. Application of fundamental theorem

Q1. Use prime factorization method. to find the HCF of:

- (i) 196 and 38220
- (ii) 867 and 255

2. Fundamental Theorem of Arithmetic

Q2. Find the LCM and HCF of 96 and 404 using the prime factorization method.

Q3. Prove that $\sqrt{2}$ and $\sqrt{3}$ are irrational numbers.

Q4. Show that $7\sqrt{5}$ is irrational.

Q5. Whether $5 \times 11 \times 13 \times 17 + 11 \times 17$ is composite or not? Justify your answer.

3. Word Problems

1. Find the least number, which, when divided by 35, 56 and 91, leaves the same remainder of 7, respectively.

2. Two alarm clocks ring their alarms at regular intervals of 72 seconds and 50 seconds. If they beep together at noon, at what time will they beep again for the first time?

CHAPTER 2 POLYNOMIAL

1. Zeros of a Polynomial

Q6. Find the zeros of the following polynomials and verify the relationship between zeros and coefficients:

- (i) $x^2 - 5x + 6$
- (ii) $2x^2 + 7x - 4$

2. Formation of polynomial.

Q7.

- a) To find a quadratic polynomial whose zeroes are 3 and -2.
- b) Find a quadratic polynomial whose sum and product of zeros are respectively 6 & -6

3. Graphical Activity

Q9. Plot the graph of the polynomial $y = x^2 - 4x + 3$ and identify the zeros on the graph.

4. Identities based on zeros

a) If α and β are the zeros (or roots) of the polynomial $x^2 - 6x + y$. Find the value of 'y' if $3\alpha + 2\beta = 20$.

Chapter 3: Pair of Linear Equations in Two Variables

1. Introduction and Representation

Q10. Represent the following pair of linear equations graphically:

$$\begin{aligned}x + y &= 6 \\x - y &= 2\end{aligned}$$

2. Algebraic Methods

Q11. Solve the following systems using:

- (i) Substitution method: $2x + 3y = 12$, $x = 3y - 2$
- (ii) Elimination method: $3x + 4y = 10$, $2x - y = 1$
- (iii) Cross-multiplication method: $5x - 4y = 11$, $3x + 2y = 1$

3. Word Problems

Q12. Solve the following word problem:

- The sum of the digits of a two-digit number is 9. If the digits are reversed, the new number is 27 more than the original number. Find the number.

13. Find the value of k For which the system of equations are inconsistent

$$2x+3y=9$$

$$kx+9y=27$$

Bonus Activity (Optional):

- Prepare a mind map summarizing the methods of solving linear equations.
- Research about the historical development of polynomials and submit a one-page report

Physics

1. Explain the following terms

- (I) Light and it's properties
- (II) Nature of light
- (III) Reflection and it's laws
- (IV) Lateral inversion

2. Define mirrors with its type.

3. Explain plain mirror also writes properties of image formed by plane mirror.

4. Draw ray diagram when an object place in front of plane mirror at the position of (I) infinity.
(II) between pole to infinity

5. Define the concave and convex mirror. Also write three uses of both types of mirror.

6. The distance between object and image is 215 m formed by plane mirror. Find the distance of image from mirror.

7. The angle between incident ray and surface of mirror is 30 degree. Find the angle of incidence and angle of reflection.

8. An object placed in front of concave mirror at 30 cm , whose focal length is 25 cm. Find the position, size, nature and magnification of image. Justify your answer with ray diagram.

9. An object placed in front of convex mirror at 12 cm , whose focal length is 20 cm. Find the position, size, nature and magnification of image. Justify your answer with ray diagram.

10. Differentiate between

- (I) Specular reflection and diffuse reflection
- (II) Real image and virtual image
- (III) Concave mirror and convex mirror
- (IV) Lateral inversion and lateral displacement

11. A candle 3.5 cm high placed in front of concave mirror at 15 cm whose focal length is 10 cm. Find the position, height and nature of candle. Also justify your answer with ray diagram.

12. A boy 1.5 cm high placed in front of convex mirror at 5 cm whose focal length is 10 cm. Find the position, height and nature of candle. Also justify your answer with ray diagram.

13. Define the refractive index also draw ray diagram of both cases.
14. Prove that magnification of plane mirror is positive one.
15. Draw a ray diagram which explain the lateral displacement.
- 16.

Analyse the following observation table showing variation of image-distance (v) with object distance (u) in case of a convex lens and answer the questions that follow, without doing any calculations:

S. No.	Object distance u (cm)	Image distance v (cm)
1	- 100	+ 25
2	- 60	+ 30
3	- 40	+ 40
4	- 30	+ 60
5	- 25	+ 100
6	-15	+ 120

- (a) What is the focal length of the convex lens? Give reason to justify your answer.
- (b) Write the serial number of the observation which is not correct. On what basis have you arrived at this conclusion?
- (c) Select an appropriate scale and draw a ray diagram for the observation at S.No. 2. Also find the approximate value of magnification.

Chemistry

Chapter: Chemical Reactions and Equations

1. Conceptual Understanding (To be written in notebook)

- - Define chemical reaction. List any five examples from daily life.
- - What are the different types of chemical reactions? Explain each with one balanced equation.
- - Differentiate between a physical and a chemical change with examples.
- - What is a balanced chemical equation? Why should chemical equations be balanced?
- - Balance the following equations:
 - a) $\text{H}_2 + \text{O}_2 \rightarrow \text{H}_2\text{O}$
 - b) $\text{Fe} + \text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + \text{H}_2$

- - c) $\text{Ca}(\text{OH})_2 + \text{HCl} \rightarrow \text{CaCl}_2 + \text{H}_2\text{O}$
- - d) $\text{Al} + \text{HCl} \rightarrow \text{AlCl}_3 + \text{H}_2$
- - e) $\text{Na} + \text{H}_2\text{O} \rightarrow \text{NaOH} + \text{H}_2$

2. Lab at Home (Simple Activities)

Activity: Reaction of Baking Soda and Vinegar

Objective: To observe a chemical reaction and identify the products.

Materials Needed: Baking soda, vinegar, a transparent glass, balloon (optional)

Instructions:

- - Mix vinegar and baking soda in a glass.
- - Observe fizzing—this is carbon dioxide gas.
- - (Optional) Attach a balloon to observe inflation.

Task: Write down the chemical equation and observations. Explain the type of chemical reaction.

3. Visual Learning

Make a Chart

Topic: "Types of Chemical Reactions"

- - Use an A4 or chart paper.
- - Include at least 4 types of reactions: Combination, Decomposition, Displacement, Double Displacement.
- - Draw illustrations and write one example for each.

4. Research and Write (150–200 words)

Choose any one of the following topics:

- - How is rusting of iron a chemical change? Explain the process and prevention methods.
- - The importance of balanced chemical equations in the chemical industry.
- - Write about any one real-life application of a chemical reaction (e.g., Photosynthesis, Respiration, Fireworks).

5. Quiz Time – Multiple Choice Questions

- Which of the following is a displacement reaction?

- a) $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$
- b) $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$
- c) $\text{H}_2 + \text{Cl}_2 \rightarrow 2\text{HCl}$
- d) $\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl} + \text{NaNO}_3$

- The chemical reaction $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$ is:

- a) Displacement
- b) Decomposition
- c) Combination
- d) Double displacement

- Which of the following is an example of oxidation?

- a) $\text{C} + \text{O}_2 \rightarrow \text{CO}_2$
- b) $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$
- c) $\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl} + \text{NaNO}_3$
- d) $\text{HCl} + \text{NaOH} \rightarrow \text{NaCl} + \text{H}_2\text{O}$

Biology
Chapter- Life Process
Concept- Nutrition

INSTRUCTIONS

1. Solve the assignment in the A-4 Sheet and maintain it in a file.
2. Draw well labeled diagram with the help of pencil.

- Q.1** Write the balanced chemical equation of photosynthesis.
- Q.2** List the events taking place during the process of photosynthesis.
- Q.3** How does an amoeba takes its food. Explain it with the help of the diagram.
- Q.4** Why is diffusion insufficient to meet the oxygen requirements of multicellular organisms like humans?
- Q.5.** What are the necessary' conditions for autotrophic nutrition and what are its byproducts?
- Q.6** How opening and closing of stomata takes place?
- Q.7** Draw the well labelled diagram of the following.
- (a) Human digestive system
 - (b) Human respiratory system
- Q.8** Diagrammatically explain the opening and closing of stomata.
- Q.9** Differentiate in a tabular form between autotrophic and heterotrophic nutrition.(3 points)
- Q. 10** Leaves of a potted plant were coated with wax to block the stomata.

Social Science

History :

Chapter 1: The Rise of Nationalism in Europe

- A. Prepare notes of each given topic in the chapter
 - A1. Notes on Unification of Italy
 - A2. Notes on Unification of Germany
 - A3. Notes on Unification of Britain
- B. 10 self – made questions must be solved in the copy topic wise.

Civics:

Chapter 1: Power Sharing

- A. Introduction on Power Sharing
- B. Elaborate the Ethnic composition of Belgium & Sri Lanka & throw lights on their problems
- C. Notes on Majoritarian measures to establish Sinhala supremacy and Outcomes or problems that emerged.
- D. 10 self- made questions must be solved in the copy topic wise.

Geography:

Chapter 1: Resources and Development

Write short notes on the given topics.

- A. Sustainable development- Activity – Poster Making on sustainable development Slogan- save today for tomorrow.
- B. Alluvial soil
- C. Black soil
- D. Agenda 21
- E. Diagram on – Activity – Make scrapbook showing types of resources (Natural, Human & * Man-made)

Paste pictures from newspaper, magazines or printouts

- E1. Soil profile and explain it.
- E2. 10 self- made questions must be solved topic wise.

Economics:

Chapter 1: Development

Write short notes on

- A. Development
- B. Promises of development
- C. Money can buy materialistic things, but not non- materialistic things. Support the statement with suitable arguments
- D. Define Average Income & how is it important in the development of the nation?
- E. Define BMI and mention its range.
- F. 10 self – made questions must be solved in the copy topic wise.

Activity:-

- ✓ Poster making on Sustainable Development. Slogan- save today for tomoorow.
- ✓ Comparative study table-

Instructions- Choose any two Indian states 7 compare them based on:

- (i) Per capita Income
- (ii) Literacy rate
- (iii) IMR
- (iv) Life Expectancy
- (v) Gender Ratio

And also form the table chart.

- ✓ Make a scrapbook, showing types of resources (Natural, human & man-made). Paste pictures from Newspaper, Magazines or Printouts.

Artificial Intelligence

1. Make a project cycle of communication cycle/ process and it explains only written.
2. Make a project of effective communication with diagram in your project file and explain it.
3. Make a project of AI importance and AI project cycle in your project file.
4. Read and write unit 2- Self management chapter 5 and 6 and complete notes in your fair copy.