



**St. Mary's School, Dwarka**

**Holiday Homework 2026**

**Class: X**

**Worksheet 1**

**Subject: English**

No. of questions: 9

M.M. 25

**General Instructions:**

- 1) **The work should be done neatly and systematically.**
- 2) **The given questions are to be done in your respective subject notebooks.**
- 3) **Attempt all questions**

**Q1. Read the following passage.**

1. Across centuries, humanity's steady commitment to scientific inquiry has driven remarkable progress and a deeper understanding of the world. At the heart of this journey lies the scientific method—rooted in careful observation, controlled experimentation, and logical analysis. This structured approach has fuelled countless innovations and technological breakthroughs that have transformed everyday life and reshaped human society.

2. Science has empowered humanity to explore and interpret the natural world with ever-increasing clarity and precision. From decoding the intricate complexities of the genetic code to probing the vast expanse of distant galaxies, scientific inquiry has yielded profound insights into the fundamental laws that govern life and the universe. These discoveries have not merely expanded the frontiers of knowledge but have also catalysed advancements in medicine, communication, and exploration, thereby transforming human existence.

3. Equally significant is science's capacity to transcend geographical and political boundaries. It fosters collaboration among researchers across the globe, uniting them in the pursuit of shared objectives. This spirit of international cooperation has been instrumental in addressing pressing global challenges such as climate change, pandemics, and sustainable development. By facilitating the exchange of knowledge and resources, science exemplifies the strength of collective endeavour in tackling issues that impact humanity as a whole.

4. Nevertheless, despite its remarkable achievements, science is accompanied by inherent limitations and ethical complexities. Certain profound questions—such as the nature of consciousness or the existence of a higher power—remain beyond the purview of empirical investigation. Moreover, rapid advancements in domains like genetic engineering and artificial intelligence have raised critical ethical concerns, necessitating careful deliberation to ensure that innovation aligns with moral responsibility.

## Std. X Worksheet 1

5. Despite these challenges, science continues to serve as a formidable force for human progress. It offers practical solutions to urgent global problems, enhances the quality of life, and nurtures a spirit of curiosity and inquiry. By promoting critical thinking and exploration, science not only deepens our understanding of the world but also inspires a sense of wonder about the mysteries that remain unresolved, encouraging humanity to persist in its quest for knowledge.

**Based on your understanding of the passage, answer the questions that follow. (1x5=5)**

**i. The phrase ‘steady commitment to scientific inquiry’ most nearly signifies: (1)**

- a) intermittent curiosity towards scientific pursuits
- b) sustained and unwavering dedication to investigation
- c) casual engagement with empirical studies
- d) reluctant participation in experimentation

**ii. Which of the following best encapsulates the role of the scientific method? (1)**

- a) It relies primarily on intuition and belief
- b) It prioritises abstract speculation over evidence
- c) It discourages experimentation and analysis
- d) It structures inquiry through systematic processes

**iii. How do the limitations of science and ethical concerns arising from technological advancements highlight the need for responsible and balanced scientific progress? (1)**

(Answer in 20 words)

**iv. Which of the following statements is NOT TRUE? (1)**

- a) Science is constrained in its ability to resolve certain profound and metaphysical inquiries.
- b) Advancements in fields such as artificial intelligence and genetic engineering have engendered significant ethical dilemmas.
- c) Science possesses the capacity to comprehensively elucidate the nature of consciousness and the existence of a higher power.
- d) The trajectory of scientific progress must be harmonised with principles of moral responsibility.

**v. Which of the following titles most effectively encapsulates the central theme of the passage? (1)**

- a) The Inherent Limitations and Ethical Complexities of Science
- b) The Collaborative Spirit of the Global Scientific Community
- c) The Transformative Power of Scientific Discoveries
- d) The Expansion of Knowledge through Scientific Exploration

Q2. You are Dilawar /Zarine Khan, a resident of Modi Enclave, Raipur. While going to the office, you notice several homeless people taking shelter under the Flyovers in the small parks. The encroachment looks shabby as it is in the centre of the market. Write a letter to the Editor showing your concern about it, in not more than 120-150 words. Also, suggest some ways to curb the problem. (3)

**Std. X Worksheet 1**

Q3. Complete the following tasks, as directed.

( $\frac{1}{2} \times 4 = 2$ )

i. Fill in the blank using the correct form of the word in brackets:

( $\frac{1}{2}$ )

The young leader demonstrated exceptional \_\_\_\_\_ (persevere) in overcoming numerous challenges.

ii. Choose the correct option:

( $\frac{1}{2}$ )

Neither the principal nor the staff members \_\_\_\_\_ informed about the emergency meeting.

- a) was
- b) were
- c) has been
- d) is being

iii. Read the dialogue between Riya and her mentor, Anika, about a leadership workshop: ( $\frac{1}{2}$ )

Anika: Why did you decide to attend the leadership workshop?

Riya: Oh! I truly believe it will help me develop my confidence and skills.

Select the correct option to complete the reporting of the above dialogue:

Anika asked Riya \_\_\_\_\_ the leadership workshop. Riya exclaimed that she truly believed it would help her develop her confidence and skills.

- a) why to decide to attend
- b) to decide to attend
- c) why she had decided to attend
- d) why had she decided to attend

iv. Choose the correct word to complete the sentence.

( $\frac{1}{2}$ )

The teacher's \_\_\_\_\_ explanation helped students grasp the difficult concept instantly.

- a) ambiguous
- b) vague
- c) obscure
- d) cogent

Q4. Complete the following tasks, as directed.

( $\frac{1}{2} \times 4 = 2$ )

i. Complete the sentence with the correct option:

The lights are still on in her office at midnight. She \_\_\_\_\_ be working on an urgent project. ( $\frac{1}{2}$ )

- a) must
- b) might
- c) can't
- d) shouldn't

**Std. X Worksheet 1**

ii. Identify and correct the error in the sentence: (1/2)

Each of the participants have submitted their assignments before the deadline.

Error	Correction

iii. Identify the correct sentence: (1/2)

- a) Several crucial issues has been overlooked during the discussion.
- b) A number of crucial issues have been overlooked during the discussion.
- c) The number of crucial issues have been overlooked during the discussion.
- d) The number of crucial issues are overlooked during the discussion.

1. Report the following conversation: (1/2)

Teacher: Why have you not submitted your assignment yet?

Student: I was refining my work to ensure it met the required standards.

**Answer the following questions in about 40 words.** (2x3=6)

Q5. What help did Lencho ask from God? (A Letter to God)

Q6. What did courage mean to Mandela? (Long Walk to Freedom)

Q7. Why were the household dogs initially uninterested in Tricki? (A Triumph of Surgery)

**Answer the following questions in 80 words:** (3)

Q8. What do the metaphors of ‘ice’ and ‘fire’ symbolise? How can they lead to the destruction of the world? (Fire and Ice)

**Q9. Read any story based on the theme Unwavering Faith in God, like**

The Chronicles of Narnia — by C. S. Lewis

Heidi — by Johanna Spyri

Pollyanna — by Eleanor H. Porter

The Little Prince — by Antoine de Saint-Exupéry

Describe the story in a storyboard format in your own words. (4)

Parameters

- 1. Relevance to theme (Unwavering Faith in God)
- 2. Story structure
- 3. Visual presentation & creativity
- 4. Language and expression

**Subject: Hindi**

No. of questions: 10

M.M. 25

**निर्देश — 1 दिए गए सभी प्रश्नों के उत्तर हिन्दी की उत्तर पुस्तिका में लिखिए।****2 कार्य स्वच्छ शुद्ध एवं स्पष्ट लेख में कीजिए।****प्रश्न 1 निम्नलिखित गद्यांश पर आधारित प्रश्नों के उत्तर उचित विकल्प चुनकर दीजिए: ( 1×5 = 5)**

जीवन का दूसरा नाम संग्राम है। यह संग्राम जन्म से आरंभ होकर जीवन पर्यन्त जारी रहता है। प्राचीन पुराणों में देवासुर संग्राम का उल्लेख है, जिसमें विष्णु की कूटनीति से देवताओं ने असुरों से संधि का प्रस्ताव रखा। इसके अनुसार समुद्र मंथन मिलकर करना तय हुआ। निश्चय किया गया कि इस मंथन से प्राप्त वस्तुओं को वे दोनों संयुक्त रूप से विभक्त कर लेंगे। मंदराचल पर्वत ने मथानी, शेषनाग ने रस्सी तथा स्वयं भगवान विष्णु ने कच्छप के रूप में इस कार्य - में सहयोग दिया। अभिमानी दैत्य, सर्प के मुंह तथा देव पूँछ की ओर लगे। कार्य समाप्त हुआ। रत्नों का विभाजन हुआ। इसमें एक कमल, मणि, लक्ष्मी, पद्म, शंख, हाथी आदि देवों को तथा घोड़ा आदि दानवों को प्राप्त हुए। मदिरा दानवों ने तथा हलाहल विष को भगवान शंकर ने पान कर कंठ में धारण किया और नीलकंठ कहलाए। अमृत निकलने पर छीना - झपटी आरंभ हुई। विष्णु ने चालाकी से दैत्यों को मदिरा तथा देवों को अमृत पिलाया। उधर राहु नामक दैत्य ने छल से अमृत पी लिया। विष्णु ने चक्र से उसका सिर काट दिया, किंतु वह अमर हो गया। ब्रह्म रूप में तो यह संग्राम समाप्त हो गया, किंतु अप्रत्यक्ष रूप में यह आज भी जारी है। इस संग्राम का केंद्र मानव मन, अच्छी और बुरी प्रवृत्तियों से घिरा है। जैसे-जैसे मानव अपनी इच्छाओं को साकार रूप देने का प्रयास आरंभ कर देता है। इस प्रयत्न में वह न्यूनतम स्तर पर पहुंच जाता है। स्वार्थ सिद्धि ही उसका एकमात्र उद्देश्य बन जाता है। उसके जीवन का केंद्र स्वार्थ और दृष्टि में ही निहित हो जाता है। ऐसा व्यक्ति कभी नैतिक मूल्यों पर विचार की कल्पना भी नहीं कर सकता। यही कारण है कि वह हर समय अशांत और तनावग्रस्त रहता है। इच्छा-त्याग से ही शांति का अनुभव होता है। आसुरी शक्ति के समक्ष हमारे पूर्वजों ने घुटने टेकने के स्थान पर उसका दृढ़ता से सामना करना पसंद किया। इसके लिए उन्होंने विभीषण के सामने अपने बंधु रावण के अन्याय को स्वीकार करने के स्थान पर उसका दृढ़ता से विरोध करने का प्रस्ताव किया। 'सत्यमेव जयते' में विश्वास प्रकट करते हुए, असत्य और अन्याय का विरोध किया। अन्याय करना और सहना कायरता की निशानी है। अतः अन्याय सहने वाला भी अन्याय का समर्थक माना जाता है। आज धर्म और नैतिकता लुप्त हो रही है। भौतिकता के प्रति प्रेमाधिकार के कारण जीवन में संवेदना का अभाव हो गया है।

(i) देवताओं ने असुरों के समक्ष संधि प्रस्ताव क्यों रखा ?

- (क) विष्णु के भय के कारण
- (ख) विष्णु की कूटनीति के कारण
- (ग) विष्णु की राजनीति के कारण
- (घ) असुरों की नीति के कारण

(ii) देवासुर संग्राम आज भी अप्रत्यक्ष रूप से किस प्रकार जारी है?

- (क) मानव मन की बुरी प्रवृत्तियों के रूप में
- (ख) देवताओं की अच्छी प्रवृत्तियों के रूप में
- (ग) मनुष्य की अच्छी - बुरी बातों के रूप में
- (घ) मानव मन की अच्छी - बुरी प्रवृत्तियों के रूप में

(iii) निम्नलिखित कथन (A) तथा कारण (R) को ध्यानपूर्वक पढ़िए तथा दिए गए विकल्पों में से कोई एक सही विकल्प चुनकर लिखिए।

कथन (A) 'सत्यमेव जयते' में विश्वास प्रकट करते हुए, असत्य और अन्याय का विरोध करना चाहिए। कारण (R) अन्याय करना और सहना कायरता की निशानी है। अतः अन्याय सहने वाला भी अन्याय का समर्थक माना जाता है।

- (क) कथन (A) तथा कारण (R) दोनों गलत हैं।
- (ख) कथन (A) गलत है परन्तु कारण (R) सही है।
- (ग) कथन (A) सही है परन्तु कारण (R) गलत व्याख्या करता है।
- (घ) कथन (A) सही है तथा कारण (R) कथन की सही व्याख्या करता है।

(iv) सागर मंथन करने का निर्णय क्यों लिया गया तथा उसमें भगवान विष्णु ने किस रूप में सहयोग किया?

(v) समुद्र मंथन से प्राप्त वस्तुओं का विभाजन किस प्रकार किया गया?

निम्नलिखित प्रश्नों के उत्तर उचित विकल्प चुनकर दीजिए :

(1×5=5)

प्रश्न 2 'पुरस्कार पाने वाला सैनिक' मेरा दोस्त है।' वाक्य में रेखांकित पदबंध का सही भेद क्या है ?

प्रश्न 3 'हिरण वन में चारों ओर भाग रहा है।' वाक्य में क्रिया विशेषण पदबंध क्या है ?

प्रश्न 4 मेरे समझाने पर मोहन तुरन्त मान गया -- वाक्य रचना की दृष्टि से कौन सा प्रकार है?

प्रश्न 5 हाथ -पाँव फूलना' मुहावरे का अर्थ लिखकर वाक्य में प्रयोग कीजिए।

प्रश्न 6 अंक अच्छे न आने पर माता पिता ने रमन को ----- लिया। उचित मुहावरे से रिक्त स्थान भरिए।

प्रश्न 7 निम्नलिखित प्रश्नों के उत्तर दीजिए —

(1½×2 = 3)

(क) बड़े भाई साहब की स्वभावगत विशेषताएँ बताते हुए आप अपने किन्हीं पाँच गुणों और अवगुणों के विषय में लिखिए।

(ख) कबीर के अनुसार निंदक किसे कहा गया है? वह व्यक्ति के स्वभाव का परिष्करण किस तरह करता है? आपके मित्र ने आपके स्वभाव को सुधारने का प्रयत्न कैसे किया है?

**प्रश्न 8 निम्नलिखित प्रश्न का उत्तर दीजिए —**

**(2 × 1 = 2)**

**प्रश्न -** लेखक ठाकुरबारी से घनिष्ठ संबंध क्यों न बना सका? आप किसी से घनिष्ठ संबंध बनाने के लिए क्या करेंगे?

**प्रश्न 9 'साँच बराबर तप नहीं' विषय पर संकेत बिंदुओं के आधार पर 100 से 150 शब्दों में अनुच्छेद लिखिए।**

**(5×1=5)**

**संकेत बिंदु:**

- सत्य क्या है ?
- सत्य का महत्त्व
- तप क्या है ?
- सत्य और सफलता का संबंध

**प्रश्न 10** कबीर जी का चित्र तथा उनके दीहे लिखते हुए कलात्मक बोर्ड के साथ एक सुंदर फाइल कवर बनाइए।

**(5×1=5)**

**Subject: Mathematics**

**General Instructions:**

- 1) The work should be done neatly and systematically.
- 2) The given questions are to be done in the math notebook.
- 3) Attempt all questions

No. of questions: 10

M.M. 25

- Q-1 If  $H.C.F(24,x)= 8$  and  $L.C.M.(24,x)=48$ , Find the value of  $x$ . (2)
- Q-2 Explain whether the number  $3 \times 5 \times 13 \times 46 + 23$  is a prime number or a composite number. (2)
- Q-3 If HCF of 144 and 180 is expressed in the form  $13m - 3$ , find the value of  $m$ . (2)
- Q-4 Show that  $9^n$  can not end with digit 0 for any natural number  $n$ . (2)
- Q-5 Find the quadratic polynomial if its zeroes are  $0, \sqrt{5}$ . (2)
- Q-6 If one zero of the polynomial  $5z^2 + 13z - p$  is reciprocal of the other, then find  $p$ . (3)
- Q-7 The LCM of two numbers is 14 times their HCF. The sum of LCM and HCF is 600. If one number is 280, then find the other number. (3)
- Q-8 Find the zeroes of the polynomial  $5\sqrt{5}x^2 + 30x + 8\sqrt{5}$ . (3)
- Q-9. Find the value of the polynomial  $5x - 4x^2 + 3$  at  $x = 2$  and  $x = -1$  (3)
- Q-10 Prove that  $\sqrt{2}$  is irrational. (3)

**Fun Activity:**

Dice Game - Make 100

Players: 2 or more

Object: To be the first to make 100 or as close to it as possible without going over.

Take turns rolling 2 dice. You may add, subtract, multiply or divide the two numbers. Keep a running total.

**Subject: Science**

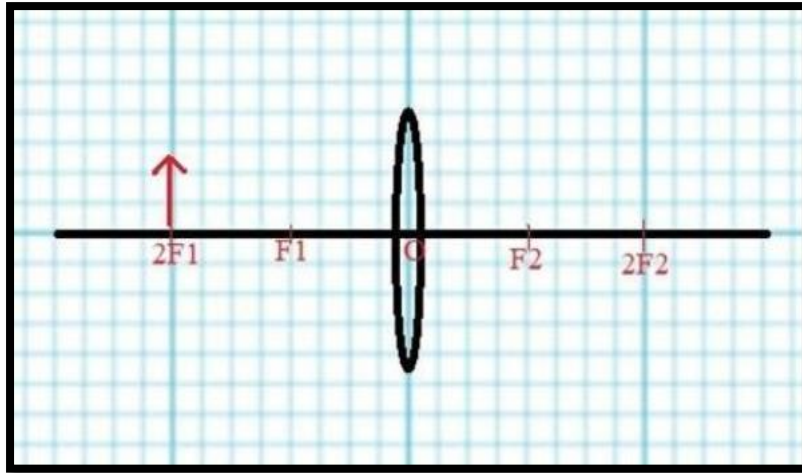
**Instructions:**

- \* Neatly write the answers in your fair notebook.
- \* Attempt the questions keeping in mind the weightage of each question.

No. of questions: 10

M.M. 25

Q1. A student observed the diagram given below and concluded the following: (1)



- i. The image of the object will be a real one.
- ii. The image will be formed at  $F_2$
- iii. The magnification of the image will be  $-1$ .
- iv. This is a concave lens and hence the focal length will be negative.

Which one of the above statements are correct?

- (a) i and ii            (b) ii and iii            (c) i and iii            (d) ii, iii and iv

Q2. During a science activity, a student cleaned a tarnished copper vessel using lemon juice and salt. After rubbing, the shiny surface of copper reappeared. Which of the following best explains this observation? (1)

- A. Lemon juice acts as an indicator.
- B. Salt converts copper into a base.
- C. The acid present in lemon juice reacts with the copper oxide layer.
- D. Copper dissolves completely in lemon juice.

Q3. **Assertion (A):** Reflex actions are controlled by the spinal cord and not directly by the brain. (1)

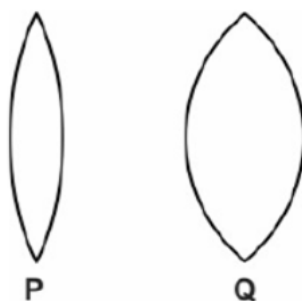
**Reason (R):** Reflex actions help the body respond quickly to sudden stimuli.

- A. Both A and R are true, and R is the correct explanation of A.

**Std. X Worksheet 1**

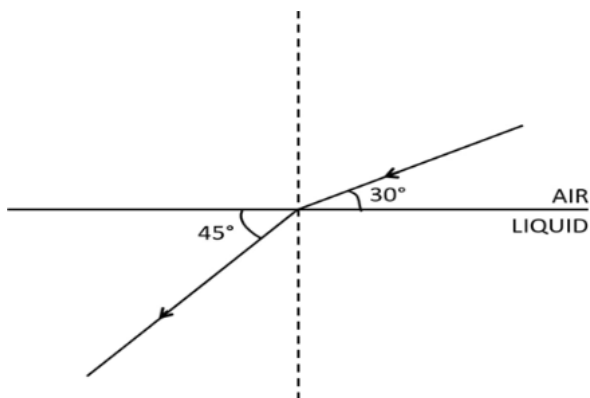
- B. Both A and R are true, but R is not the correct explanation of A.
- C. A is true, but R is false.
- D. A is false, but R is true.

- Q4. A child is observing printed text through two convex lenses, P and Q, made of the same material. While using lens P, she notices that as the lens is moved away from the page, the image of the text becomes inverted when the lens is about 10 cm from the page. (2)
- (a) What does the distance of 10 cm represent for lens P?
  - (b) If the same activity is repeated using lens Q, will the image inversion occur at a distance less than, equal to, or greater than 10 cm? Give reason



- Q5. Ammonia gas evolved from a reaction is brought in contact with a glass rod dipped in concentrated hydrochloric acid. Dense white fumes are observed near the mouth of the test tube.
- (a) Name the white substance formed.
  - (b) Identify the type of chemical reaction that takes place between ammonia and hydrochloric acid. Give a reason for your answer with the help of chemical equation. (2)

- Q6. During an activity, students passed a ray of light from air into a transparent liquid kept in a glass container. They observed that the light ray bent at the surface separating air and the liquid as shown in the given diagram. (1+2)



## Std. X Worksheet 1

- a) Write the values of:
- angle of incidence
  - angle of refraction

b) Using Snell's law, calculate the refractive index of the liquid with respect to air.

Q7. During a chemical reaction between iron(III) oxide and carbon monoxide, iron and carbon dioxide are formed.

(i) Write the balanced chemical equation for this reaction. (0.5)

(ii) Identify the oxidised substance and reduced substance in this chemical reaction. (1)

(iii) Explain the role of carbon monoxide in this reaction. Why is it considered a reducing agent? (0.5)

(iv) In industries, this reaction is carried out in blast furnaces for the extraction of iron. Why is it important to maintain proper temperature and controlled conditions during this process? Discuss the safety and efficiency aspects. (1)

Q8. Not all plants carry out photosynthesis by the same mechanism. In most plants photosynthesis depends directly on the gaseous carbon dioxide that diffuses into the leaf through the stomata. However, some plants - such as pineapple - can store carbon dioxide in the vacuoles of the leaf cells as part of a complex carbon compound. This complex compound is transported to the chloroplasts and releases carbon dioxide when required, for photosynthesis occurs.

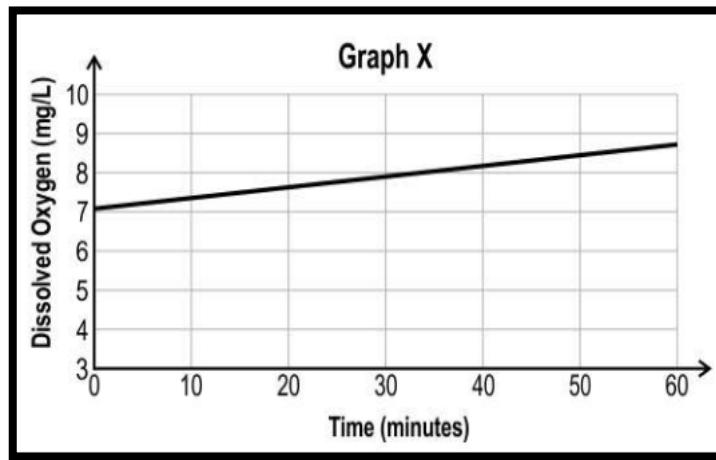
This special photosynthesis mechanism is believed to have evolved as an adaptation to conserve water for survival in dry conditions.

a. Which process in the plants does this photosynthesis mechanism minimise to help the plant survive in dry conditions? (1)

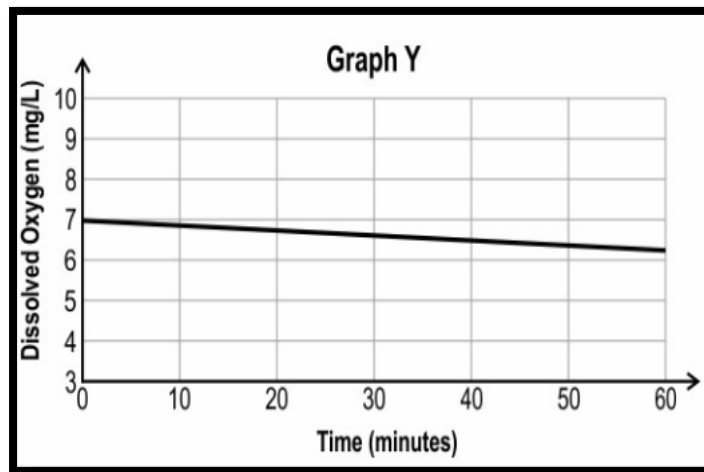
b. How is the ability to store carbon dioxide as a complex compound likely to help minimise the process referred to in (a)? (1)

c. When are such plants likely to take in carbon dioxide from the environment? (1)

Q9. Anita conducted an experiment to examine photosynthesis in aquatic plants kept in a tank by measuring dissolved oxygen. She plotted her results in the following graph X:



She repeated the experiment while covering the tank with an opaque black cloth. She plotted the results in the following graph Y:



- a. What could be the aim of her experiment? (1)
- b. Apart from photosynthesis, what other cellular process can be observed by the experiment? (1)
- c. Why does the oxygen level rise in graph X? (1)
- d. Explain the downward slope of graph Y. (1)

Q10. Conduct an activity to test the acidic or basic nature of various household substances using a natural indicator. Also, test and observe the chemical reaction of these substances with metal hydrogen carbonate. (5)

**Materials required:**

Baking soda (sodium hydrogen carbonate)

Vinegar (acetic acid)

Lemon juice

## Std. X Worksheet 1

Soap solution  
Tap water  
Red cabbage (for a natural indicator)  
Small glass bowls  
Dropper

### Steps to follow:

1. Preparation of Red Cabbage Indicator: Chop the red cabbage into small pieces. Boil the cabbage pieces in water until the water turns a deep purple color. Strain the mixture to separate the liquid indicator from the cabbage pieces.

2. Observing a Chemical Reaction: In a small bowl, mix a teaspoon of baking soda with a few tablespoons of vinegar. Observe the reaction and note the formation of bubbles (carbon dioxide gas).

3. Testing Acidity/Basicity: Label small bowls or containers with the names of the household items (lemon juice, soap solution, tap water, vinegar). Add a small amount of each household item to its respective container. Add a few drops of the red cabbage indicator to each household item and observe any colour changes.

### 4. Recording Observations

Create a table in your notebook to record the observations.

Observation Table:

Household Item	Red Cabbage Indicator (Colour Change)	Reaction with Baking Soda (Yes/No)
Lemon Juice		
Soap Solution		
Tap Water		
Vinegar		

### Instructions:

- (i) Prepare the red cabbage indicator as described.
- (ii) Observe the chemical reaction between baking soda and vinegar.
- (iii) Test each household item with the red cabbage indicator and observe any colour changes.
- (iv) Record your observations in the table provided.
- (v) Explain your findings in a neat and organized manner.
- (vi) Write your observation and the chemical reaction involved when baking soda reacts with Vinegar.
- (vii) Paste two photographs while performing the experiment.

**Subject: Social Science**

**General Instructions:**

- 1) The work should be done neatly and systematically.
- 2) The given questions are to be done in your respective subject notebooks.

No. of questions: 10

M.M. 25

- Q1. “Alluvial soils provide food for more than half of the total population of India”. Give reasons in favour of this statement. 1
- Q2. Name the movement launched by Mahatma Gandhi in 1920. 1
- Q3. Which incident led Mahatma Gandhi to withdraw the Non-Cooperation Movement? 1
- Q4. Write the meaning of economic development. 1
- Q5. What is ‘Coming together’ federation? 2
- Q6. What are the outcomes and the lessons we learnt from the style of governance in Sri Lanka and Belgium? 3
- Q7. Give some examples where factors other than income are important aspects of our lives. 3
- Q8. A country has improved its economic growth, but many people still lack access to education, healthcare, and a good standard of living. Using the concept of human development, analyze this situation and express your opinion on what truly defines development. 3
- Q9. Describe the spread of the Non-Cooperation Movement in the countryside. 5
- Q10. PROJECT WORK 5

<b>SUBJECT</b>	Geography
<b>ASSESSMENT</b>	Multiple Assessment
<b>TOPIC</b>	"My Sustainable Living Journey"

Std. X Worksheet 1

<p><b>PROJECT/ACTIVITY</b></p>	<p>Each student will embark on a personal journey towards sustainable living, focusing on reducing their carbon footprint, minimizing waste, and promoting environmental conservation within their community. Students will document their journey through file presentation, showcasing their efforts, challenges faced, and lessons learned.</p>
<p><b>LEARNING OUTCOME</b></p>	<p><b>Personal Responsibility:</b> Students will develop a sense of personal responsibility towards environmental conservation and sustainable living practices.</p> <p><b>Research Skills:</b> Through researching sustainable living topics, students will enhance their ability to gather information from various sources and critically evaluate their findings.</p> <p><b>Self-Motivation:</b> Students will cultivate self-motivation and initiative as they independently undertake their sustainable living journey.</p> <p><b>Communication Skills:</b> Through the multimedia presentation, students will improve their ability to communicate their experiences, ideas, and reflections effectively.</p>

**RESOURCES  
(LINKS)**

1. Sustainable Living Tips and Guides:  
[https://sdgs.un.org/goals?utm\\_source=chatgpt.com](https://sdgs.un.org/goals?utm_source=chatgpt.com)  
[https://www.unep.org/explore-topics/resource-efficiency/what-we-do/cities/sustainable-lifestyles?utm\\_source=chatgpt.com](https://www.unep.org/explore-topics/resource-efficiency/what-we-do/cities/sustainable-lifestyles?utm_source=chatgpt.com)
  - WWF: Tips for Sustainable Living
  - Earth911: Sustainable Living Guide
2. Carbon Footprint Calculators:
  - Carbon Footprint Calculator by WWF
  - EPA's Household Carbon Footprint Calculator
3. Waste Reduction Strategies:
  - Zero Waste Home: Tips for reducing waste
  - Reduce.org: Waste Reduction Tips
4. Sustainable Transportation Options
5. Ethical Consumption Resources:
  - Ethical Consumer: Guide to Ethical Shopping
  - Good On You: Sustainable Fashion Guide

Students will submit their plan in the form of a Project File.

**GUIDELINES FOR THE PROJECT:** Kindly follow the format given below to compile the project:

- a. Project to be done on A-4 size sheet.
- b. Project should be handwritten and should not exceed more than 15- 20 pages.
- c. **COVER PAGE:** (On the first page, student's Performa to be written) This should mention the Name, Class, Roll Number, Name of the school, year of submission and topic.
- d. **CERTIFICATE OF AUTHENTICATION:** (to be written by the student in the format given below)

I, (Name of the student) of class X – (mention the section accordingly) hereby state that this project report has been prepared by me after completion of all tasks assigned as a part of this project.

- e. **Content or Index.**
- f. **At the last Bibliography or references.**
- g. **Newspaper cuttings, maps, diagram, illustrations are must.**

**Suggested Structure for School Report**

**Introduction**  
**Meaning of Sustainable Living**  
**Importance of Sustainability**  
**Problems Caused by Unsustainable Practices**  
**Sustainable Living Tips**  
**Role of Students**  
**Conclusion**  
**Bibliography / Web References**

**RUBRICS**

- 1. Commitment to Sustainable Living - 1 mark**
- 2. Research and Planning - 1 mark**
- 3. Reflection and Self-Evaluation - 1 mark**
- 4. Creativity and Innovation - 1 mark**

**Subject: Artificial Intelligence**

**General Instructions:**

- 1) The work should be done neatly and systematically.
- 2) The given questions are to be done in your fair notebook.
- 3) Attempt all questions

No. of questions: 10

M.M. 25

**Multiple Choice Questions (MCQs)**

(1x6=6)

- Q1. Which metric gives the proportion of correctly predicted positive observations out of total predicted positives?
- A. Recall
  - B. Accuracy
  - C. Precision
  - D. F1-Score
- Q2. In a classification model, the term True Negative refers to:
- A. The model correctly predicting a negative class
  - B. The model predicts negative when it's actually positive
  - C. The model predicts positive when it's actually negative
  - D. None of the above
- Q3. In a binary classification confusion matrix, TN stands for:
- A. Test Negative
  - B. True Negative
  - C. Total Negative
  - D. Training Node
- Q4. If a model predicts all cases as positive, which metric will definitely be 100%?
- A. Accuracy
  - B. Recall
  - C. Precision
  - D. F1-Score
- Q5. In which situation are false positives more harmful than false negatives?
- A. Predicting if a person has a rare disease
  - B. Predicting if an email is spam
  - C. Predicting if a plane engine is faulty
  - D. Predicting if a bank transaction is fraudulent

**Std. X Worksheet 1**

Q6. Which metric is most sensitive to FN values?

- A. Precision
- B. Recall
- C. Accuracy
- D. RMSE

Q7. The confusion matrix for a disease test is partially filled:

(1+3=4)

	Predicted Yes	Predicted No
Actual Yes	TP = 60	FN = ?
Actual No	FP = 15	TN = 75

If total cases = 170:

- (i) Find FN.
- (ii) Calculate Accuracy, Precision and Recall.

Q8. In a weather prediction, AI predicts “Yes” if it will rain. The following data shows the actual and predicted data.

(1+3+1=5)

Actual	Predicted
No	No
Yes	Yes
Yes	No
No	No
No	Yes
Yes	Yes
No	No
Yes	Yes
Yes	No
No	No

- (i) Build the confusion matrix using the above data.

## Std. X Worksheet 1

- (ii) Calculate Accuracy, Precision, Recall.
- (iii) For farmers, which is more important — precision or recall? Why?

Read the following case studies and answer the questions following it:

### Q9. Case Study 1: Student Performance Prediction

1x5=5

A school is developing an AI model to predict whether students will pass or fail in examinations. The AI system uses data such as attendance, assignment scores, class participation, and previous exam marks.

The school collected data of 1000 students. To check whether the AI model works properly on new students, the data scientist divided the dataset into two parts:

- 80% data for training the model
- 20% data for testing the model

After training, the model was tested on the remaining students.

1. What is the purpose of using the training dataset?
2. Why is the testing dataset important?
3. How many student records were used for testing?
4. What may happen if the model is tested using the same data on which it was trained?
5. Name the AI concept used to divide the dataset.

### Q10. Case Study 3: AI in Online Shopping

1x5=5

An online shopping company uses AI to recommend products to customers based on previous purchases and search history.

The company collected customer data and used the train-test split method:

- 75% data for training
- 25% data for testing

The AI model was trained to identify customer interests and later tested to check recommendation accuracy.

1. What is the role of training data in this system?
2. Why should testing data not be shown during training?
3. If there are 2000 customer records, how many are used for testing?
4. What is the benefit of the train-test split method?
5. Which AI application is shown in this case study?

**Subject: Home Science**

**General Instructions:**

- 1) The work should be done neatly and systematically.
- 2) The given questions are to be done in your subject notebook.
- 3) Attempt all questions

**No. of questions: 10**

**M.M. 25**

- Q1.** According to Jean Piaget, late childhood is a period of \_\_\_\_\_. 1
- a) Pre-operational stage
  - b) Concrete operational stage
  - c) Sensory-motor stage
  - d) None of the above
- Q2.** Which of the following is a recommended practice for maintaining good hygiene during adolescence? 1
- a) Bathing once a week
  - b) Avoiding deodorant use
  - c) Daily bathing and use of deodorant
  - d) Using only water for oral hygiene
- Q3.** Which of the following is a common physical change in boys during adolescence? 1
- a) Menstruation
  - b) Development of breasts
  - c) Deepening of the voice
  - d) Onset of menopause
- Q4.** Which type of peer pressure is most likely to negatively influence an adolescent's behaviour? 1
- a) Positive peer pressure
  - b) Negative peer pressure
  - c) Neutral peer pressure
  - d) Indirect peer pressure
- Q5.** What role do parents play in an adolescent's emotional development? 1
- a) They have little to no impact.
  - b) They are the sole influencers.
  - c) They provide guidance and support.
  - d) They are a source of conflict only.
- Q6.** How can schools contribute to the physical well-being of adolescents? 1

**Std. X Worksheet 1**

- a) Reducing physical education classes
- b) Offering nutritious meal options
- c) Increasing academic workload
- d) Encouraging sedentary activities

**Q7. Very short answer type questions-** (5x1= 5)

- I. Which hormone significantly increases during puberty in females?
- II. Which type of development involves forming peer relationships?
- III. Name the psychologist who identified the formal operational stage in adolescents.
- IV. What is the main hormone responsible for physical changes in adolescent boys?
- V. Which disorder involves disordered eating habits and body image concerns?

**Q8. Short answer type questions-** (2x2= 4)

- I. What are some effective strategies for promoting healthy habits in adolescents?
- II. List three major physical changes that occur during adolescence.

**Q9. Make a poster to create awareness on Consumer Rights and Responsibilities.** 5

**Q10. List three areas of agreement and disagreement with parents and give your suggestions how to improve relationships with them.** 5

Areas of agreement	Areas of disagreement

**Subject: Indian Music**

**General Instructions:**

- 1) The work should be done neatly and systematically.
- 2) The given questions are to be done in your subject notebook.
- 3) Attempt all questions

**No. of questions: 7**

**M.M. 10**

- Q1. Define Alap. (1)
- Q2. What is Meend in music? (1)
- Q3. Write the meaning of Voice Culture. (1)
- Q4. Fill in the blank:  
Alap is sung without \_\_\_\_\_ . (1)
- Q5. State whether true or false:  
Meend means singing notes in a smooth gliding manner. (1)
- Q6. Differentiate between Alap and Meend. (2)
- Q7. Explain the importance of voice culture exercises for singers. (3)