



SUMMER

★ ASSIGNMENT ★

Dear Parent, ❤️



The summer break is a great opportunity for children to relax, enjoy, and explore learning beyond the classroom. ★



We have prepared a set of fun, simple, and creative activities for your child to do during the holidays. 🌸



Please encourage your child to complete these tasks with interest and joy. ★



Let us make learning fun this summer! ❤️

Let us make this summer
full of fun,
learning, and
happiness! ❤️



🌞 HOLIDAY HOMEWORK – ENGLISH 🌞

✨ Class IX ✨

📌 Instructions:

- Complete all activities neatly on **colourful A4 sheets**.
- Make your work creative and presentable using sketches, borders, stickers, calligraphy, or printed pictures.
- Use your imagination and maintain neat handwriting.

Activity 1: Travel Brochure

Prepare a colourful brochure on any one place you wish to visit in India. Include:

✈ Famous attractions

🍴 Famous food

🎭 Culture & traditions

📅 Best time to visit

🖼 Pictures/drawings

Activity 2: Diary Writing

Write a diary entry on:

“The Most Memorable Day of My Summer Vacation”

(120–150 words)

 Decorate the page creatively with borders and illustrations.



Activity 3: Vocabulary Journal

Write:

- ✨ 20 new English words
- ✨ Their meanings
- ✨ One sentence each

🎨 Present them creatively with colourful headings and designs.

Activity 4: Poem Writing

Write a short poem (10–12 lines) on any one topic:

 Nature

 Friendship

 Dreams

 School Life

 Add suitable drawings or artistic borders.



Activity 5: Comic Strip Activity

Create a comic strip on:

“A Day Without Mobile Phones”

💬 Use dialogues, captions, and colourful sketches to make it interesting and fun.

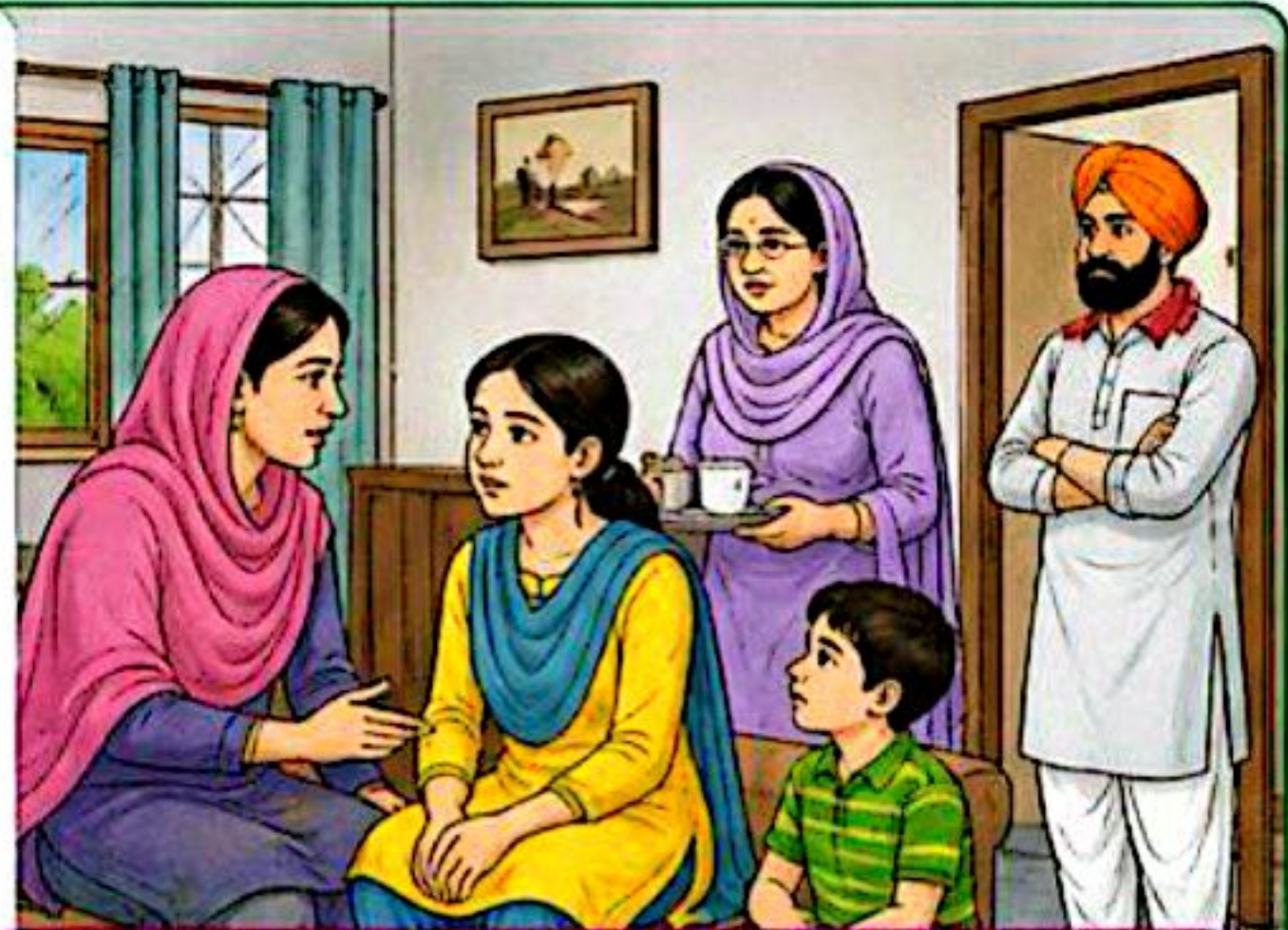
1) ਜ਼ਮਾਤ ਵਿੱਚ ਅਪ੍ਰੈਲ, ਮਈ ਵਿੱਚ ਕਰਵਾਏ ਗਏ ਸਿਲੇਬਸ ਦੀ ਦੁਹਰਾਈ ਕਰੋ।

2) ਨਵੀਂ ਕਹਾਣੀ ਦੀ ਉਸਾਰੀ:-

ਮੁੱਖ ਪਾਤਰ:- ਮਾਂ, ਪ੍ਰੀਤ, ਛੋਟਾ ਵੀਰ, ਗੁਆਂਢੀ, ਮਾਸੀ, ਕੁੱਝ ਹੋਰ ਪਾਤਰ।

ਵਿਸ਼ਾ:- ਨਸ਼ੇ, ਦਾਜ, ਘਰੇਲੂ ਕਲੇਸ਼, ਸੁਪਨੇ ਜਾਂ ਕੋਈ ਵੀ ਦੁੱਖਵਾਂ ਸਿਰਲੇਖ।

ਉਪਰੋਕਤ ਦਿੱਤੇ ਪਾਤਰਾਂ ਨੂੰ ਮੁੱਖ ਰੱਖਦੇ ਹੋਏ ਦਿੱਤੇ ਗਏ ਵਿਸ਼ਿਆਂ ਜਾਂ ਆਪਣੇ ਕਿਸੇ ਵੀ ਮਨ ਭਾਉਂਦੇ ਵਿਸ਼ੇ ਉੱਪਰ ਨਵੀਂ ਕਹਾਣੀ ਦੀ ਸਿਰਜਣਾ ਕਰੋ।



ਸਕੇਤ ਬਿੰਦੂ:-

- ਨਸ਼ੇ ਦਾ ਘਰ ਤੇ ਸਮਾਜ ਤੇ ਮਾੜਾ ਅਸਰ
- ਦਾਜ ਦੀ ਪ੍ਰਥਾ ਅਤੇ ਇਸ ਨਾਲ ਹੋਣ ਵਾਲੀਆਂ ਪਰੇਸ਼ਾਨੀਆਂ
- ਘਰੇਲੂ ਕਲੇਸ਼ ਅਤੇ ਆਪਸੀ ਤਾਲਮੇਲ ਦੀ ਕਮੀ
- ਪ੍ਰੀਤ ਦੇ ਸੁਪਨੇ ਅਤੇ ਉਸ ਦੀ ਸੰਘਰਸ਼ ਭਰੀ ਰਾਹ
- ਚੰਗੀ ਸਿੱਖਿਆ, ਸਹੀ ਸੰਗਤ ਅਤੇ ਮਾਂ ਦੇ ਸੰਸਕਾਰਾਂ ਨਾਲ ਬਦਲਦੀ ਜ਼ਿੰਦਗੀ

ਸਿੱਖਿਆ:-

ਨਸ਼ੇ, ਦਾਜ ਅਤੇ ਘਰੇਲੂ ਕਲੇਸ਼ ਵਰਗੀਆਂ ਸਮਾਜਿਕ ਬੁਰਾਈਆਂ ਤੋਂ ਦੂਰ ਰਹਿ ਕੇ ਹੀ ਅਸੀਂ ਖੁਸ਼ਹਾਲ ਅਤੇ ਸੁਖੀ ਜੀਵਨ ਬਤੀਤ ਕਰ ਸਕਦੇ ਹਾਂ। ਸੁਪਨੇ ਵੇਖੋ, ਮਿਹਨਤ ਕਰੋ ਅਤੇ ਆਪਣੇ ਪਰਿਵਾਰ ਤੇ ਸਮਾਜ ਦਾ ਨਾਮ ਰੋਸ਼ਨ ਕਰੋ।

3) ਪਾਠ ਵਿਸਾਖੀ ਦਸ ਮੇਲਾਂ ਵਿੱਚ ਆਏ ਸੱਭਿਆਚਾਰਕ ਪੱਖ ਦਾ ਬਿਆਨ ਦਿਓ

ਜਿਵੇਂ ਸਾਜ਼, ਮੁਟਿਆਰਾਂ ਦੇ ਗਹਿਣੇ, ਲੋਕ ਨਾਚ ਦਾ ਜ਼ਿਕਰ ਕਰਦਿਆਂ ਅਤੇ ਦ੍ਰਿਸ਼ ਦੇਖਣ ਨੂੰ ਮਿਲਦੇ ਹਨ।

ਉਹਨਾਂ ਨਾਲ ਸੰਬੰਧਿਤ ਇੱਕ ਪਿੰਡ ਦਾ ਵੇਰਵਾ ਦਿਓ ਜਿਸ ਵਿੱਚ ਵਿਸਾਖੀ ਦਾ ਮੇਲਾ ਮਨਾਇਆ ਜਾਂਦਾ ਹੈ।

(ਇੱਕ ਪ੍ਰਾਜੈਕਟ ਤਿਆਰ ਕਰੋ ਅਤੇ ਹਰ ਪ੍ਰਕਾਰ ਦੀਆਂ ਚੀਜ਼ਾਂ ਦਾ ਜ਼ਿਕਰ ਕਰਦਿਆਂ ਤਸਵੀਰਾਂ ਲਗਾਓ ਅਤੇ ਵੇਰਵਾ ਦਿਓ।)

ਸਾਜ਼

ਫੋਲ ਤੁੰਬੀ ਅਲਗੋਜ਼ਾ

ਫੋਲ ਦੀ ਥਾਪ, ਤੁੰਬੀ ਦੀ ਮਿੱਠੀ ਤਾਨ ਅਤੇ ਅਲਗੋਜ਼ੇ ਦੀ ਸੁਰੀਲੀ ਧੁਨ ਮੇਲੇ ਵਿੱਚ ਰੰਗ ਪਾਂਦੇ ਹਨ।

ਮੁਟਿਆਰਾਂ ਦੇ ਗਹਿਣੇ

ਮੁਟਿਆਰਾਂ ਸਿਰ ਤੇ ਟਿਕਾ, ਕੰਟਾਂ ਵਿੱਚ ਵਾਲੀਆਂ, ਗਲ ਵਿੱਚ ਹਾਰ, ਹੱਥਾਂ ਵਿੱਚ ਚੂੜੀਆਂ ਅਤੇ ਪੈਰਾਂ ਵਿੱਚ ਪਾਜ਼ੇ ਪਾ ਕੇ ਮੇਲੇ ਵਿੱਚ ਚਾਰ ਚੌਨ ਲੋਗਾਥਾ ਦਿੰਦੀਆਂ ਹਨ।

ਲੋਕ ਨਾਚ

ਭੰਗੜਾ, ਗਿੱਥਾ, ਜੁਮਰ ਅਤੇ ਹੋਰ ਲੋਕ ਨਾਚ ਮੇਲੇ ਦੀ ਰੋਣਕ ਨੂੰ ਹੋਰ ਵਧਾ ਦਿੰਦੇ ਹਨ।

ਮੇਲੇ ਦੇ ਦ੍ਰਿਸ਼



ਪਿੰਡ: ਕਿਲ੍ਹੇ ਰਾਇਪੁਰ (ਜ਼ਿਲ੍ਹਾ ਬਠਿੰਡਾ)

ਇਹ ਪਿੰਡ ਬਠਿੰਡਾ ਤੋਂ ਲਗਭਗ 28 ਕਿਲੋਮੀਟਰ ਦੂਰ ਸਥਿਤ ਹੈ। ਇੱਥੇ ਹਰ ਸਾਲ ਵਿਸਾਖੀ ਦਾ ਵਿਸ਼ਾਲ ਮੇਲਾ ਲਗਦਾ ਹੈ। ਗੁਰਦੁਆਰਾ ਸਾਹਿਬ ਵਿੱਚ ਕੀਰਤਨ, ਅਖੰਡ ਪਾਠ ਅਤੇ ਨਗਰ ਕੀਰਤਨ ਕੱਢਿਆ ਜਾਂਦਾ ਹੈ। ਦੂਰ-ਦੂਰ ਤੋਂ ਸੰਗਤਾਂ ਆਉਂਦੀਆਂ ਹਨ। ਮੇਲੇ ਵਿੱਚ ਖੇਤੀਬਾੜੀ ਦੇ ਸੱਦ, ਕਪੜੇ, ਖਿਡੌਣੇ, ਮਿੱਠਾਈਆਂ, ਪੁਸਤਕਾਂ ਅਤੇ ਹੋਰ ਲੋੜੀਂਦੀਆਂ ਚੀਜ਼ਾਂ ਦੀਆਂ ਦੁਕਾਨਾਂ ਲੱਗਦੀਆਂ ਹਨ। ਲੋਕ ਝੁਲੇ ਝੁਲਦੇ ਹਨ, ਲੋਕ ਨਾਚ ਵੇਖਦੇ ਹਨ ਅਤੇ ਲੰਗਰ ਛਕਕੇ ਗੁਰੂ ਦਾ ਸ਼ੁਕਰਾਨਾ ਕਰਦੇ ਹਨ। ਇਹ ਮੇਲਾ ਸਾਡੀ ਪੰਜਾਬੀ ਸੱਭਿਆਚਾਰ, ਇਕਤਾ ਅਤੇ ਭਾਈਚਾਰੇ ਦੀ ਰੋਣਕ ਦਾ ਪ੍ਰਤੀਕ ਹੈ।



ਨੋਟ:- ਸਾਫ-ਸੁਥਰਾ ਕੰਮ ਕਰੋ, ਸਿਰਲੇਖ ਸਜਾਓ, ਤਸਵੀਰਾਂ ਚਿਪਕਾਓ ਅਤੇ ਵੇਰਵਾ ਆਪਣੇ ਸ਼ਬਦਾਂ ਵਿੱਚ ਲਿਖੋ।



SUMMER HOLIDAY HOMEWORK

CLASS IX – 2026-2027

SCIENCE BIOLOGY

Theme: “DISCOVER THE WORLD INSIDE YOU”  

Every living organism begins with a tiny cell. This summer, become a young scientist, an artist, and a nature protector while exploring the amazing world of Biology!

INSTRUCTIONS FOR YOUNG BIOLOGISTS

- ✓ Use an A4 scrapbook/file or a beautifully decorated notebook.
- ✓ Make your work colourful, creative, and well-labelled.
- ✓ Add drawings, doodles, cuttings, and diagrams wherever possible.
- ✓ Write neatly and complete all tasks independently.
- ✓ Mention references if internet/books are used.

MESSAGE FOR STUDENTS

“Science is not just in books — it is in every leaf, every breath, and every tiny cell around us.”  

PART A – ART INTEGRATED BIOLOGY ACTIVITIES

Activity 1: “Build a Living Cell” – 3D Cell Model Challenge

Create a **3D model** of either a **Plant Cell** or **Animal Cell** using waste or eco-friendly materials.

You May Use: Clay • Cardboard • Pulses • Wool • Ice-cream sticks • Recycled items

Must Include:

- ✓ Cell organelles with labels
- ✓ Functions of organelles
- ✓ Creative presentation

Bonus:

Give your cell model a **creative name** like:

- “The Power City”
- “Life Factory”
- “Cell Universe”

Activity 2: “Cell City” Comic Strip

Imagine a cell as a **busy city** and create a comic strip/cartoon.

Example Ideas:

- Nucleus = Mayor
- Mitochondria = Power Station

- Ribosomes = Factories
- Lysosomes = Cleaning Team

🔗 Include:

- ✓ Minimum 6 comic panels
- ✓ Dialogues/speech bubbles
- ✓ Colourful illustrations

Activity 3: Biology Folk Art Fusion

Create a beautiful artwork using any Indian art form:

- Madhubani
- Warli
- Mandala
- Gond Art

🎨 Theme:

“The Microscopic World of Cells”

Include:

- ✓ Plant & animal cells
- ✓ Microorganisms
- ✓ Nature and life symbols

📖 PART B – MISSION CELL EXPLORERS

☐ CHAPTER: CELL – THE FUNDAMENTAL UNIT OF LIFE

☐ Very Short Answer Questions

1. Who discovered cells?
2. What is a cell?
3. Name the smallest unit of life.
4. Which instrument is used to observe cells?
5. What is plasma membrane?
6. Define osmosis.
7. Define diffusion.
8. Name the “powerhouse” of the cell.
9. Which organelle controls all cell activities?
10. What is the function of ribosomes?

☐ Short Answer Questions

11. Why is the cell called the structural and functional unit of life?
12. Differentiate between plant cell and animal cell.
13. Write two functions of the cell membrane.
14. What happens to a cell in:
 - Hypertonic solution?
 - Hypotonic solution?

15. Explain plasmolysis with an example.
 16. What are chromosomes? Where are they found?
 17. Write functions of:
 - Mitochondria
 - Vacuoles
 18. Why are lysosomes called suicidal bags?
 19. Name different types of plastids and their functions.
 20. Draw and label a neat diagram of a plant cell.
-

PART C – KAUSHAL VIKAS PROJECT

“FROM KITCHEN WASTE TO GREEN LIFE”

Aim: To understand sustainable living through composting and gardening.

Step 1: Become a Mini Gardener

Grow any two plants at home:

- Mint
- Coriander
- Tomato
- Chilli
- Tulsi

Step 2: Make Organic Compost

Use:

- Vegetable peels
- Fruit waste
- Tea leaves
- Dry leaves

Observe decomposition for 2–3 weeks.

Step 3: Observation Diary

Create a weekly table:

Week Plant ,Height, Water Given ,Sunlight Hours ,Changes Observed

Step 4: Creative Presentation

Add:

- ✓ Photos/drawings
- ✓ Leaf prints
- ✓ Dried leaves
- ✓ Compost samples (optional)

Write a Report On:

- Importance of composting
- Benefits of plants
- Organic farming
- Skills learned during the project

⚡ ASSESSMENT RUBRIC

Criteria	Marks
Creativity	5
Presentation	5
Scientific Accuracy	5
Neatness	2.5
Timely Submission	2.5

TOTAL = 20 MARKS

★ LEARNING OUTCOMES

By completing this holiday homework, students will:

- ✓ Understand cell structure and functions
- ✓ Develop observation and life skills
- ✓ Connect Biology with daily life
- ✓ Improve creativity and scientific thinking
- ✓ Learn sustainable environmental practices

HOLIDAY HOMEWORK

CLASS: IX

SUBJECT: CHEMISTRY

Instructions for the Holidays Home work:-

Note:-Holidays Homework carries marks hence submission of work post vacation i.e (9-07-2026 to 11-07-2026) is compulsory for all students.

1. The Holidays home work must be done in a very neat and presentable manner. Questions must be done in the given sequence.

2. The child will be assessed for the presentation, neatness, completion of all the given questions and timely submission.

3. Homework will be assessed on the basis of neatness (5 marks), creativity (5 marks), timely submission (2 marks) and originality of ideas (3 marks).

Art Integrated activity:

1. Make a chemical formula comic strip.

2. "Bonding Rangoli with Pulses"*

***Concept*: Dot structure of ionic & covalent compounds**

***Art Form*: Rangoli using pulses/grains.**

***Materials*: Black chart, white chalk, moong dal = electrons, chana dal = nucleus**

Atomic Foundations of Matter

1. State the law of conservation of Mass. Who proposed it and when?

2. State the Law of Constant proportions

3. Give two postulates of Dalton's Atomic Theory .

4. What is a covalent bond? Give one example.

5. What is an ionic bond? Give one example.

6. Distinguish between a cation and an anion.

7. Why does ionic compound sodium chloride not conduct electricity in the solid state?

8. What is the difference between molecular mass and formula unit mass.

9. Name the covalent compound with formula SF_6 using IUPAC prefix system.

10. Write the chemical formula of calcium carbonate using the criss - cross method.

11. Why does sugar dissolve in water but not conduct electricity?

12. What type of bond is present in an oxygen molecule? How many pairs of electrons are shared?

13. Write the formula of magnesium hydroxide. Why are brackets used?

14. Calculate the molecular mass of Water and Nitric acid.

15. Why does the law of Constant proportions apply to compounds but not to mixtures?

- 16. Explain the formation of water molecule with the help of electron sharing. What type of bond is formed?**
- 17. Explain the formation of sodium chloride (NaCl) through ionic bonding. Why is sodium chloride electrically neutral overall?**
- 18 . Write the properties of covalent and ionic bond.**
- 19. How does Dalton's Atomic Theory explain both the law of conservation of Mass and the law of Constant proportions?**
- 20. What are the limitations of Dalton's Atomic Theory?**

Instructions:

This holiday homework is designed to strengthen your understanding of Physics concepts, develop analytical skills, and encourage creative learning. All tasks must be completed neatly on A4 sheets and submitted on the first day after vacations.

Task 1: Revision

- **Revise chapter MOTION thoroughly for a class test on reopening day.**
- **Practice algebraic conversions daily in your revision notebook to solve numericals faster.**

Task 2: Assignment on Chapter MOTION

Frame the following questions of your OWN from chapter MOTION on A4 size paper:

Type	Cou:
MCQs (with options and answers)	10
One-mark questions with answers	5
Two-mark questions with answers	5
Numericals with complete solutions	5

All questions must be self-framed from NCERT Class IX Physics chapter on Motion.

Task 3: NCERT-Based Concept Tasks

1. With reference to NCERT content, find out and write Newton's three laws of motion.
2. Give 5–7 examples showing applicability of laws of physics in everyday life situations.
(Examples: walking, driving, sports, playing musical instruments, etc.)

Task 4: Physics Project File

Make ONE project (static or working model) with synopsis on ANY topic in Physics.

Suggested Topics:

- Physics in sports (motion in cricket, football, athletics)
- Physics in dance (motion, force, balance)
- Sound of musical instruments (frequency, pitch, vibration)
- Forces and friction in daily life
- Gravity and its effects
- Simple machines (levers, pulleys)

Project Must Include:

- Title page (name, class, roll number, topic, session)
- Synopsis (objective, methodology, expected outcome)
- Theory and background
- Diagrams or model photos
- Observations and conclusions
- Bibliography

Task 5: Activity – Chart Making

Prepare a **COLORED CHART** explaining:

- Types of motion: **rectilinear, circular, rotational, periodic**
- Real-life examples for each type
- Formulas and units for each type

Use colors, diagrams, and neat handwriting.

GURU NANAK INTERNATIONAL PUBLIC SCHOOL

CLASS- IX

SUBJECT-MATHS

HOLIDAYS HOMEWORK

Students let us utilise this time by doing some activities so that your love for the subject does not fade away.

Task :-

***Do the Activities creatively**

Activities :

1. SQUARE ROOT SPIRAL

Instructions

o Represent $\sqrt{2}, \sqrt{3}, \sqrt{4}, \sqrt{5}, \sqrt{6}, \sqrt{7}, \dots$

o A sample image for the spiral has been attached, use your creativity to create the square root spiral

2. Project- KNOW ABOUT STORY OF PI (π)

Make a project on A4 size sheet in a creative manner about the story of pi which emphasize the historical development and wide-ranging significance of pi in mathematics and beyond

Worksheet -1

Chapter -Coordinate Geometry

1.If $(x - 3, -6) = (4, y)$ find x and y.

2.Write the co-ordinate of the point which lies on both the axes.

3. By plotting check $(3,5), (1, 1), (0,1)$ are collinear or not.

4.Name the type of quadrilateral

formed, if any, by the following

points, and give reasons for

your answer:

(i) $(-1, -2), (1, 0), (-1, 2), (-3, 0)$

(ii) $(-3, 5), (3, 1), (0, 3), (-1, -4)$

(iii) $(4, 5), (7, 6), (4, 3), (1, 2)$

5.Find the point on the x-axis which is equidistant from $(2, -5)$ and $(-2, 9)$.

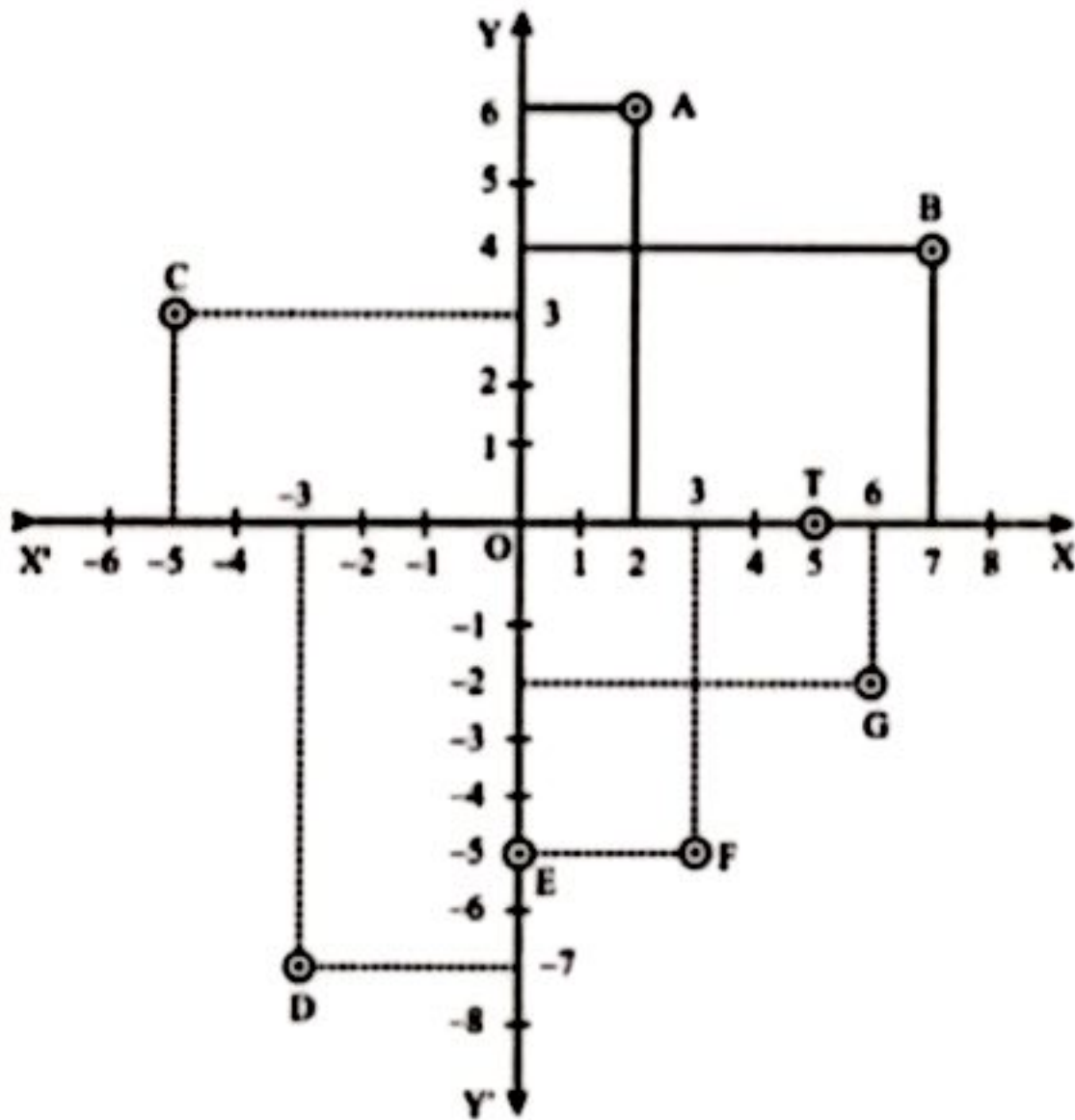
6.Find the values of y for which the distance between the points $P(2, -3)$ and $Q(10, y)$ is 10 units.

7. Without plotting the points indicate the quadrant in which they will lie, if

(i) ordinate is 5 and abscissa is -3

(ii) abscissa is -5 and ordinate is -3

8. From the adjoining figure, answer the following:



(i) The Co-ordinates of point C

(ii) The abscissa of point E

(iii) The ordinate of the point F

(iv) Co-ordinates of point O

(v) The perpendicular distance of the point A from the x -axis.

(vi) The perpendicular distance of the point B from the y -axis.

Worksheet-2

Chapter- Number System

1. Every rational number is also
(a) a natural number (b) a whole number (c) an irrational number (d) a real number
2. The decimal form of $\frac{56}{1000}$
(a) 0.56 (b) 560 (c) 0.056 (d) 5.6
3. π is a
(a) whole number (b) irrational number (c) integer (d) rational number
4. The decimal form of $\frac{3}{11}$ is
(a) $0.\overline{27}$ (b) $0.2\overline{7}$ (c) 0.27 (d) $0.27\overline{2}$
5. The product of two irrational numbers is
(a) always a rational number (b) always an irrational number (c) always an integer
(d) sometimes rational & sometimes irrational
6. Write 5 rational numbers between 5 & 6
7. Write 4 irrational numbers between $\sqrt{3}$ & $\sqrt{5}$
8. Show that $1.\overline{37}$ can be in the form $\frac{p}{q}$ (rational number)
9. Is $\sqrt{441}$ an irrational number. Give reason.
10. Represent on a number line
(a) $\sqrt{2}$ (b) $\sqrt{5}$ (c) $\sqrt{10}$
11. Represent 4.735 using successive magnification.
12. Write 2 real numbers whose difference is an irrational number.
13. Find the decimal representation of $\frac{8}{3}$
14. Arrange in ascending order $\sqrt[3]{7}$, $\sqrt{10}$, $\sqrt[6]{3}$

15. Simplify : (i) $(3 + \sqrt{3})(2 + \sqrt{2})$ (ii) $(\sqrt{11} - \sqrt{7})(\sqrt{11} + \sqrt{7})$ (iii) $(\sqrt{5} + \sqrt{2})^2$

(iv) $(2\sqrt{2} - 3\sqrt{3} + \sqrt{11}) + (5\sqrt{3} - 2\sqrt{2} + 6\sqrt{11})$

(v) $16\sqrt{15} \div 4\sqrt{3}$ (vi) $2\sqrt{5} \times 6\sqrt{5}$

16. Rationalise the denominator :

(i) $\frac{5}{\sqrt{3} - \sqrt{5}}$ (ii) $\frac{7 - 3\sqrt{2}}{7 + 3\sqrt{2}}$ (iii) $\frac{5 + \sqrt{2}}{3\sqrt{2}}$ (iv) $\frac{1}{2 - \sqrt{3}}$ (v) $\frac{\sqrt{2}}{\sqrt{2} + \sqrt{3}}$

17. Find a and b if (i) $a - b\sqrt{3} = \frac{2 - \sqrt{3}}{2 + \sqrt{3}}$ (ii) $\frac{\sqrt{11} - \sqrt{7}}{\sqrt{11} + \sqrt{7}} = a - b\sqrt{77}$

(iii) $\frac{\sqrt{5} + \sqrt{3}}{\sqrt{5} - \sqrt{3}} = a + b\sqrt{15}$ (iv) $\frac{\sqrt{2} + \sqrt{3}}{3\sqrt{2} - 2\sqrt{3}} = a - b\sqrt{6}$

18. Find the value of $x^2 + \frac{1}{x^2}$ if : (i) $x = 2 + \sqrt{3}$ (ii) $x = 4 + \sqrt{15}$

19. If $x = \frac{\sqrt{7} - \sqrt{6}}{\sqrt{7} + \sqrt{6}}$ and $y = \frac{\sqrt{7} + \sqrt{6}}{\sqrt{7} - \sqrt{6}}$ find the value of $x^2 + y^2$

20. If $x = \frac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}}$, $y = \frac{\sqrt{3} - \sqrt{2}}{\sqrt{3} + \sqrt{2}}$ find $x + y + xy$

Note :-1.Practice all the three chapters thoroughly

2.complete your worksheets neat and clean on single line sheets.



SOCIAL SCIENCE CLASS 9

HOLIDAYS HOMEWORK



1. THE DYNAMIC ATMOSPHERE AND CHANGING CLIMATE



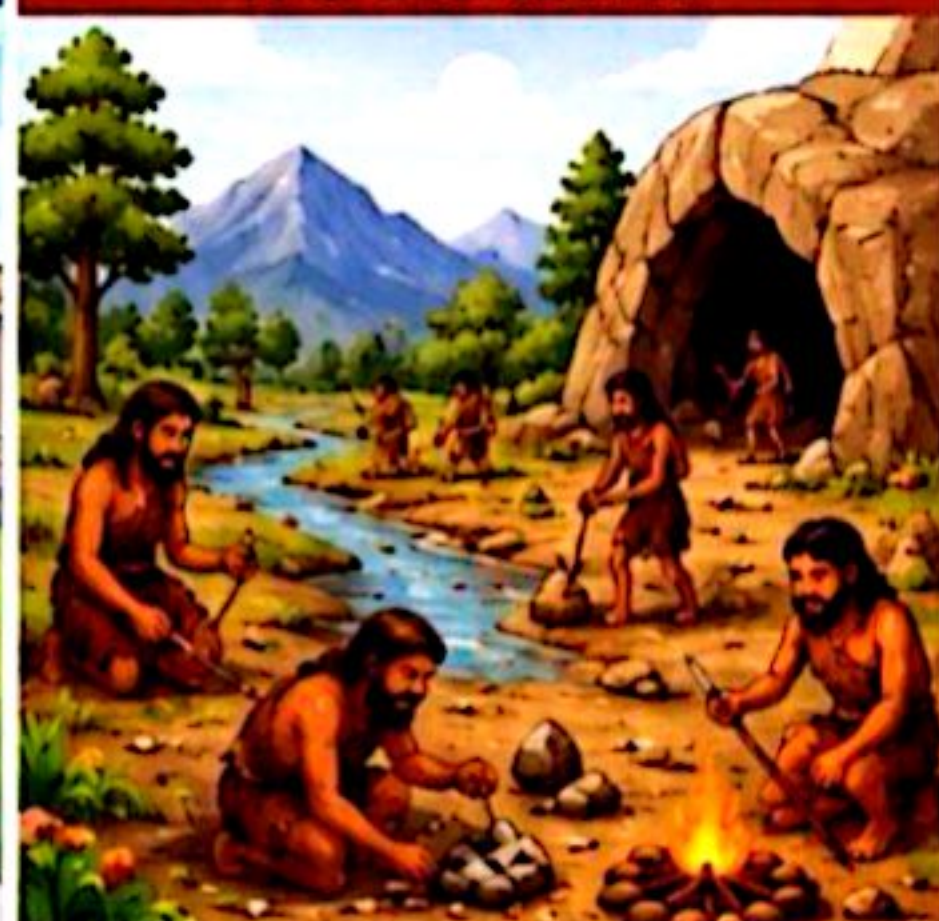
The atmosphere is always changing and so is our climate. Our actions today shape tomorrow.

2. UNDERSTANDING DEMOCRACY



Democracy is not just a form of government, it is a way of life.

3. THE EARLIEST PEOPLE : THE STONE AGE



From simple tools to complex life – the journey of human evolution.



1) PROJECT WORK ACTIVITY

Make a creative project on "Climate Change and Sustainable Solutions".

Include the following:

- Causes of climate change
- Effects on environment and human life
- Measures to reduce its impact
- Role of individuals and government
- Add pictures, diagrams, slogans and charts



3) ACTIVITY – UNDERSTANDING DEMOCRACY POSTER MAKING

Make a colourful poster on any one of the topics given below.

- Democracy: Power of the People
- My Rights, My Responsibilities
- Equality for All
- Vote for a Better Tomorrow

Use slogans, drawings and colours to spread the message of democracy.



1) PROJECT WORK ACTIVITY

Make a creative model or scrapbook on "Life in the Stone Age".

Include the following:

- Tools and weapons used
- Food and shelter
- Art, beliefs and way of life
- Important discoveries
- Use pictures, labels and your own writing



2) CASE BASED STUDY QUESTIONS

Case 1:

In 2023, a town in the hills experienced unprecedented cloudbursts causing floods and landslides. Roads were destroyed and many people lost their homes.



- What could be the reasons for such an event?
- How does deforestation increase the impact of such events?
- Suggest two measures to reduce the risk of such disasters.

Case 2:

The Arctic region is witnessing rapid melting of glaciers. This has raised global concerns.



- What impact does this have on global climate?
- How will rising sea levels affect coastal areas?
- What can countries do together to address this problem?

Case 3:

A city faces severe heat waves every summer leading to water shortage and health issues.



- What are the causes of increasing heat waves?
- How do heat waves affect daily life?
- Write two long-term and two short-term solutions to this problem.



2) CASE BASED STUDY QUESTIONS

Case 1:

In a village, the Panchayat decided to build a road. Some people wanted it near their houses, while others wanted it near the school.

- How should the Panchayat take a democratic decision?
- Which values of democracy are involved here?
- Why is it important to consider everyone's opinion?



Case 2:

In a city, only a few families controlled the local market association and did not allow others to participate.

- Is this a democratic practice? Why or why not?
- How can people ensure participation for all?
- What are the benefits of inclusive participation?

Case 3:

A student body election in school saw unfair practices like spreading false information about candidates.

- What democratic value is being violated?
- How can such problems be solved?
- What should students learn from this?



2) CASE BASED STUDY QUESTIONS

Case 1:

Archaeologists found a cave painting of animals and human figures in Bhimbetka.



- What does this tell us about the earliest people?
- What might be the purpose of such paintings?
- Which skills were required to make these paintings?

Case 2:

A site near a river revealed remains of animal bones, stone tools and traces of fire.



- What can we infer about the life of the people who lived there?
- Why do you think they lived near rivers?
- What does the use of fire indicate?

Case 3:

Different types of stone tools were found in layers of soil.



- What does this tell us about human development?
- How do tools help humans adapt to their environment?
- Why is prehistoric life important to study?



DESCRIBE (IN YOUR OWN WORDS)

Describe the factors that influence the climate of a place.

- Describe the difference between weather and climate.
- Describe the features of a democratic government.
- Describe the role of citizens in a democracy.
- Describe the life of early humans in the Stone Age.
- Describe the importance of tools in the Stone Age.



GENERAL INSTRUCTIONS

- ✓ Work neatly and creatively.
- ✓ Use pictures, diagrams and colours.
- ✓ Write in your own words.
- ✓ Submit your homework on time.

LEARNING GOALS

- ✓ Understand natural processes and human impact.
- ✓ Appreciate democracy and active citizenship.
- ✓ Respect our past and human evolution.
- ✓ Think critically and act responsibly.



LEARN TODAY. LEAD TOMORROW!





WHY CHOICES MATTER

Every choice you make has a cost and a consequence.



HOLIDAYS HOMEWORK ACTIVITIES - STEP BY STEP

1 UNDERSTAND THE CONCEPT

- Read the chapter "Why Choices Matter" carefully.
- Note down the key ideas: Scarcity, Needs vs Wants, Choice, Opportunity Cost, Consequences.



2 REAL LIFE EXAMPLES

- Find 3-5 examples from your daily life where you had to make a choice.
- Write what was the choice, what you gave up and why.



3 NEEDS vs WANTS CHART

- Make a creative chart.
- List at least 5 needs and 5 wants.
- Decorate it with drawings or stickers.



4 OPPORTUNITY COST ACTIVITY

- Choose any 2 options.
- Write what you gain and what you give up.
- Show that the choice you make has an opportunity cost.



Opportunity Cost: What I give up!

REMEMBER

- ✓ Resources are limited.
- ✓ We have unlimited wants.
- ✓ So, we have to make choices.
- ✓ Every choice has a cost.
- ✓ Think before you choose!



5 DECISION MAKING POSTER

- Make a colorful poster on 'Why Choices Matter'.
- Use slogans, quotes, drawings and examples.
- Be creative!



6 SHORT REFLECTION

- Write a short paragraph (100-120 words) on: "How do choices affect me, my family, society and the environment?"



FINAL DELIVERABLE

- ★ Neat & creative work
- ★ Use colors and headings
- ★ All activities to be done in your Economics Notebook / File.



7 CASE STUDY / SITUATION ANALYSIS

- Read the given situation (in textbook or any real-life case).
- Identify the choices available.
- Write the possible consequences of each choice.
- Which choice would you make and why?



Good choices create opportunities, not problems.



★ CHOOSE WISELY TODAY, LIVE BETTER TOMORROW! ♥

HOLIDAYS HOMEWORK

SUBJECT: ECONOMICS | CLASS 9

WHY CHOICES MATTER

Resources are limited but our wants are unlimited. Every choice we make has a cost.
Read the following case studies and answer the questions that follow.

1 SCARCITY – The Water Problem



Ravi's village has only one borewell. In summer, the water level goes down and there is not enough water for all uses. People have to decide whether to use water for drinking, farming, bathing or washing clothes. Whatever they choose for one use, there is less for the others.

QUESTIONS

1. What problem is faced by Ravi's village?
2. Why can't the people use water for all the purposes?
3. Explain scarcity with the help of this example.
4. If more water is used for farming, what will be the effect on other uses?
5. Suggest two ways to deal with the scarcity of water.



2 UNLIMITED WANTS – Meera's Wishlist



Meera gets ₹1,000 as a gift. She wants a mobile phone, a bicycle, a laptop, new clothes, a smartwatch and many more things. She cannot buy everything because her wants are many but her money is limited.

QUESTIONS

1. What are the different things Meera wants to buy?
2. Can Meera buy all the things? Why or why not?
3. What do you mean by unlimited wants? Explain.
4. How does unlimited wants create a problem for us?
5. Give an example of your own unlimited wants.



3 OPPORTUNITY COST – The Movie Plan



Arjun has ₹300. He can either watch a movie with his friends or buy a good badminton racket. If he watches the movie, he cannot buy the racket. If he buys the racket, he will have to give up the movie.

QUESTIONS

1. What choices does Arjun have?
2. If Arjun watches the movie, what is the opportunity cost?
3. If Arjun buys the badminton racket, what is the opportunity cost?
4. What do you mean by opportunity cost? Explain with this example.
5. Write another example of opportunity cost from your daily life.



4 TRADE-OFF – Riya's Study Time



Riya has only 3 hours every day after school. She can use this time to study, play, watch TV or learn music. If she spends more time studying, she will have less time for playing or watching TV.

QUESTIONS

1. What options does Riya have for using her 3 hours?
2. What will Riya have to give up if she spends more time on studying?
3. What do you mean by trade-off?
4. Why is trade-off necessary in our life?
5. Give an example of trade-off from your own life.



5 MIXED ECONOMY & CENTRAL PROBLEMS – Building a New City



The government wants to build a new city. It has limited resources and has to decide:

- What to produce? (houses, roads, schools, hospitals, parks?)
- How to produce? (using labour, machines, technology?)
- For whom to produce? (rich people, poor people or all?)

Some things will be made by the government sector like schools and hospitals. Some things will be made by private companies like shopping malls and houses. This is called a mixed economy.

QUESTIONS

1. What are the three central problems faced by the government while planning the new city?
2. What is a mixed economy?
3. Give two examples of things that can be provided by the government.
4. Give two examples of things that can be provided by the private sector.
5. Why is it important to solve the central problems for the development of a country?

REMEMBER

- Resources are limited.
- Wants are unlimited.
- Every choice has a cost.
- Wise choices lead to a better life and a better society.



MAKE WISE CHOICES
TODAY FOR A
BETTER TOMORROW!

Instructions:

- Write all answers in your Economics notebook.
- Write in neat handwriting.
- Draw diagrams/flowcharts where required.
- Submit your homework after the holidays.



कक्षा - IX विषय - हिंदी (पाठ्यपुस्तक: 'गंगा')

🎨 *भाग 1: गद्य खंड - समाज और मानवीय संवेदना*

गतिविधि 1: "पशु-प्रेम और मानवीय मूल्य" (पाठ: दो बैलों की कथा)
हीरा और मोती के माध्यम से प्रेमचंद जी ने स्वतंत्रता और आपसी प्रेम की गहरी बात कही है।

* *कार्य:* इस पाठ से प्रेरित होकर "पशुओं के प्रति हमारा कर्तव्य विषय पर 120-150 शब्दों में एक सुंदर निबंध या वैचारिक लेख लिखिए।
चित्रकारी व रंग: इस पृष्ठ पर हल जोतते हुए या स्नेह जताते हुए दो बैलों का एक सुंदर ग्रामीण चित्र बनाकर उसे प्राकृतिक रंगों (जैसे हरा, मिट्टी का रंग) से सजाएं।

गतिविधि 2: "संवाद और आज का माध्यम" (पाठ: संवादहीन - शेखर जोशी)*

पुराने समय में 'संवाद' ले जाने वाले डाकिया या संवादिहीन (संदेशवाहक) की स्थिति और आज के 'डिजिटल संवाद' (WhatsApp/Email) की तुलना करें।
कार्य: एक सुंदर तालिका बनाकर दोनों माध्यमों के गुण और दोष लिखिए।
चित्रकारी: एक तरफ पुराने जमाने का 'चिट्ठी-पत्र' और दूसरी तरफ आधुनिक 'स्मार्टफोन/ग्लोब' का रंगीन कोलाज या चित्र बनाइए।

🎨 भाग 2: काव्य खंड - राष्ट्रभक्ति और नैतिक मूल्य

गतिविधि 3: "स्वतंत्रता और राष्ट्र गौरव" (पाठ: झांसी की रानी / भारती, जय, विजयकरे!)
सुभद्रा कुमारी चौहान और निराला जी की ये कविताएँ हमारे भीतर देशप्रेम की अलख जगाती हैं।

कार्य: भारत के किन्हीं 3 प्रमुख स्वतंत्रता सेनानियों (जिनके बारे में इतिहास में कम बात होती है) के चित्रों को अपनी फाइल में चिपकाएँ या स्केच करें। उनके जीवन और देश के प्रति योगदान पर 50-50 शब्दों का एक संक्षिप्त परिचय रंगीन स्केच पेन्स की मदद से लिखें।
बॉर्डर कला: इस पूरे पृष्ठ के चारों ओर केसरिया, सफेद और हरे रंग (तिरंगे के रंग) से सुंदर बॉर्डर डिजाइन तैयार करें।

🌐 भाग 3: भाषा संगम और व्याकरण

गतिविधि 4: "विविधता में एकता" (गंगा पुस्तक के 'भाषा संगम' पर आधारित)**
भारत एक बहुभाषी देश है। इस गतिविधि के माध्यम से हम दूसरी भाषाओं का सम्मान करना सीखेंगे।

कार्य: अपने आस-पास या इंटरनेट की मदद से किन्हीं 5 आम बोलचाल के वाक्यों (जैसे: आपका नाम क्या है?, आप कैसे हैं?, धन्यवाद आदि) को हिंदी के साथ-साथ दो अन्य भारतीय भाषाओं (जैसे- पंजाबी, गुजराती, या तमिल) में सुंदर अक्षरों में अनुवाद करके लिखिए।

****प्रस्तुतीकरण:**** इसे एक रंग-बिरंगे 'भाषाई ट्री' के रूप में प्रदर्शित करें, जहाँ अलग-अलग पत्तियाँ अलग-अलग भाषाओं का प्रतिनिधित्व कर रही हों।

 **भाग 4: नाट्य रूपांतरण और लेखन**

गतिविधि 5: "सामाजिक रूढ़ियों पर प्रहार" (पाठ: रीढ़ की हड्डी - जगदीशचंद्र यह एकांकी (One-act play) समाज में लड़कियों की शिक्षा और उनके स्वाभिमान को रेखांकित करती है।

कार्य: "स्त्री शिक्षा का महत्व" या "बेटी बचाओ, बेटी पढ़ाओ" विषय पर एक आकर्षक, रंगों से भरा विज्ञापन अथवा नुक्कड़ नाटक का एक छोटा सा पोस्टर तैयार कीजिए।

विशेष: इसमें एक सशक्त और प्रेरक नारा गहरे और चमकीले रंगों (जैसे लाल, पीला) से अंकित होना चाहिए।

 **सामान्य निर्देश और मूल्यांकन :**

* सभी गतिविधियों में आपके द्वारा स्वयं बनाए गए चित्रों (Hand-made drawings) को अधिक अंक दिए जाएंगे। प्रिंटेड तस्वीरों का उपयोग कम से कम करें।

* लेखन में भाषा की शुद्धता, वर्तनी (Spellings) और सुंदर सुलेख पर विशेष ध्यान दें। प्रत्येक भाग के आरंभ में एक आकर्षक शीर्षक पृष्ठ (Title Page) होना चाहिए जो उस विषय से संबंधित रंगों से सजा हो।

इस संपूर्ण गृहकार्य को आप एक 'सृजनात्मक प्रोजेक्ट फाइल' (A4 साइज रंगीन शीट्स या स्क्रेपबुक) में आकर्षक चित्रों, रेखाचित्रों और रंगों के साथ पूरा करें।

"नया पाठ्यक्रम, नई उमंग! रचनात्मकता के साथ बिताएँ यह गर्मियों का मौसम!" 🌸🎨



Holidays Homework

CLASS : IX

SUBJECT : Information Technology

Activity 1 – AI Creative Chart

Prepare a colourful chart on any one topic:

- * Artificial Intelligence in Daily Life
- * Cyber Safety Rules
- * Evolution of Computers
- * Smart Classroom Technology
- * Internet and Its Uses

- ✂ Use pictures, headings, slogans, and creative designs.
- 📌 The chart should be neat enough for classroom display.



💡 Activity 2 – “Tech Detective”

Observe your home and surroundings and make a list of 10 technologies or smart devices used in daily life.

Example: ATM, smartphone, smart TV, barcode scanner, washing machine, etc.

Write:

- * Name of the device
- * Its use
- * How it makes life easier

🎨 Activity 3 – Poster Making

Make a creative poster on:

“Be Safe on the Internet”

Include:

- * Strong passwords
- * Don't share personal information
- * Safe browsing habits
- * Cyberbullying awareness

Use catchy slogans and drawings.

