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Holiday HOMEWORK [2025] Class - IX

SUBJECT	
English	1. Margie out of curiosity used **Time machine** to visit the era **centuries ago** and reached **in the Spring Festival** where she saw the child in the fair crying and searching for his parents. She uses drone and face mapping to find his parents in the crowd. She brings the child to her home in 2157. **Create a comic strip or visual collage** showing key scenes from each story. Use captions or dialogues. (**Hint:** Her astonishment seeing the fair compared to the Malls and carnival, boy's bewilderment seeing robots and advance technologies used in future and futuristic school. **(Use A3 sheets)** 2.Draw **Word Art** for the poem **Rain on the Roof** on A3 sheet.
Hindi	**नोट - सभी कार्य स्क्रैब बुक में करना है** । 1- अनुस्वार और अनुनासिक की परिभाषा, साथ ही अब तक पढाए गए पाठ में से अनुस्वार ,अनुनासिक छाँटकर अपनी नोटबुक में लिखिए । 2- 'गिल्लू' कहानी को पढ़कर पाठ का सार चित्र सहित लिखिए । 3- निम्नलिखित भाव को पाठ में किन पंक्तियों द्वारा अभिव्यक्त किया गया है - क - 'अपनी संपत्ति ही दुःख में काम आती है ।' ख - 'कोई लाख कोशिश करे पर बिगड़ी बात फिर बन नहीं सकती ।' ग - 'बड़े को देख कर छोटे को नहीं त्यागना चाहिए ।' घ - 'अपने मन के दुःख को मन में ही दबाकर रखना चाहिए ।' ड - इस संसार में धनी कौन है । 4- संकेत बिंदुओं के आधार पर निम्नलिखित विषय पर अनुच्छेद लिखिए - **क - मेरा भारत महान** – विश्व गुरु भारत , समृद्ध सांस्कृतिक परंपरा , वर्तमान दशा , विकास के पथ पर **ख- जीवन में खेल कूद का महत्त्व** स्वस्थ शरीर से कर्तव्य पालन संभव , व्यायाम ,मनोरंजन , खाना आवश्यक , खेल से संकुचित मानसिकता का समापन , विद्यार्थियों का सर्वांगीण विकास तथा पढ़ाई व् खेल में संतुलन सर्वांगीण विकास तथा पढ़ाई व् खेल में संतुलन 5- निम्नलिखित बिन्दुओं के आधार परियोजना तैयार कीजिए – विषयसूची प्रस्तावना प्रमाण पत्र उत्तर प्रदेश राज्य की सांस्कृतिक, भगौलिक, वहाँ का खान-पान व वेश भूषा का चित्र सहित एक परियोजना तैयार कीजिए । **(स्क्रेब बुक में)**
French	Réalisez un collage sur ce que les français mangent à chaque repas de la journée.

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Mathematics

1. ACTIVITY: SQUARE ROOT SPIRAL

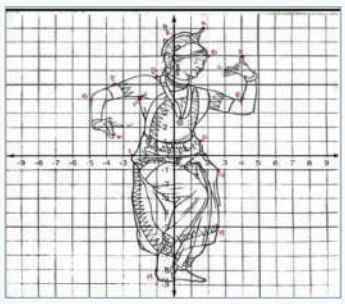
Instructions:

- Represent $\sqrt{2}, \sqrt{3}, \sqrt{4}, \sqrt{5}, \sqrt{6} \ldots up\ to\ \sqrt{17}$ in a continuous manner.
- A sample image for the spiral has been attached, use your creativity to create the square root spiral.

2. Explore the famous dance form of Odisha.

Instructions:

- Locate marked points in the provided pictures (you can use approximation)
- Write all marked points on a sheet of paper and segregate them as pe different quadrants and axes.
- Name and write in brief about above mentioned dance form.



3. Identify the shapes:

Instructions:

- Draw the graph of each of the following figures on separate graph paper.
- Find the area enclosed by different figures so obtained.

Figure 1	$2x + y = -5$, $2x - y = -15$, x-axis
Figure 2	$x = -3$, $y = 10$, x-axis and y-axis
Figure 3	$x = 1$, $x = 3$, $x = y - 4$, x-axis
Figure 4	$x = 6$, $x = 4$, $y = 2$, x-axis

***Worksheet will be given separately on class group.**

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Science

Chemistry

"Chemistry is not just a subject studied in textbooks or laboratories-it is an essential part of our daily lives. From the moment we wake up to the time we go to sleep, we are surrounded by chemical reactions and substances that affect us in countless ways.'

[A] Chemistry in Daily Life Project

Objective: Identify and explain how chemistry is involved in common household products.

Instructions:

- Pick 5 household items (e.g., soap, toothpaste, vinegar, baking soda, detergent).
- Write the chemical name or formula of the active ingredient.
- Explain its function and how it works chemically.

[B] Model Making: Atomic Structure

Objective: Create a 3D model of an atom (e.g., carbon, oxygen, sodium).

Instructions:

- Use colored balls/beads to represent protons, neutrons, and electrons.
- Show correct electronic configuration for the selected atom.
- Label each part clearly.

[C] Interactive Periodic Table Model

Objective:

To create a 3D or interactive model of the periodic table that helps understand element classification.

Materials Required:

- Cardboard sheet or thermocol board (for base)
- Colored paper or sticky notes (different colors for metals, non-metals, metalloids)
- Markers, pens
- Scissors, glue
- LED lights (optional, for making a working interactive version)
- Wires and batteries (optional for lighting)
- Small switches or push buttons (optional)

Instructions (Basic Non-Electric Model):

- Draw or print the periodic table layout on the cardboard/board.
- Cut colored paper into small rectangles, one for each element.
- Write element symbol…
- Write element symbol, atomic number, and name on each rectangle.
- Use different colors to show: Metals, Non-metals, Metalloids, Noble gases, Alkali and alkaline earth metals.
- Stick each element at its correct position.
- Create a legend (key) explaining the colours used.

Optional: Make it "Working" or Interactive

- ✓ With Lights: Add LED lights under specific element types (e.g., light up noble gases with a switch).
- ✓ Flap System: Make flaps for each element—when lifted, they reveal properties like melting point, atomic mass, etc.

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[D] Investigatory Project: Rusting of Iron

Objective: Study the conditions needed for rusting.

Instructions:

- Take three iron nails; keep them in different conditions (dry, water, and salt water).
- Observe for a week and record changes.
- Explain the chemical reaction of rusting and ways to prevent it.

[E] ASSIGNMENT

Q1. Account for the following

a) Dogs generally hang out their tongue in summer.
b) Smell of lighted incense sticks spreads several meters away.
c) Sponge though compressible is a solid.

Q2. Water as ice has a cooling effect whereas water as steam may causes burns. Explain these observations.

Q3. Discuss the effect of increasing temperature and pressure on the liquid state of a substance. Are these effects similar? If not assign reason.

Q4. Write two applications of sublimation.

Q5. Give reasons for the following:

a) We feel cool when we sweat.
b) Ice at 0°C has more cooling effect than water at 0°C.
c) A gas fills the entire volume of the container.

Q6. Differentiate between the following (in a tabular form)

a) Solid and Liquid
b) Boiling and Evaporation
c) Condensation and Sublimation

Q7. Activity (Optional but encouraged):

Conduct an activity to show evaporation (like wetting your hand with spirit or water and observing cooling) and write your observation and conclusion.

PLEASE NOTE:

- Project A and D are common for all students and must be completed in chemistry notebook.
- Project B is for students with Roll numbers 1 to 15.
- Project C is for students with Roll Numbers 16 onwards
- Assignment must be completed in chemistry notebook.

Physics

Q1: Motion of Two Objects – Comparative Study

- **Task**: Choose two objects moving at different speeds (e.g., two vehicles traveling on different roads or a person walking and a cyclist).
- **Subtasks**:
  1. Observe the motion for 10-15 minutes.
  2. Record the distance traveled and time for each object.
  3. Calculate the speed of each object.
  4. Plot a **speed-time graph** for both objects.
  5. Analyze the graphs and explain which object had **uniform** motion and which one had **non-uniform** motion.
  6. Create a **motion comparison chart** with speed vs. time for both objects, and draw conclusions about their motion.

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Q2: Analyzing Free Fall and Gravitational Motion

- **Task**: Drop two objects (preferably of different weights) from the same height (e.g., 1 meter).
    1. Record the time taken by each object to reach the ground using a stopwatch.
    2. Calculate the average speed during the fall.
    3. Does the mass of the object affect its fall time?
    4. Using the formula $s = ut + 1/2at^2$ (where $a = 9.8\ m/s^2$) calculate the theoretical time it should take for an object to fall and compare with your observation.

Q3: Build a Motion Simulator

- **Task**: Create a **motion simulator** using a toy car, a ramp, and a timer.
    1. Set up a ramp at different angles (shallow, medium, steep).
    2. Measure the time it takes for the car to travel down the ramp at each angle.
    3. Calculate the speed of the car for each angle.
    4. Plot a **speed vs. angle of ramp** graph to analyze the relationship between the angle of inclination and speed.
- **Submission**: Include a video of the experiment, data, and a graph in your project file.

Worksheet Questions:

1. **Non-uniform Motion**:
    - A bus travels along a curved road. The speed of the bus changes at different points along the curve. How does this affect the motion? Is it uniform or non-uniform?
2. **Instantaneous Speed**:
    - Explain the concept of **instantaneous speed** and how you can measure it using a **speedometer**. Is the instantaneous speed always equal to the average speed? Provide examples.
3. **Motion in a Circular Path**:
    - A car moves along a circular track at constant speed. Is the motion uniform? Explain why or why not, using concepts of **displacement** and **velocity**.
4. **Acceleration and Deceleration**:
    - A cyclist accelerates from 0 to 10 m/s in 5 seconds. What is the acceleration? If the cyclist then decelerates from 10 m/s to rest in 2 seconds, what is the deceleration?
5. **Graph Interpretation**:
    - A graph of velocity vs. time is given. The velocity increases at a constant rate for 10 seconds and then remains constant for the next 10 seconds. Sketch the graph and describe the type of motion during both intervals.
6. **Speed Calculation (Real-World Scenario)**:
    - A car travels from point A to point B, a distance of 100 km, in 2 hours. After a break, it continues its journey to point C, which is 50 km further, at an average speed of 25 km/h. What is the average speed for the entire journey?

7. **Comparing Accelerations**:
    - A car accelerates from 0 to 30 m/s in 10 seconds. Another car accelerates from 0 to 40 m/s in 8 seconds. Which car has a higher acceleration? Show calculations.

Create a Short Physics Video

- **Task**: Create a **short video** (2-3 minutes) explaining one of the concepts you've learned about motion (e.g., uniform motion, acceleration, velocity, or types of graphs). Use props or animations to explain the concept creatively.
- **Submission**: Submit the video with a brief explanation and your key learnings.

Biology

Sustainable Management in Arunachal Pradesh: A Path to Conservation and Development

Arunachal Pradesh, a northeastern state in India, is known for its rich biodiversity, pristine forests, and abundant natural resources. However, the state's unique ecosystem is facing challenges due to increasing human activities, climate change, and unsustainable practices. To address these issues, sustainable management practices are essential to conserve the state's natural resources while promoting economic development and social well-being.

Create a project file using A4 file that showcases sustainable practices in Arunachal Pradesh, focusing on one or more of the following areas:

1. *Renewable Energy*: Research and present on the potential of renewable energy sources in Arunachal Pradesh, such as hydroelectric power, solar energy, and wind energy.
2. *Sustainable Agriculture*: Design a sustainable agriculture plan for a farm in Arunachal Pradesh, incorporating practices like organic farming, agroforestry, and permaculture.

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3. *Eco-Tourism*: Develop an eco-tourism proposal for a specific location in Arunachal Pradesh, highlighting the benefits of responsible tourism and conservation.
4. *Forest Conservation*: Explain the importance of forest conservation in Arunachal Pradesh, highlighting the benefits of preserving the state's forests.
5. *Waste Management*: Design a waste management plan for a local community in Arunachal Pradesh, incorporating strategies for reducing, reusing, and recycling waste.

WORKSHEET

I.OBJECTIVE TYPE QUESTIONS (1 MARK)

1.Cell theory states that all organisms are made up of one or more similar units of organization called cells. Which of the following organisms do not strictly adhere to this theory?

a) Protozoa
b) Bacteria
c) Viruses
d) Algae

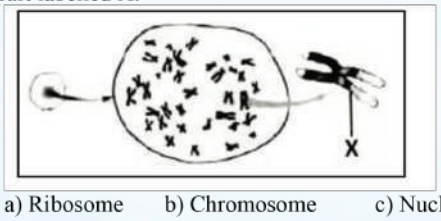
2. A plant cell placed in a hypo-tonic solution will not burst because of presence of:

a) Plasma membrane
b) Cell wall
c) Chloroplast
d) Cytoplasm

3. Plant cell wall is mainly composed of:

a) Sugars
b) Cellulose
c) Proteins
d) Lipids

4. The diagram below shows a magnified view of a particular part of a human cell. Name the part labelled X.



a) Ribosome b) Chromosome c) Nucleoplasm d) Mitochondrion

For the question 5 to 8 two statements are given-one labelled Assertion (A) and the other labelled Reason(R). Select the correct answer to these questions from the options (i), (ii), (iii) and (iv)as given below:

(i) Both A and R are true and R is the correct explanation of the assertion.
(ii) Both A and R are true but R is not the correct explanation of the assertion.
(iii) A is true but R is false.
(iv) A is false but R is true.

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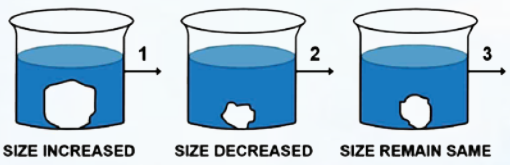
	5. Assertion (A): The shape of the cells is of different types ranging from circular, elongated, tubular, oval, cylindrical, etc. Reason(R): The shape of the cells varies according to the specific function they perform. 6. Assertion (A): Cell wall is found in plant cell. Reason(R): Animal cells are covered only by cell membrane. 7. Assertion (A): Cell wall is a non-living part of the cell. Reason(R): It does not offer protection, definite shape and support. **ANSWER THE FOLLOWING QUESTION:** 8. How is the nucleoid region of a prokaryotic cell different from the nucleus of a eukaryotic cell? 9. Two beakers A and B contain plain water and concentrated sugar location respectively. Equal number of dried raisins and fresh grapes are kept in A and B for a few hours and then taken out. Explain the reason for the difference in the physical appearance of raisins/grapes which were taken out of the two beakers. 10. A candidate in order to study the process of osmosis has taken 3 potato cubes and put them in 3 different beakers containing 3 different solutions. After 24 hours, in the first beaker the potato cube increased in size, in the second beaker the potato cube decreased in size and in the third beaker, there was no change in the size of the potato cube. The following diagram shows the result of the same experiment.  a) Give the technical terms of the solutions used in the beakers 1, 2 and 3. In beaker 3, the size the potato cube remains the same. Explain the reason in brief. b) Write the specific features of the cell sap of root hairs which helps in absorption of water. c) What is osmosis? d) How does a cell wall and a cell membrane differ in their permeability?
Social Science	**HISTORY** Chapter-1The French Revolution i) Draw on chart paper or make model all the symbols that conveyed the content of the Declaration of Right. Also write about these symbols in brief. (Take help from NCERT BOOK - INDIA AND THE CONTEMPORARY WORLD-1, PAGE NO.12 &13) ii) Learn and revise Chapter 1 The French Revolution (Given notes &assignment) **POLITICAL SCIENCE:** i) Write the Preamble of any three different democratic countries on a chart paper.

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	ii) 2) On the world map, shade the countries which became Democracies between 1) 1900-1970 2) 1970-1980 3) 1980-2000 NOTE: - Use different colours for shading. E: g 1900-1970 (red) 1970-1980 (yellow) 1980-2000 (green) ALSO MENTIONE NAMES OF THE COUNTRIES. Learn and revise Chapter 1, What is Democracy? Why is Democracy? (Given notes &assignment) **GEOGRAPHY:** I) Make a model on the Physical Features of India. 2) Map work Locate & label the following on the map of India. a) Mountain& hill Range: The Karakoram, the Zaskar, the Shiwalik, The Aravali, the Vindhya, the Satpura, the Patkai Bum, the Jaintia, Western & Eastern Ghats. b) Mountain Peaks: K2, Kanchenjunga, Anai Mudi. c) Plateau: Deccan Plateau, Chota Nagpur Plateau, Malwa Plateau. d) Coastal Plains: Konkan, Malabar, Coromandel and Northern Circar e) The Indian Desert (Take help from the NCERT BOOK GEOGRAPHY Contemporary India-1, Page No.9&10) 3) Learn & Revise Chapter -2, Physical Features of India **ECONOMICS** **STUDENTS CAN CHOOSE ANY ONE TOPIC:** 1. Effects of Industrial Pollution: Students can research the impact of industries on the environment and propose solutions. 2. Government Schemes for Infrastructure Development: Research on schemes like Smart Cities, Metro Rail, or Digital India can be undertaken. 3. Government Programs for Poverty and Unemployment: A research project on schemes like IRDP or MNREGA can be conducted. The project report should follow a specific sequence, including a cover page, preface, acknowledgements, contents page, introduction and conclusion. It must include subtopics on man-made disasters, planning activities, a bibliography and picture gallery.
Artificial Intelligence	📍 Poster Making (Creative Task). Design a poster on the topic: "How AI is Changing Our World." OR "AI for Good – Solving Real World Problems." You may use any digital software tools like Canva, Adobe Photoshop, Adobe Illustrator, CorelDRAW, Affinity Designer, and GIMP. 📍 Create a PPT that includes 10-15 slides on the topic: "Should AI be allowed to make human decisions? Why or why not?" The PPT should contain text, images and videos.

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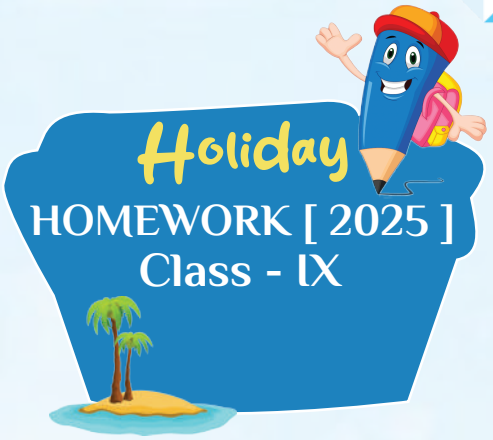

Art	**IX A (Subject: Rajasthani Painting)** Painting on large size one terracotta pots in any medium. **IX B (Warli Art)** Painting on large size terracotta pots in any medium. **IX C (Subject: Mandla Art)** Painting on large size terracotta pots in any medium **IX D (Subject: Madhubani Painting)** Painting on large size terracotta pots in any medium **IX E (Subject: Lippan Art)** Painting on large size terracotta pots in any medium **IX F (Subject: African Painting)** Painting on large size terracotta pots in any medium **IX G (Subject: Gond Art)** Painting on large size terracotta pots in any medium