�🍁 AUTUMN BREAK HOLIDAY HOMEWORK 🍁

CLASS IX – SCIENCE

PM SHRI KENDRIYA VIDYALAYA NO. 2, AFS HINDAN

Theme: EXPLORE • EXPERIMENT • EXPLAIN

General Instructions

1. Complete all activities neatly in a science project file or scrapbook.
2. Use coloured pencils, labelled diagrams, photographs and tables wherever required.
3. Write the observations and conclusions in your own words.
4. Follow safety precautions while performing activities.

🔬 ACTIVITY 1: EXPLORATION – DESIGN OF A SIMPLE MACHINE

Objective: To explore how simple machines make our work easier.

Task:

- Design and prepare a working model of any ONE simple machine:
    - Lever
    - Pulley
    - Inclined plane
    - Wheel and axle
    - Screw
    - Wedge
- Use easily available and recycled materials.
- Draw a neat, labelled diagram of your model.
- Explain its working principle and at least three real-life applications.
- Record how the machine helps reduce effort or changes the direction of force.

Expected Learning Outcome: Understand the role of simple machines in everyday life and develop creativity, problem-solving and scientific skills.

⚛️ ACTIVITY 2: EXPLORING ATOMIC STRUCTURE

Objective: To understand the structure of an atom and the arrangement of its subatomic particles.

Task:

1. Prepare colourful, labelled atomic structure models of any THREE elements from the first 20 elements of the periodic table.
2. Show the number of protons, neutrons and electrons in each atom.
3. Represent the arrangement of electrons in different shells.
4. Prepare a comparison table showing the atomic number, mass number and electronic configuration of the selected elements.
5. Explain the contribution of J. J. Thomson, Ernest Rutherford, and Niels Bohr to the development of atomic models.

Creative Extension: Prepare a 3D atomic model using clay, beads, cardboard or other reusable materials.

Expected Learning Outcome: Develop an understanding of subatomic particles, atomic number, mass number and electronic configuration.

⚗️ ACTIVITY 3: MOLECULAR FORMULAE AND CHEMICAL REPRESENTATION

Objective: To learn how chemical symbols and valencies are used to write molecular formulae.

Task A – Complete the Table

Write the symbols, valencies and molecular formulae of the following compounds:

⚙️ ACTIVITY 3: SCIENCE IN EVERYDAY LIFE

Choose any one simple machine used at home or in your surroundings. Draw or paste its picture and explain:

- Its name and type.
- The scientific principle behind its working.
- How it makes work easier.
- Its advantages and limitations.

PM SHRI KV No.2 HINDAN

AUTUMN BREAK HOMEWORK

CLASSS IX SOCIAL SCIENCE

Activity 1: Understanding Social Science

Objective: To understand how Social Science helps us study people, places, history and society.

Activity: Prepare a colourful concept map showing the four major areas of Social Science.

- History — past events and civilisations
- Geography — Earth and its physical features
- Political Science — government and democracy
- Economics — resources, production and choices

Conclusion: Social Science helps us understand our society and become responsible citizens.

Activity 2: Shaping of the Earth's Surface

Objective: To learn about the processes that shape the Earth's surface.

Activity: Draw and label diagrams showing mountains, plateaus, plains, volcanoes and river valleys. Briefly explain how weathering, erosion and deposition change the landscape.

Conclusion: Earth's surface continuously changes through natural processes.

Activity 3: Atmosphere and Climate

Objective: To understand the atmosphere and the difference between weather and climate.

Activity: Prepare a seven-day weather observation chart.

Day	**Temperature**	**Weather**
Monday	____	____
Tuesday	____	____

Wednesday	____	____
Thursday	____	____
Friday	____	____
Saturday	____	____
Sunday	____	____

Conclusion: Weather changes frequently, while climate describes long-term weather patterns.

Activity 4: Early Humans and Beginning of Civilisation

Objective: To study the development of early human societies.

Activity: Create a timeline showing early human life, the discovery of tools, the use of fire, the development of agriculture and the emergence of settled communities.

Conclusion: Technological progress and agriculture transformed human life.

Activity 5: State and Society up to 1000 CE

Objective: To understand how states and societies developed in the past.

Activity: Prepare a comparison chart of early kingdoms, their administration, occupations, trade and social life. Use examples from the chapter and illustrate your work with a historical map.

Conclusion: Political institutions, trade and social relationships shaped historical societies.

Activity 6: Democracy

Objective: To understand the main features of democracy.

Activity: Make a poster titled “Democracy: Government of the People.” Include:

- Free and fair elections
- Equality before the law
- Citizens' participation
- Fundamental rights

- Accountability of government

Conclusion: Democracy gives citizens a voice in governing their country.

Activity 7: Elections

Objective: To understand the electoral process.

Activity: Conduct a mock election in the classroom. Select candidates, prepare a voter list, create ballot papers, conduct voting and count the votes.

Conclusion: Elections allow people to choose their representatives and are an important part of democracy.

Activity 8: Disaster Management Project

Topic: Preparedness for Earthquakes and Floods

Objective: To develop awareness about disasters and learn how to reduce their effects.

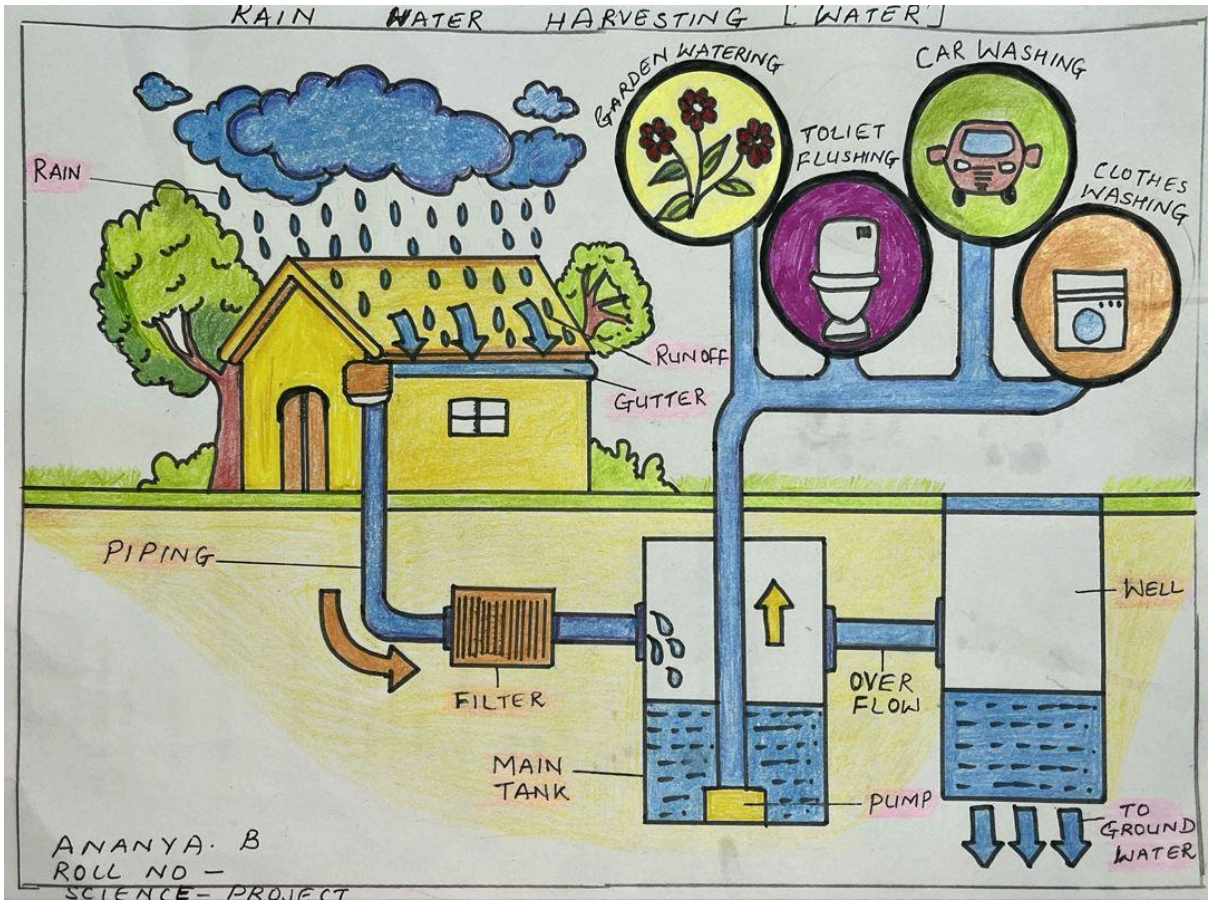
Project contents:

1. Introduction to disaster management
2. Types of disasters
3. Causes and effects of earthquakes
4. Causes and effects of floods

5. Safety measures before, during and after disasters
6. Emergency preparedness kit
7. Role of government agencies and communities
8. Case study of a disaster in India
9. Disaster awareness poster
10. Conclusion and bibliography

Conclusion: Awareness, preparation and coordinated action can reduce disaster-related risks.

Activity 9: Interdisciplinary Project and Portfolio



Topic: Water Conservation — A Sustainable Future

Objective: To understand the importance of water conservation through different Social Science perspectives.

Interdisciplinary connections:

- Geography: Water resources, rainfall and water scarcity.
- History: Traditional water-harvesting systems and stepwells.
- Political Science: Government responsibilities and public participation.
- Economics: Scarcity, efficient use of resources and reducing wastage.

Suggested work: Draw a rainwater-harvesting system, identify water-wasting practices in your neighbourhood, and suggest five ways to conserve water.

Activity 10: Portfolio section: Add your best maps, diagrams, worksheets, photographs, project work and a short self-reflection about what you learned.

Final presentation checklist

File completion

Cover page completed

Index completed

All 10 activities written

Maps and diagrams labelled

Disaster Management Project included

Interdisciplinary Project included

Portfolio work attached

Conclusion and bibliography added

HOLIDAY HOMEWORK: ENGLISH (CLASS IX)

Q1. Tenses

Choose the correct option or fill in the blanks with the appropriate form of the verb:

1. Look! The boys _____ (play) football in the rain.
2. By next month, we _____ (complete) our Class 9 syllabus.
3. She _____ (not/attend) the meeting yesterday because she was unwell.

4. Water _____ (boil) at 100°C under normal atmospheric pressure.
5. While I _____ (read) a book, the doorbell rang loudly.
6. He usually _____ (wake) up at 6:00 AM, but today he woke up late.
7. If you study hard, you _____ (score) good marks in the final exam.
8. They _____ (live) in this city for over ten years now.
9. Before the teacher entered the classroom, the students _____ (make) a lot of noise.
10. Tomorrow at this time, I _____ (travel) to Dehradun.

Q2. Modals

Fill in the blanks with suitable modals (can, could, may, might, shall, should, will, would, must, ought to):

1. We _____ respect our national symbols and heritage.
2. It looks like heavy weather; you _____ take an umbrella with you.
3. _____ you please pass me the salt?
4. Candidates _____ not bring mobile phones into the examination hall.
5. When I was young, I _____ run a mile in under six minutes.
6. He is working very hard; he _____ definitely win the competition.
7. We _____ hurry, otherwise we will miss the last bus.
8. I _____ rather study science than history.
9. The sky is clear; it _____ rain today.
10. You _____ consult a doctor if your fever doesn't subside.

Q3. Article Writing

Attempt any two of the following topics in 100–120 words:

- **Option A: The Menace of Plastic Pollution**
    - *Hints:* Excessive use of single-use plastic, impact on marine life and soil, government bans, individual responsibility, eco-friendly alternatives (cloth bags, steel bottles).

- **Option B: Value of Sports and Games in Student Life**
    - *Hints:* Physical fitness, mental alertness, teamwork, discipline, leadership qualities, balancing academics and extracurricular activities.

Q4. Letter to the Editor

Attempt any two of the following letters in 100–120 words:

- **Option A:** You are Ananya/Aniket, a resident of Sector 15, Rohini, Delhi. Write a letter to the Editor of a national daily highlighting the nuisance caused by indiscriminate parking and traffic congestion in your residential area, and suggest measures to resolve it.
- **Option B:** You are Priya/Piyush, living at 42, Civil Lines, Jaipur. Write a letter to the Editor of *The Daily Herald* expressing your deep concern over the rising cases of cyberbullying among school teenagers and the urgent need for digital literacy and cyber safety awareness workshops.

MATHEMATICS

CLASS IX

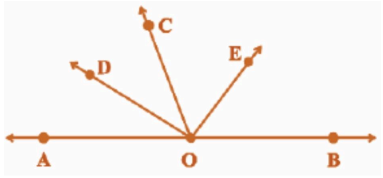
Note: All the work will be done in Holidays Homework Notebook.

1) If two lines intersect, prove that the vertically opposite angles are equal.

2) Bisectors of interior ∠B and exterior ∠ACD of a Δ ABC intersect at the point T. Prove that ∠BTC = ½ ∠ BAC.

3) A transversal intersects two parallel lines. Prove that the bisectors of any pair of corresponding angles so formed are parallel.

4) In the figure, OD is the bisector of ∠AOC, OE is the bisector of ∠BOC and OD ⊥ OE. Show that the points A, O and B are collinear.



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5. The angles of a triangle are in the ratio 5 : 3: 7. The triangle is

An acute-angled triangle

An obtuse-angled triangle

A right triangle

An isosceles triangle

6. Can a triangle have all angles less than 60°? Give a reason for your answer.

7. Can a triangle have two obtuse angles? Give the reason for your answer.

8. How many triangles can be drawn having its angles as 45°, 64° and 72°? Give the reason for your answer.

9. How many triangles can be drawn having its angles as 53°, 64° and 63°? Give the reason for your answer.

10. Complete five math lab activities of Term-1 in Maths Lab notebook.

कक्षा 9वीं

शरद ऋतु अवकाश गृहकार्य* 2026-27

1. अर्धवार्षिक परीक्षा का प्रश्न पत्र अपनी कार्य पुस्तिका में हल करें।

2. कोई दो लघुकथा लिखें- "एकता में बल" और "लालच बुरी बला"

3. समास के भेदों को लिखते हुए प्रत्येक समास के चार-चार उदाहरण लिखें।

4. "भारती जय विजय करें " कविता का सार लिखो

5. परीक्षा परिणाम आने के बाद दो मित्रों के मध्य संवाद लिखें।6. अनुच्छेद लेखन

1) समय का महत्व

2) मोबाइल फ़ोन

3) साइबर क्राइम।

7. पत्र लेखन

i). अपने छोटे भाई को प्रातः काल की सैर के फायदे बताते हुए पत्र लिखें।

ii). अपने मित्र को खेल में स्वर्ण पदक पाने पर शुभकामनाएं देते हुए पत्र लिखो।

iii) अपने इलाके में बिजली कटौती को रोकने के लिए बिजली विभाग में पत्र लिखिए

8 10 दिन की छुट्टियों की अपनी दैनिक दिनचर्या पर परियोजना कार्य (Project Work) तैयार करें।

9 अर्धवार्षिक परीक्षा प्रश्न पत्र का सही हल एक बार लिखें।

Visual art

Class 9

1-Mixed Media – Express Your Identity

Create an expressive artwork on the theme “My Identity, My Dreams, My World.”

Combine at least three techniques, such as drawing, painting, paper collage, printing, or texture work.

Represent your aspirations, values, interests, or relationship with nature through images, symbols, and colours.

Add a short paragraph explaining the meaning of your composition.

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CLASS 9

AUTUMN BREAK HOLIDAY HOMEWORK

Vocational Education & Kaushal Bodh | 5 Core Tasks over 10 Days

CLASS 9: VOCATIONAL EDUCATION (KAUSHAL VIKAS)

Execution Guidelines (1 Task = 2 Days)

• Pacing: Complete 1 activity every 2 days (Day A: Planning & Execution, Day B: Observation & Log Record). • Submission: Maintain an A4-size “Autumn Skill Journal”. Include photos, sketches, or real samples.

• Safety: Perform practical steps under adult supervision using locally available household materials.

Task 1: Workplace Safety & First-Aid Poster | Safety & Compliance | Days 1–2

Design a clear, color-coded safety poster illustrating workshop hazard symbols, personal protective equipment (PPE), and emergency protocols for burns, cuts, or electric shock.

Journal Entry: Full-page visual safety chart with standard hazard symbol labels and First-Aid steps.

Task 2: Technical Drawing & Orthographic Projection | Technical Skill | Days 3–4

Select a structured household object (e.g., electrical extension box, staple machine, desk organizer). Draw its Front View, Top View, and Side View using standard dimensions.

Journal Entry: Dimensioned 3-view orthographic drawing sheet with title block and scale.

Task 3: Home Energy Audit & Power Calculation | Applied Mathematics | Days 5–6

Audit 3 high-usage appliances (e.g., fan, refrigerator, TV). Calculate daily energy consumption in kWh: (Power in Watts × Hours) / 1000. Estimate monthly running cost.

Journal Entry: Energy audit table + power formula calculations + 3 actionable energy-saving tips.

Task 4: Product Costing & Micro-Enterprise Plan | Entrepreneurship | Days 7–8

Develop a mini business plan for a simple product/service (e.g., potted herbs, crafted greeting cards, mobile screen guard installation). Calculate cost break-up and selling price.

Journal Entry: Cost Sheet (Raw Materials + Labour + Packaging = Total Cost) + Profit Margin & Price.

Task 5: Digital Inventory / Maintenance Log | Digital & Service | Days 9–10

Perform basic non-technical maintenance (cleaning fan blades, lubricating hinges) and design a spreadsheet or manual table tracking 10 household inventory items with total valuation.

Journal Entry: Executed maintenance log sheet + tabular inventory format with unit price and sum total.

ASSESSMENT & EVALUATION RUBRIC

Criteria	Weightage	Key Assessment Indicators
Practical Execution	40%	Evidence of hands-on task completion (photos, measurements, raw data).
Technical Accuracy	30%	Correct calculations, neat diagrams, proper labeling, realistic costings.
Journal & Presentation	20%	Neatness, adherence to schedule, and complete documentation.
Reflection & Safety	10%	Awareness of Dignity of Labour and personal safety precautions.