PM SHRI KENDRIYA VIDYALAYA TIKAMGARH

CLASS – 9 (2026-27)

Autumn Break Homework

Subject – Science (Physics)

1

Write the following Experiments in your separate Physics practical copy
(Note – Reading/Observation will be done in Laboratory, so leave observation table of Exp 1,4 blank)

1-Verification of the Laws of reflection of sound.

2-Determination of the density of solid (denser than water) by using a spring balance and a measuring cylinder.

3-Establishing the relation between the loss in weight of a solid when fully immersed in
a) Tap water
b) Strongly salty water
with the weight of water displaced by it by taking at least two different solids.

4-Determination of the speed of a pulse propagated through a stretched string/slinky (helical spring).

2

Write solution of all the **solved and unsolved in-text questions** given in NCERT science book (**EXPLORATION**) of following chapters in separate Homework copy

Ensure to complete your CW copy with notes and all exercise questions of following chapters.

-Describing Motion
-How forces affects motion
-Work, Energy and Simple Machines

3

Prepare a project consist of Project file and Project model based on
GREEN ENERGY-theme:

Suggestive Topics (**choose any one for project**)
Solar Energy
Hydropower
Geothermal Energy
Sea Wave Energy
Wind Energy

Project File Format
Topic
Introduction
Scientific Principle involved
Diagram
Material Required
Construction and working
Advantages

4

Describe the following topics on a chart paper with proper diagram.

Roll no	Topic
Roll no – 1 to 5	Newton's first Law of Motion
Roll no – 6 to 10	Newton's second Law of Motion
Roll no – 11 to 15	Newton's third Law of Motion
Roll no – 16 to 20	Work Done and Types of Work
Roll no – 21 to 25	Types of Energy
Roll no – 26 to 30	Kinetic Energy
Roll no – 31 to 35	Potential Energy
Roll no – 36 to 42	Conservation of Mechanical Energy

PM SHRI KENDRIYA VIDYALAYA TIKAMGARH

AUTUMN BREAK HOMEWORK (2026-27)

CLASS 9 – ARTIFICIAL INTELLIGENCE

1. AI in My Community - Observation Journal

Observe and write 10 real-life examples of AI applications you come across during holidays (e.g., Google Lens, Paytm fraud alerts, Netflix recommendations).

Present them in a table format with App Name-AI Feature - How it helps.

2. Poster / Infographic Making

Topic:"AI for Sustainable Development Goals (SDGs)".

Make a poster or infographic showing how AI can help in healthcare, education, environment, and agriculture.

3. Chatbot Design (Paper-based)

Imagine you are creating a chatbot to help students during exams.

Write a sample conversation (5-6 dialogues) between a student and the chatbot.

AUTUMN BREAK HOLIDAY HOMEWORK

Mathematics | Class 9

Kendriya Vidyalaya Tikamgarh - Session 2026-27

Autumn Break: 15 October 2026 to 24 October 2026 (10 days)

Chapters Covered (for revision)

- Ch 1 - Orienting Yourself: The Use of Coordinates
- Ch 2 - Introduction to Linear Polynomials
- Ch 3 - The World of Numbers
- Ch 4 - Exploring Algebraic Identities
- Ch 5 - I'm Up and Down, and Round and Round (Circles)
- Ch 6 - Measuring Space: Perimeter and Area

Instructions for Students

1. Attempt one worksheet each day. Do all the work neatly in your Maths notebook.
2. Write the question number and then the complete solution, showing each step.
3. Draw diagrams and graphs with a pencil and ruler wherever needed.
4. Revise the chapter from the textbook before starting that day's worksheet.
5. This is revision work only, based on what has already been taught in class.

Day 1: Orienting Yourself: The Use of Coordinates

1. Plot the points (2, 3), (-2, 4), (-3, -2) and (4, -1) on a graph and name the quadrant of each.
2. Write the coordinates of one point on the x-axis and one point on the y-axis.
3. Find the distance between the points (2, 3) and (2, 8).
4. Find the distance between the origin and the point (3, 4).
5. In which quadrant does the point (-5, 6) lie?
6. Write the coordinates of the reflection of the point (3, -4) in the x-axis.
7. Find the distance between (-1, 2) and (2, -2).
8. The point (0, y) lies on which axis? Give one example.

Day 2: Introduction to Linear Polynomials

1. Identify the terms, coefficients and variables in $5x - 3y + 7$.
2. Find the degree of the polynomial $4x^3 - 2x + 1$.
3. Which of these are linear polynomials: $2x + 5$, $x^2 + 1$, $3x - 7$, 4?
4. Evaluate the polynomial $p(x) = 2x + 3$ at $x = 4$.
5. Find the nth term of the pattern 3, 7, 11, 15, ...
6. Complete the table for $y = 2x + 1$ for $x = 0, 1, 2$ and 3, and plot the graph.
7. Write the slope and the y-intercept of the line $y = 3x - 2$.
8. Two lines have slopes 2 and 2. Are they parallel?

Day 3: The World of Numbers

1. Classify each as natural, integer, rational or irrational: -3, 0, 2/5, sqrt(7), 5.
2. Prove that the square root of 2 is irrational.
3. Write the recurring decimal 0.333... as a fraction.

4. Find two rational numbers between 1/3 and 1/2.
5. Express 0.36 as a fraction in lowest terms.
6. State whether the square root of 16 is rational or irrational.
7. Describe how you would represent the square root of 2 on the number line.
8. State whether the decimal expansion of 7/8 is terminating or non-terminating.

Day 4: Exploring Algebraic Identities

1. Expand $(x+3)^2$ using an identity.
2. Expand $(2a-5)^2$.
3. Evaluate 99^2 using an identity.
4. Factorise: $x^2 - 9$.
5. Expand $(x + 2)(x - 2)$.
6. Evaluate 103 x 97 using an identity.
7. Expand $(a+b)^3$
8. Factorise: $x^2 + 6x + 9$.

Day 5: I'm Up and Down, and Round and Round (Circles)

1. The perpendicular drawn from the centre of a circle to a chord ____ the chord.
2. Find the length of a chord of a circle of radius 5 cm that is at a distance of 3 cm from the centre.
3. Complete: the angle subtended by an arc at the centre is ____ the angle it subtends at any point on the remaining part of the circle.
4. Find the measure of the angle in a semicircle.
5. In a cyclic quadrilateral, one angle is 70 degrees. Find its opposite angle.
6. Two chords of a circle are each at a distance of 4 cm from the centre. Are they equal in length?
7. The diameter of a circle is 14 cm. Find its radius and the length of the longest chord.
8. An arc subtends an angle of 100 degrees at the centre. Find the angle it subtends at a point on the remaining part of the circle.

Day 6: Measuring Space: Perimeter and Area

1. Find the perimeter of a rectangle of length 12 cm and breadth 8 cm.
2. Find the area of a triangle of base 10 cm and height 6 cm.
3. Find the area of an equilateral triangle of side 4 cm.
4. Find the area of a triangle with sides 3 cm, 4 cm and 5 cm using Heron's formula.
5. Find the circumference of a circle of radius 7 cm.
6. Find the area of a circle of radius 14 cm.
7. Find the area of a sector of angle 60 degrees in a circle of radius 21 cm.
8. The perimeter of a square is 36 cm. Find its area.

पी एम श्री केंद्रीय विद्यालय टीकमगढ़

शरदकालीन अवकाश गृहकार्यम्

कक्षा – 9 विषयः – संस्कृतम्

रचनात्मक परियोजना कार्यम्

1. संस्कृतसमाचारपत्रम्

एक पृष्ठ का सुंदर संस्कृत समाचार-पत्र तैयार कीजिए। इसमें मुख्य समाचार, खेल समाचार, पर्यावरण समाचार, दिनविशेष एवं सुविचार को सरल संस्कृत भाषा में लिखिए।

2. संवादलेखनम्

निम्नलिखित विषयों में से किसी एक विषय पर दो व्यक्तियों के बीच संस्कृत में 10–12 संवाद लिखिए—

* शिक्षकः छात्रः च

* चिकित्सकः रोगी च

* क्रेता विक्रेता च

* मित्रयोः संवादः

3. संस्कृतव्याकरणवृक्षः

एक सुंदर व्याकरण-वृक्ष बनाइए। उसमें निम्नलिखित शाखाएँ बनाकर प्रत्येक के पाँच-पाँच उदाहरण लिखिए—

* संज्ञा-शब्दाः

* सर्वनाम-शब्दाः

* क्रियापदानि

* विशेषण-शब्दाः

* अव्ययपदानि

4. भारतस्य मानचित्रम्

भारत का मानचित्र बनाकर उसमें प्रमुख पर्वतों, नदियों, राज्यों एवं सांस्कृतिक स्थलों के नाम संस्कृत में लिखिए। साथ ही, किसी भी पाँच स्थानों के विषय में एक-एक संस्कृत वाक्य लिखिए।

5. मम दिनचर्या

'मम दिनचर्या' विषय पर संस्कृत में 10–15 वाक्य लिखिए। अपनी दिनचर्या के कम-से-कम पाँच कार्यों के चित्र बनाइए या चिपकाइए तथा उनके नीचे संस्कृत में वाक्य लिखिए।

6. संस्कृतशब्दकोशः

30 संस्कृत शब्दों का एक सुंदर चित्रात्मक शब्दकोश तैयार कीजिए। प्रत्येक शब्द के साथ उसका हिंदी अर्थ लिखिए। शब्दों को निम्नलिखित वर्गों में बाँटिए—

* फलानि

* पुष्पाणि

* पशवः

* पक्षिणः

* शरीरस्य अङ्गानि

* विद्यालयसम्बद्धाः शब्दाः

आवश्यक निर्देश

1. सभी कार्य सुंदर एवं स्वच्छ हस्तलेख में कीजिए।

2. परियोजना को आकर्षक बनाने के लिए रंगीन चित्रों एवं चार्ट का प्रयोग कीजिए।

3. सभी कार्य A4 शीट अथवा अलग गृहकार्य-पुस्तिका में कीजिए।

4. संस्कृत में स्वयं वाक्य बनाने का प्रयास कीजिए।

PM SHRI केंद्रीय विद्यालय, टीकमगढ़

शरदकालीन अवकाश गृहकार्य – 2026

कक्षा : IX | विषय : हिंदी | सत्र : 2026–27

सामान्य निर्देश

समस्त कार्य हिंदी की कॉपी में साफ-सुथरी एवं सुंदर लिखावट में कीजिए।

परियोजना कार्य A4 आकार की शीट अथवा फाइल में तैयार कीजिए।

पाठ्यपुस्तक आधारित कार्य

पढ़ाए गए प्रत्येक गद्य एवं पद्य पाठ से पाँच-पाँच महत्त्वपूर्ण प्रश्न-उत्तर तैयार कीजिए।

किसी एक कविता का केंद्रीय भाव लिखिए तथा कवि के बारे में संक्षिप्त परिचय दीजिए।

व्यावहारिक व्याकरण

उपसर्ग: परिभाषा लिखिए तथा दस उदाहरण देते हुए शब्द-निर्माण स्पष्ट कीजिए।

प्रत्यय: परिभाषा लिखिए तथा दस उदाहरण दीजिए।

संज्ञा, सर्वनाम, विशेषण एवं क्रिया: प्रत्येक की परिभाषा तथा पाँच-पाँच उदाहरण लिखिए।

अर्थ की दृष्टि से वाक्य-भेद: सभी प्रमुख भेदों की परिभाषा उदाहरण सहित लिखिए।

शब्दालंकार: अनुप्रास, यमक एवं श्लेष अलंकार की परिभाषा लिखिए तथा प्रत्येक के तीन-तीन उदाहरण दीजिए।

खंड–घ : रचनात्मक लेखन

निम्नलिखित में से किसी दो विषयों पर लगभग 120 शब्दों में अनुच्छेद लिखिए:

पर्यावरण संरक्षण में विद्यार्थियों की भूमिका

मोबाइल फोन : उपयोग एवं दुरुपयोग

स्वच्छ भारत, स्वस्थ भारत

समय का सदुपयोग

लगभग 80 शब्दों में संवाद लिखिए:

दो मित्रों के बीच पुस्तक-पठन के महत्त्व पर संवाद।

विद्यार्थी और शिक्षक के बीच समय-प्रबंधन पर संवाद।

खंड–ङ : परियोजना कार्य

विषय : हिंदी भाषा, साहित्य और भारतीय संस्कृति

परियोजना में निम्नलिखित बिंदुओं को शामिल कीजिए:

हिंदी भाषा का संक्षिप्त परिचय।

भारतीय संविधान में हिंदी की राजभाषा संबंधी व्यवस्था।

हिंदी के पाँच प्रमुख साहित्यकारों का परिचय एवं चित्र।

हिंदी भाषा के प्रचार-प्रसार में विद्यार्थियों की भूमिका।

भारतीय भाषाओं की विविधता और राष्ट्रीय एकता पर अपने विचार।

परियोजना के अंत में निष्कर्ष लिखिए।

विशेष निर्देश: सभी विद्यार्थी गृहकार्य स्वयं करें। पाठ्यपुस्तक के प्रश्न-उत्तर एवं सारांश अपनी निर्धारित पुस्तक में पढ़ाए गए पाठों के अनुसार ही लिखें।

PM SHRI KENDRIYA VIDYALAYA TIKAMGARH (M.P.)

HOLIDAY HOMEWORK – SCIENCE(Chemistry)

General Instructions:

(I).Complete all questions neatly in your Science notebook.

(II).Draw well-labelled diagrams wherever required.

(III).Write chemical symbols and electronic configurations correctly.

(IV).Learn all important definitions, laws and concepts.

1.Who discovered the electron?

2.Who discovered the nucleus of an atom?

3.Name the three subatomic particles of an atom.

4.What is the charge on a neutron?

5.Define atomic number.

6.What is meant by mass number?

7.Name the scientist who proposed the nuclear model of an atom.

8.What is the maximum number of electrons that can be accommodated in the K shell?

9. What are isotopes?

10.Write the electronic configuration of oxygen (atomic number 8).

11. Write any two postulates of Bohr's model of an atom.

12. Differentiate between isotopes and isobars with one example of each.

13. Calculate the number of protons, electrons and neutrons in an atom of sodium .

14. Write the electronic configurations of the following elements:

(a) Magnesium (Atomic number 12)

(b) Chlorine (Atomic number 17)

15. Explain Rutherford’s alpha-particle scattering experiment with a labelled diagram.

16. Explain the distribution of electrons in different shells according to Bohr and Bury’s rules.

17. Define valency. Determine the valency of the following elements using their electronic configurations

1.Oxygen

2.Aluminium

3.Nitrogen

4.Chlorine

18. Explain the concepts of atomic number, mass number, isotopes and isobars with suitable examples.

19. Prepare a colourful chart showing the first 20 elements, including their names, symbols, atomic numbers and electronic configurations.

20. Make a comparison chart of the three subatomic particles: electron, proton and neutron.

PM SHRI KENDRIYA VIDYALAYA, TIKAMGARH

AUTUMN BREAK PROJECT WORK

CLASS IX – SOCIAL SCIENCE

PROJECT ON DISASTER MANAGEMENT

Index

S. No. Contents

1 Introduction

2 Meaning of Disaster Management

3 Types of Disasters

4 Causes and Effects of Disasters

5 Disaster Management Cycle

6 Safety Measures

7 Role of Students and Community

8 Conclusion

AUTUMN BREAK HOMEWORK

Subject: English | Class IX

Topic: Twin Melodies and A Friend Found in Music

Q1. Reading and Writing

1. Write a summary of *Twin Melodies* in about 100–120 words.

Q2. Question–Answers

1. Answer any five textbook questions from the two chapters.
2. Write the main message or moral of the chapter
3. Describe how music brings people together and creates happiness.

Q3. Creative Activity

Make a colourful poster on" **twin melody" write about related player**

Q4. Grammar and Vocabulary

1. Write ten sentences using suitable adjectives and adverbs.
2. Find five examples of figures of speech from your English textbook.
3. Write ten synonyms and ten antonyms related to music, emotions, friendship and happiness.

Instructions:

- Complete all written work neatly in your English notebook.
- Use your own words.
- Decorate the poster creatively.
- Revise both chapters for the next class test.