

LUTHRA ACADEMY HIGH SCHOOL

GANDHINAGAR

SUMMER HOLIDAY HOMEWORK

Class 9th Standard

Academic Session: 2026-27

Class: 9th Standard

GUIDELINES:

- The student should maintain a separate notebook for summer holiday work.
- Students are advised to include yoga, exercise, and prayers in their daily routine to stay physically fit and mentally peaceful.

MATHEMATICS

1. REAL NUMBERS

1. Find 5 rational numbers between $\frac{3}{5}$ and $\frac{4}{5}$.
2. Represent 3.765 on the number line step-by-step using consecutive zoom or magnification steps.
3. Rationalize the denominator: $1 / (7 + 3\sqrt{2})$.

2. POLYNOMIALS

1. Find the value of k if $x - 1$ divides exactly into $2x^2 + kx + \sqrt{2}$.
2. Evaluate using formulas: (a) $(99)^3$ and (b) 104×96 .
3. Factorize: $8x^3 + y^3 + 27z^3 - 18xyz$.

PHYSICS

1. MOTION

1. An object moves around a circular track of radius r . What is its distance and displacement when it covers half the circle?
2. State the simple differences between distance and speed versus displacement and velocity.
3. Derive the three fundamental equations of motion ($v=u+at$, $s=ut+\frac{1}{2}at^2$, $v^2-u^2=2as$) using straightforward graph work.

2. FORCE AND LAWS OF MOTION

1. What is inertia? Explain why leaves drop off a tree branch when shaken hard.
2. State Newton's Second Law of Motion and explain why a cricket fielder pulls his hands backward to catch a fast ball.

3. WORK, POWER, AND ENERGY

1. A pair of bullocks pulls a plow with a force of 140 N . If the field distance is 15 m , find the work done.
2. Define Kinetic Energy and Potential Energy with their basic formulas. State the Law of Conservation of Energy.

CHEMISTRY

MATTER IN OUR SURROUNDINGS

1. Define evaporation. List three basic factors that speed it up or slow it down.

2. Give simple scientific reasons:
 - A desert cooler cools better on a hot, dry day.
 - We can sip hot milk faster from a flat saucer than a deep cup.
3. Convert these temperatures to the Celsius scale: (a) **300 K** (b) **573 K**.

BIOLOGY

1. FUNDAMENTAL UNIT OF LIFE

1. Draw a clean, simple diagram of a cell and label the main parts: nucleus, cell wall, and cytoplasm.
2. Write down one clear function for: Mitochondria, Golgi Apparatus, and Lysosomes.
3. Why are Lysosomes called the 'suicide bags' of a cell?

2. TISSUES

1. Draw a simple chart layout showing the difference between Meristematic and Permanent plant tissues.
2. Differentiate clearly between Skeletal, Smooth, and Cardiac muscle types.

HINDI (हिंदी)

पाठ 3: प्रेमचंद के फटे जूते

1. लेखक हरिशंकर परसाई ने प्रेमचंद के फटे जूते देखकर उनके व्यक्तित्व की किन मुख्य खूबियों को दर्शाया है?
2. पाठ में 'टीले' शब्द का प्रयोग जीवन में आने वाली किस प्रकार की रुकावटों या समस्याओं के लिए किया गया है?

पाठ 4: मेरे बचपन के दिन

1. महादेवी वर्मा के बचपन के समय समाज में लड़कियों के प्रति कैसा व्यवहार या नज़रिया था? संक्षेप में समझाइए।
2. सुभद्रा कुमारी चौहान के साथ महादेवी वर्मा की दोस्ती की शुरुआत स्कूल/छात्रावास में कैसे हुई?

पाठ 5: साखियाँ एवं सबद

1. कबीर के अनुसार 'मानसरोवर' के दो अलग-अलग अर्थ क्या हैं? स्पष्ट कीजिए।
2. कबीरदास जी ने अपने पदों में बाहरी दिखावे और पूजा-पाठ के आडंबरों का विरोध किस प्रकार किया है?

ENGLISH

LITERATURE FOCUS

1. **Blossom / Two Blossoms:** Write down the central theme or main idea of the chapter in 5-6 simple sentences.

2. **The Adventures of Toto:** Mention any three naughty things done by Toto the monkey that show why he could not be kept as a house pet.

GRAMMAR & WRITING SKILLS

1. **Notice Writing:** You are the Sports Secretary. Draft a short notice (under 50 words) announcing an Inter-Class Badminton Match.
2. **Article Writing:** Write a simple paragraph (100 words) on: "The Growing Use of AI/Computers by Students."
3. **Passage Writing:** Read a short paragraph of your choice and summarize its main points in 3 clear sentences.
4. **Essay Writing Portfolio:** Practice writing basic, direct essays (150-200 words) on any **two** of the following topics:
 - Topic 1: Importance of Mobile Phones
 - Topic 2: Use of Internet
 - Topic 3: Importance of Games and Sports

SOCIAL SCIENCE

1. HISTORY: SOCIALISM IN EUROPE & RUSSIAN REVOLUTION

1. What were the basic working and economic conditions of Russian peasants and workers before 1905?
2. Briefly explain what happened during the 1905 event known as 'Bloody Sunday'.
3. State the basic differences between the Bolshevik and Menshevik groups.

2. CIVICS: CONSTITUTIONAL DESIGN

1. What is a Constitution? Why does a country need a set of written laws?
2. Explain the basic meaning of any three terms from the Preamble: Sovereign, Secular, Democratic, or Republic.

3. GEOGRAPHY: PHYSICAL FEATURES OF INDIA

1. Name the three parallel mountain ranges of the Himalayas from north to south.
2. State the difference between a perennial river and a plateau landform.

Simple Map Work: Mark and locate these places on an outline map of India: (a) Mountain Peak K2, (b) Deccan Plateau, (c) Malabar Coast.

4. ECONOMICS: UNDERSTANDING THE INDIAN ECONOMY

1. Explain the three primary sectors of an economy (Primary, Secondary, and Tertiary Sectors) with one everyday example for each.
2. What is the difference between Market activities and Non-market economic activities?
3. What is human capital? Why is spending money on health and education considered a good investment for a country?

4. What is unemployment? Name and define the two main types of rural unemployment (Seasonal and Disguised).

A MESSAGE FOR THE SUMMER BREAK / ग्रीष्मकालीन अवकाश संदेश

"Learning is a beautiful journey, but a healthy body and a calm mind are the vessels that carry us through it. Use these holidays not just to feed your mind with books, but to enrich your life with health, gratitude, and joy."

"शिक्षा एक सुंदर यात्रा है, लेकिन एक स्वस्थ शरीर और शांत मन वह माध्यम हैं जो हमें इसमें आगे ले जाते हैं। इन छुट्टियों का उपयोग केवल किताबों से ज्ञान प्राप्त करने के लिए ही नहीं, बल्कि अपने जीवन को स्वास्थ्य, कृतज्ञता और आनंद से समृद्ध करने के लिए भी करें।"

Stay safe, rest well, and enjoy your summer break to the fullest!

सुरक्षित रहें, स्वस्थ रहें और अपनी छुट्टियों का पूरा आनंद लें!