OUR INDIA INTERNATIONAL SCHOOL

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SUMMER VACATION HOLIDAY HOMEWORK (2026-27)

Class: Grade 9	Subject: Science
Chapter 1: Matter in Our Surroundings	Teacher: Mohammad Anas

General Instructions:

1. Complete all 20 questions in a separate clean Science assignment notebook.
2. Support your answers with neat, labeled diagrams or chemical/physical explanations where applicable.
3. The homework is strictly based on Chapter 1 (Matter in Our Surroundings) of the NCERT textbook.
4. Timely submission right after the vacation will contribute toward internal assessment grading.

ASSIGNMENT: MATTER IN OUR SURROUNDINGS

Q1. Define matter. What are the physical states of matter? Mention the major bases of their classification.

Q2. When salt or sugar is dissolved in water, the water level does not rise. What characteristic of particles of matter does this experiment prove?

Q3. Why does the smell of hot sizzling food reach you several meters away, but to get the smell from cold food you have to go close?

Q4. A diver is able to cut through water in a swimming pool. Which property of matter does this observation show?

Q5. Compare the characteristic properties of solids, liquids, and gases in a tabular format with respect to density, compressibility, shape, and volume.

Q6. Give reasons for the following:
(a) A gas fills completely the vessel in which it is kept.
(b) A gas exerts pressure on the walls of the container.
(c) A wooden table should be called a solid.

Q7. Why is a sponge compressible even though it is classified as a solid? Explain.

Q8. Convert the following temperatures to the Celsius scale: (a) 300 K (b) 573 K. State the formula used.

Q9. Convert the following temperatures to the Kelvin scale: (a) 25°C (b) 373°C.

Q10. What is latent heat? Differentiate clearly between the latent heat of fusion and the latent heat of vaporization.

Q11. Why does ice at 273 K show more cooling effect than water at the same temperature?

Q12. What produces more severe burns, boiling water or steam? Explain the physics behind this phenomenon.

Q13. Define the terms 'Sublimation' and 'Deposition'. Name two substances that undergo sublimation.

Q14. Draw a neat, labeled schematic diagram showing the interconversion of the three states of matter.

Q15. What is dry ice? Why is it stored under high pressure, and what happens when the pressure is reduced to 1 atmosphere?

Q16. Define evaporation. How does it differ from boiling? Give any three differences.

Q17. Discuss in detail the four factors that affect the rate of evaporation of a liquid.

Q18. Why do we feel cool when we pour some acetone, alcohol, or petrol on our palm?

Q19. Why should we wear cotton clothes in summer? How does it help in keeping our body cool?

Q20. Why do we see water droplets on the outer surface of a glass tumbler containing ice-cold water?

PHYSICS

Section A – Theory Work

Q1. Define the following terms with examples:

Distance

Displacement

Speed

Velocity

Acceleration

Uniform Motion

Non-uniform Motion

Q2. Differentiate between:

Distance and Displacement

Write any 3 points

Speed and Velocity

Write any 3 points

Uniform and Non-uniform Motion

Write any 3 points

Q3. Learn and write all three equations of motion.

Also write:

Meaning of each symbol

SI units

Section B – Numerical Practice

Solve the following numericals:

Q4.A car starts from rest and attains a velocity of 20 m/s in 5 seconds. Find acceleration.

Q5.A train moving with a velocity of 15 m/s accelerates uniformly at 2 m/s² for 10 seconds. Find final velocity.

Q6.A bike moving at 10 m/s accelerates at 3 m/s² for 4 seconds. Find distance covered.

Q7.A bus slows down from 25 m/s to 5 m/s in 10 seconds. Find acceleration.

Q8.A body starts from rest and travels with acceleration 4 m/s² for 6 seconds. Find:

final velocity ,distance travelled

Section C – Activity Work

Activity 1: Observe Motion Around You

Observe any 5 moving objects around your home or road and complete the table:

Object Motion

Section D – Diagram Work

Draw neatly:

1.Distance-Time Graph for Uniform Motion

2.Distance-Time Graph for Non-uniform Motion

3.Velocity-Time Graph showing Uniform Acceleration

BIOLOGY

1.Define cell.

2.Who discovered the cell?

3.What is diffusion?

4.Define tissue.

5.Name the cell organelle known as the “powerhouse of the cell.”

Short Answer Questions

6.Differentiate between plant cell and animal cell.

7.Explain osmosis with one example.

8.Write the functions of the plasma membrane.

9.What are meristematic tissues?

10.Explain the process of photosynthesis.

Long Answer Questions

11.Draw and explain the structure of a plant cell.

12.Describe different types of plant tissues with examples.

13.Explain the process of respiration in humans.

14.Write differences between prokaryotic and eukaryotic cells.

SST

Students are instructed to complete the following assignments neatly in their notebooks. Use colored pens, maps, and charts wherever required.

Subject	Assignment
History	Prepare a chart on the causes and impact of the French Revolution. Write at least 5 important points and paste relevant pictures.
Civics	Write the meaning and features of democracy in your own words. Also mention 5 democratic countries with their capitals.
Geography	Draw the political map of India and mark neighboring countries, Tropic of Cancer, and surrounding water bodies. Write a short note on India’s size and location.
Economics	Write short notes on poverty, unemployment, and economic activities. Prepare a list of goods and services used in daily life.

Note: Complete all work neatly and submit after holidays.

Summer Holiday Homework

ENGLISH

Learn difficult words and their meanings from all chapters.

Section A – English Language Foundation Course

1. Sentence

(a) Write the definition of a sentence.

(b) Write five examples each of:

Declarative Sentences

Interrogative Sentences

Imperative Sentences

Exclamatory Sentences

(c) Identify the type of sentence:

What a beautiful morning it is!

Please close the door.

Did you finish your homework?

The children are playing in the park.

Never waste your time.

2. Phrase and Clause

(a) Write the definitions of:

Phrase

Clause

(b) Differentiate between Phrase and Clause with five examples.

(c) Underline the phrases in the following sentences:

The boy in the red shirt is my friend.

We sat under the old tree.

She completed the work with great care.

The man near the gate is a doctor.

They walked through the forest.

(d) Underline the clauses in the following sentences:

I know that he is honest.

When the rain stopped, we went outside.

She smiled because she was happy.

If you work hard, you will succeed.

The girl who won the prize is my cousin.

3. Verb “To Be”

(a) Write all forms of the verb “To Be”.

am

is

are

was

were

been

being

(b) Fill in the blanks with correct forms of “To Be”:

She ___ my best friend.

They ___ playing cricket.

I ___ happy yesterday.

We ___ going to school tomorrow.

The books ___ on the table.

(c) Make ten sentences using different forms of “To Be”.

4. Tenses

(a) Prepare a chart of all twelve tenses with:

Structure

One example of each tense

(b) Change the following sentences as directed:

She writes a letter. (Past Continuous)

They were playing football. (Simple Present)

I shall visit Jaipur. (Present Perfect)

He has completed his work. (Simple Past)

We are studying English. (Future Continuous)

(c) Write five sentences each in:

Simple Present

Present Continuous

Simple Past

Past Continuous

Simple Future

Section B – Literature

Chapter 1: The Fun They Had by Isaac Asimov

Activities

Write the summary of the chapter in about 150 words.

Write character sketches of:

Margie

Tommy

Write answers to the following:

Why did Margie hate school?

What was special about the old school?

Why did Tommy call the book “waste”?

Find and write meanings of 20 difficult words from the chapter.

Imagine you are Margie. Write a diary entry about your feelings after reading the old book.

Poem: The Road Not Taken by Robert Frost

Activities

Write the central idea of the poem.

Explain the poem stanza-wise in simple English.

Write the rhyme scheme of the poem.

Find meanings of 15 difficult words.

Draw and colour a picture showing the two roads described in the poem.

Write about a difficult decision you made in your life in 100 words.

Chapter: The Sound of Music by Deborah Cowley

Part I – Evelyn Glennie

Write a short note on Evelyn Glennie’s achievements.

How did she overcome her disability?

What inspiration do you get from her life?

Write meanings of 15 difficult words.

Part II – Bismillah Khan

Write a short note on Bismillah Khan.

Why is the shehnai important in Indian culture?

Describe Bismillah Khan’s love for Benaras.

Write meanings of 15 difficult words.

Section C – Creative Writing

1. Paragraph Writing

Write one paragraph (100–120 words) on each topic:

Importance of Reading

My Favourite Teacher

Summer Vacation Plans

2. Poster Making

Make a colourful poster on:

“Save Environment” OR

“Say No to Plastic”

3. Reading Habit

Read one English storybook during the holidays and write:

Name of the book

Author’s name

Main characters

Moral of the story

Section D – Project Work

Make a Grammar Scrapbook

Collect newspaper or magazine cuttings and paste examples of:

Sentences

Phrases

Clauses

Different tenses

Write the grammar rule below each example.

Holiday Practice Task

Read English newspaper daily for 15 minutes.

Learn five new words every day with meanings and sentences.

Practice speaking in English with friends and family.

Teacher’s Note

“Learning English becomes easy when you read, write, speak and practice regularly.”

Happy Holidays and Happy Learning!

MATHEMATICS

NUMBER SYSTEM

1. On rationalizing the denominator of $\frac{1}{\sqrt{7}-\sqrt{6}}$, we get

(a) $\frac{\sqrt{7}+\sqrt{6}}{\sqrt{7}-\sqrt{6}}$ (b) $\frac{\sqrt{7}-\sqrt{6}}{\sqrt{7}+\sqrt{6}}$ (c) $\sqrt{7}+\sqrt{6}$ (d) $\sqrt{7}-\sqrt{6}$

2. On rationalizing the denominator of $\frac{1}{\sqrt{5}+\sqrt{2}}$, we get

(a) $\sqrt{5}-\sqrt{2}$ (b) $\sqrt{2}-\sqrt{5}$ (c) $\frac{\sqrt{5}-\sqrt{2}}{3}$ (d) $\frac{\sqrt{2}-\sqrt{5}}{3}$

3. On rationalizing the denominator of $\frac{1}{\sqrt{7}-2}$, we get

(a) $\sqrt{7}-2$ (b) $\sqrt{7}+2$ (c) $\frac{\sqrt{7}+2}{3}$ (d) $\frac{\sqrt{7}-2}{3}$

4. On rationalizing the denominator of $\frac{1}{\sqrt{2}}$, we get

(a) 2 (b) $\sqrt{2}$ (c) $\frac{2}{\sqrt{2}}$ (d) $\frac{\sqrt{2}}{2}$

5. On rationalizing the denominator of $\frac{1}{2+\sqrt{3}}$, we get

(a) $2-\sqrt{3}$ (b) $\sqrt{3}-2$ (c) $2+\sqrt{3}$ (d) $-\sqrt{3}-2$

6. On rationalizing the denominator of $\frac{1}{\sqrt{3}-\sqrt{2}}$, we get

(a) $\frac{1}{\sqrt{3}+\sqrt{2}}$ (b) $\sqrt{3}+\sqrt{2}$ (c) $\sqrt{2}-\sqrt{3}$ (d) $-\sqrt{3}-\sqrt{2}$

7. The value of $64^{\frac{1}{2}}$ is :

(a) 8 (b) 4 (c) 16 (d) 32

8. The value of $32^{\frac{1}{5}}$ is :

(a) 16 (b) 160 (c) 2 (d) 18

9. The value of $(125)^{\frac{1}{3}}$ is :

(a) 5 (b) 25 (c) 45 (d) 35

10. The value of $9^{\frac{3}{2}}$ is :

(a) 18 (b) 27 (c) – 18 (d) $\frac{1}{27}$

POLYNOMIALS

1. The zero of $p(x) = 2x - 7$ is:

(a) $\frac{7}{2}$ (b) $\frac{2}{7}$ (c) $\frac{-2}{7}$ (d) $\frac{-7}{2}$

2. The zero of $p(x) = 9x + 4$ is:

(a) $\frac{4}{9}$ (b) $\frac{9}{4}$ (c) $\frac{-4}{9}$ (d) $\frac{-9}{4}$

3. Which are the zeroes of $p(x) = x^2 - 1$:

(a) 1, –1 (b) – 1, 2 (c) –2, 2 (d) –3, 3

4. Which are the zeroes of $p(x) = (x - 1)(x - 2)$:

(a) 1, –2 (b) – 1, 2 (c) 1, 2 (d) –1, –2

5. Which one of the following is the zero of $p(x) = lx + m$

(a) $\frac{m}{l}$ (b) $\frac{l}{m}$ (c) $-\frac{m}{l}$ (d) $-\frac{l}{m}$

6. Which one of the following is the zero of $p(x) = 5x - \pi$:

(a) $-\frac{4}{5}\pi$ (b) $\frac{1}{5}\pi$ (c) $\frac{4}{5}\pi$ (d) none of these

7. On dividing $x^3 + 3x^2 + 3x + 1$ by x we get remainder:

(a) 1 (b) 0 (c) – 1 (d) 2

8. On dividing $x^3 + 3x^2 + 3x + 1$ by $x + \pi$ we get remainder:

$(a) - \pi^3 + 3\pi^2 - 3\pi + 1$

$(b) \pi^3 - 3\pi^2 + 3\pi + 1$

$(c) - \pi^3 - 3\pi^2 - 3\pi - 1$

$(d) - \pi^3 + 3\pi^2 - 3\pi - 1$

9. On dividing $x^3 + 3x^2 + 3x + 1$ by $5 + 2x$ we get remainder:

(a) $\frac{8}{27}$ (b) $\frac{27}{8}$ (c) $-\frac{27}{8}$ (d) $-\frac{8}{27}$

10. If $x - 2$ is a factor of $x^3 - 3x + 5a$ then the value of a is:

(a) 1 (b) –1 (c) $\frac{2}{5}$ (d) $\frac{-2}{5}$

HINDI

रचनात्मक लेखन

निम्न विषयों पर 100–150 शब्दों का अनुच्छेद लिखिए:

पर्यावरण संरक्षण

मोबाइल का प्रभाव

पत्र लेखन

1 औपचारिक और 1 अनौपचारिक पत्र लिखिए।

उदाहरण:

आपकी पासबुक खो गई है इसकी सूचना देते हुए बैंक अधिकारी को पत्र लिखिए।

मित्र को जन्मदिन पर बधाई पत्र।

संवाद लेखन

“ऑनलाइन पढ़ाई के लाभ और हानि” विषय पर दो मित्रों के बीच संवाद लिखिए।

परियोजना कार्य (Project Work)

विषय: “भारत की संस्कृति और त्योहार”

A4 शीट पर: चित्र चिपकाइए

8–10 पंक्तियाँ लिखिए

सुंदर सजावट कीजिए

URDU

روزانہ ایک صفحہ نقل لکھیے۔

گھر والوں کی مدد سے روازنہ ایک صفحہ املا لکھیں ۔

تعلیم کی اہمیت اور وقت کی پابندی پر مضمون لکھیں ۔

Grammar Practice:

اسم،ضمیر، فعل، صفت

واحد جمع

مذکر مونث

سابقہ و لاحقہ۔

ARTIFICIAL INTELLIGENCE

S.No.	Chapter's Name	Activities
1	Basic Computers Skill	Reading chapter, Fill in the blanks, True & False, Answer the Following Questions.
2	Types of Business Activities Characteristics of Entrepreneurship	Reading the Chapter, Fill in the blanks MCQ, Answer the following questions.
3	Environment Protection and Conservation	Reading Chapter, MCQ, Answer the following questions
4	Importance of Green Economy	Reading Chapter, MCQ, Answer the Following Questions & Fill in the Blanks