

**SURAJ
SCHOOL
MANESAR**

**SURAJ
EDUCATION**

*Summer
Vacation*
**HOLIDAY
HOMEWORK**

SESSION 2026-27

Make your vacation
meaningful, fun-filled
and full of learning!

EXPLORE

LEARN

ENJOY

GROW

Name : _____

Class & Section : _____

Roll No. : _____

READ

LEARN

GROW

Maths

Section A (1 × 10 = 10 Marks) – Very Short Answer

1. Express 0.333... in p/q form
2. Find $\sqrt{49}$
3. Define polynomial
4. Write coordinates of origin
5. If $x = 2$, find value of x^2
6. Define axiom
7. Define complementary angles
8. Sum of angles of triangle
9. Write any irrational number
10. Degree of polynomial $x^3 + 2x^2$

Section B (2 × 10 = 20 Marks) – Short Answer

1. Find 3 rational numbers between 2 and 3
2. Simplify: $(\sqrt{5} + \sqrt{2})^2$
3. Find zeroes of $x^2 - 5x + 6$
4. Plot point (2,3) and state its quadrant
5. Find 2 solutions of $x + y = 5$
6. Define line segment and ray
7. If one angle is 30° , find its complement
8. Find perimeter of triangle with sides 3,4,5
9. Rationalize: $1/\sqrt{3}$
10. Define vertically opposite angles

Section C (4 × 10 = 40 Marks) – Long Answer

1. Prove that $\sqrt{2}$ is irrational
2. Factorize: $x^3 - 27$ and verify
3. Plot points A(2,3), B(-2,3), C(-2,-3), D(2,-3). Identify the figure formed
4. Draw graph of $x + y = 4$ and find its intercepts
5. Explain Euclid's 5th postulate with example
6. If two lines intersect and one angle is 60° , find all angles
7. Verify triangle inequality for sides 5, 6, 7
8. Find zeroes of $x^2 + 7x + 10$ and verify relationship
9. Explain difference between axiom and theorem
10. Find 3 solutions of $2x + y = 6$ and plot them

Section D (HOTS) (5 × 2 = 10 Marks)

1. Can sum of two irrational numbers be rational? Give example
2. Can a polynomial have more zeroes than its degree? Explain
3. Can a point lie in two quadrants at once? Justify
4. If two angles are supplementary and equal, find each
5. Can a triangle have angles 100° , 50° , 40° ? Why?

Section E (Case Study) (5 Marks)

1. A student measures a rectangular field using coordinate geometry:
2. Points are A(0,0), B(4,0), C(4,3), D(0,3)
3. What shape is formed?
4. Find length AB and BC
5. Find perimeter of field
6. Is it a square? Justify

COMPUTER

1. Explain the communication cycle with a suitable diagram and examples.
2. Explain the correct sitting posture and keyboard placement while typing.
3. What is stress? Explain any five stress management techniques.
4. Describe the various services offered under IT-enabled services with examples.
5. Explain the importance of typing speed and accuracy. Mention methods to improve them.

Hindi

1. निम्नलिखित विषय पर अनुच्छेद लेखन कीजिए -

1. पर्यावरण संरक्षण

2. डिजिटल शिक्षा

2 अपने मित्र को ग्रीष्मावकाश कैसे बिताया इस विषय पर अनौपचारिक पत्र लिखें ।

3 दी गई व्याकरण की अभ्यास पत्रिका उत्तर पुस्तिका में कीजिए ।

4 पाठ्य पुस्तक के कराए गए काव्य , गद्य के प्रश्न उत्तर दोहराए ।

ENGLISH

Instructions

- **Complete all tasks in regular school notebook**
- **Write neatly and honestly.**
- **Add pictures wherever possible.**
- **Focus on observation and real-life learning.**

1. Daily Conversation Practice

Talk in English with your family/friends for 15 minutes daily.

Write a short weekly reflection on:

What you spoke about

New words you used

Difficulty faced

2. Interview an Elder

Interview your grandparents/parents or any elder on:

“What was life like when you were my age?”

Ask at least 8 questions.

Write:

Their answers

What surprised you

What lesson you learned

3. Read and Reflect

Read any one motivational book / biography / newspaper articles for 7 days

Examples:

Wings of Fire

Newspaper editorials

Short inspirational stories

Write:

What you read

Three important learnings

How it can help your life

4. Household Responsibility Challenge

Take responsibility for one household task for 10 days.

Examples:

Organising your study table

Helping in kitchen

Watering plants

Teaching younger sibling

Write a short report:

Task performed

Challenges faced

What you learned

5. Digital Detox Activity

Stay away from mobile/social media for 3 hours daily for one week.

Maintain a record:

Day

What I did instead

How I felt

Then write:

“How reducing screen time changed my routine.”

6. Observe Your Surroundings

Observe your locality and identify 5 real-life problems

Examples:

Garbage disposal

Water wastage

Traffic discipline

Noise pollution

For each, write:

Problem

Cause

Practical solution

7. Kindness Journal

Perform one act of kindness daily for 7 days

Examples:

Helping someone

Sharing notes

Respecting workers

Helping at home

Write what you did and how it made you feel.

8. Self-Improvement Reflection

Write a self-analysis on:

“Three habits I need to improve as a student.”

Also write your action plan.

9. Real-Life Vocabulary Hunt

Collect 25 English words from:

Newspaper

Advertisements

Product labels

Public notices

Write meanings and where you found them.

10. Vision Board

Prepare a creative chart/file page on:

“My Goals for Class 9 and Beyond”

Include:

Academic goals

Personal goals

Skills to learn

Career dream

PHYSICS

1. Do back exercise of chapter work, energy and simple machines.

2. Paste or draw pictures of:

* Lever

* Pulley

* Wheel and axle

* Inclined plane

* Screw

* Wedge

3. Prepare a colourful chart on:

* "Forms of Energy" OR

* "Simple Machines Around Us"

4. Write five daily-life examples where simple machines are used.

Biology

A. Multiple Choice Questions

The basic structural and functional unit of life is:

- a) Tissue
- b) Organ
- c) Cell
- d) Nucleus

Which organelle is known as the powerhouse of the cell?

- a) Golgi body
- b) Ribosome
- c) Mitochondria
- d) Lysosome

Xylem helps in transportation of:

- a) Food
- b) Water
- c) Hormones
- d) Oxygen

Which tissue helps in movement in animals?

- a) Epithelial tissue
- b) Muscular tissue
- c) Nervous tissue
- d) Connective tissue

B. Fill in the Blanks

The outer covering of a plant cell is called _____.

_____ tissue transports food in plants.

The control centre of the cell is _____.

Blood is a type of _____ tissue.

C. Very Short Answer Questions

What is osmosis?

Name any two cell organelles.

What is the function of stomata?

Define tissue.

D. Short Answer Questions

Differentiate between plant cell and animal cell.

Explain the functions of plasma membrane.

Differentiate between xylem and phloem.

E. Diagram Practice

Draw and label:

Plant Cell

Animal Cell

Neuron

F. Activity Work

Make a 3D model of a plant or animal cell.

Collect pictures of different plant tissues and paste them in scrapbook.

G. Creative Task

Write a short paragraph on:

“Importance of Cells in Living Organisms”

Chemistry

Section A – MCQs (1 Mark Each)

1.The basic unit of life is:

- a) Tissue
- b) Organ
- c) Cell
- d) Organ system

2.Which organelle is known as the powerhouse of the cell?

- a) Nucleus
- b) Ribosome
- c) Mitochondria
- d) Vacuole

3. Diffusion becomes faster when:

- a) Temperature decreases
- b) Temperature increases
- c) Air is removed
- d) Volume decreases

4. Which state of matter has maximum intermolecular space?

- a) Solid
- b) Liquid
- c) Gas
- d) Plasma

5. Phloem transports:

- a) Water
- b) Minerals
- c) Food
- d) Oxygen

6. The process of conversion of solid directly into gas is called:

- a) Condensation
- b) Fusion
- c) Sublimation
- d) Evaporation

7. Which of the following is a homogeneous mixture?

- a) Soil
- b) Milk
- c) Salt solution
- d) Smoke

8. White blood cells help in:

- a) Clotting
- b) Transport of oxygen
- c) Immunity
- d) Digestion

9. The tissue responsible for movement is:

- a) Nervous tissue
- b) Muscular tissue
- c) Epithelial tissue
- d) Connective tissue

10. Which method is used to separate cream from milk?

- a) Filtration
- b) Distillation
- c) Centrifugation
- d) Sublimation

Section B – Very Short Answer Questions (1 Mark Each)

1. Name the outer covering of a plant cell.
2. Define evaporation.
3. Name the tissue that connects bone to bone.
4. What is cytoplasm?
5. Name one pure substance.
6. Which tissue transports water in plants?
7. What happens to particles of matter on heating?
8. Define solution.

Section C – Short Answer Questions (2 Marks Each)

1. Differentiate between plant cell and animal cell.
2. Why are lysosomes called suicidal bags?
3. State any two characteristics of particles of matter.
4. Differentiate between evaporation and boiling.
5. What are meristematic tissues? Name their types.

Section D – Long Answer Questions (3 Marks Each)

1. Explain the structure and functions of nucleus.
2. Explain the factors affecting evaporation.
3. Make a chart on (a) Differentiate between true solution, suspension and colloid on the basis of:
 - (a) Nature of mixture
 - (b) Visibility of particles
 - (c) Tyndall effect

OR

Make a chart on separation techniques.

SOCIAL SCIENCE

1. Map work (Label and locate states and union territories with their capitals on India Map (and paste in your notebook)
2. Write about a local historical place nearby you.
3. Write a paragraph on World Environment Day (5 June).
4. "Democracy is considered better than other forms of government." Justify the statement.
5. Explain the scope of Social Science by describing Geography, History, Political Science, and Economics, and show how they overlap in real life.
6. Write about the features of democracy.
7. Explain the major causes of floods in India and suggest effective flood management measures.
8. Describe the major seasons of India and explain the climatic conditions associated with each season.
9. What are the main functions of the Election Commission of India?
10. What are the challenges to free and fair elections in India?