



# **R.V. NORTHLAND INTERNATIONAL SCHOOL**

## **HOLIDAYS HOMEWORK 2025-26 CLASS-IX**

## **Guidelines for a Productive & Enriching Learning Journey**

- **Parental Involvement (Where needed):** While independence is key, feel free to seek guidance from parents or mentors when tackling complex topics.
- **Stay Organized:** Maintain separate folders or files for each subject. Label all worksheets/sample papers with your Name, Class, Roll Number, and Subject.
- **Concept Clarity is Key:** Don't just solve – understand! Revisit NCERTs, class notes, and concept videos to strengthen fundamentals.
- **Practice Makes Progress:** Dedicate time daily to complete sample papers and worksheets. Stick to exam-like time limits to build confidence and speed.
- **Neat & Smart Presentation:** Ensure your written work is legible, structured, and presentable — remember, presentation reflects discipline.
- **Revise Strategically:** Revise topics covered in April and May using mind maps, flowcharts, or bullet-point notes. Use flashcards for quick recall.
- **Strengthen Weak Areas:** Identify topics you found challenging in school — use this time to revisit and master them.
- **Communicate in English:** Practice spoken English with peers or family to enhance fluency — essential for academic and future success.
- **Self-Evaluation:** After solving a sample paper, check your answers using answer keys or marking schemes to analyze mistakes and improve.
- **Break, Breathe, Balance:** Take breaks between study sessions. Pursue a hobby, read a novel, or take a walk — mental freshness improves retention.
- **Plan Your Time:** Follow a daily planner — balance academic work with relaxation. Doing a little every day prevents last-minute stress.

### **HOLIDAY REMINDER**

Recharge your body, refresh your mind, and return with renewed energy. We look forward to seeing your hard work, creativity, and confidence in full bloom!

With Best Regards  
Class Teacher

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# English

## 1. Reading :

- Read and paste five English news headlines from any newspaper daily from 5th June to 15th June.
- Complete Reading Assignments 1, 2, and 3 from your English Plus Vol-1 (Comprehension passages and questions).

## 2. Writing & Grammar

- Write a story in your Grammar notebook that begins with the line: “The lights went out...”
- Create a Grammar Flipbook . ( Choose any three topics e.g., Tenses, Modals, Determiners and present them creatively also decorate it.)

## 3. Literature:

- Complete Diagnostic Test – 1 from your English Plus Vol-1 (Objective-type questions and very short questions) of the following:

- ❖ The Fun They Had
- ❖ Wind
- ❖ The Lost Child
- ❖ The Adventure of Toto

## 4. Speaking Task:

- Record a 1–2 minute video on the topic: “Why English is important today.”

# Social Science

## 1. Geography – Physical Features of India

File Work:

- ❖ Title page: India's Physical Beauty

On an India map, mark and label:

- The Himalayas
- Northern Plains
- Peninsular Plateau
- Western and Eastern Ghats
- Coastal plains and Islands
- ❖ Write a short paragraph (80–100 words) about how physical features influence life and culture in India
- ❖ Add one photo or drawing of a landform (e.g., mountain or desert)

## 2. Political Science – Constitutional Design

File Work:

- ❖ Title page: India's Constitution: Our Foundation
- ❖ Create a flowchart of how India's Constitution was formed (from 1946 to 1950)
- ❖ Write 5 important features of the Constitution
- ❖ Design a mock Preamble poster using your own values for a "Student Constitution"

Instructions:

- Use a file or folder with decorated section dividers
- Handwritten work preferred; decorate with drawings/charts/maps
- Keep the content original and well-organized.

### Art and Integration Activities

Topic: "Unity in Diversity – Uttar Pradesh with the North-East"

Use maps, cultural symbols, folk art, and national symbols.

Include photos of food, music instruments, and festivals from each state.

OR

Poster Making On The Theme Of Environmental Issue Of Uttar Pradesh And Arunachal Pradesh.

# Hindi

## (क) स्पर्श:

नोट – आपको अपना गृहकार्य एक अलग कॉपी में अनिवार्य रूप से करना है।

1. प्रतिदिन समाचार पत्र को पढ़कर अपने आस-पास घटित हो रही कम से कम 5 घटनाओं/सूचनाओं की जानकारी अपनी कॉपी में लिखिए।
2. हिंदी विषय की अपनी सुंदर परियोजना कार्य फाइल तैयार करते हुए माखनलाल चतुर्वेदी के जीवन परिचय, कृतियाँ व 'गिल्लू' पाठ पर एक परियोजना तैयार कीजिए।
3. रैदास के दोनों पदों की व्याख्या अपने शब्दों में अपनी कॉपी में लिखिए।

## (ख) संचयन:

'गिल्लू' पाठ पढ़ें और गिलहरी के प्रति लेखिका के भावों को 100 शब्दों में लिखें।

## 2. लेखन कार्य (Writing Work):

निम्नलिखित में से किसी एक विषय पर 250 शब्दों में निबंध लिखें:

- (i) पुस्तकें हमारे जीवन में
- (ii) पेड़-पौधे: हमारे जीवनदाता
- (iii) विज्ञान और मानव जीवन

एक अनौपचारिक पत्र लिखिए अपने मित्र को, जिसमें आप अपने ग्रीष्मकालीन अवकाश की योजनाएँ साझा करें।

## 3. व्याकरण अभ्यास (Grammar Practice):

निम्न विषयों पर 5-5 उदाहरणों सहित अभ्यास करें:

- (i) संधि
- (ii) समास
- (iii) उपसर्ग और प्रत्यय

## 4. रचनात्मक गतिविधि (Creative Activity):

अपने पसंदीदा लेखक/कवि पर एक A4 शीट पर जानकारीपूर्ण पोस्टर बनाएं।

(नाम, जन्म-स्थान, रचनाएँ, योगदान आदि का उल्लेख करें)

## 5. अतिरिक्त अभ्यास:

एक समाचार पत्र या पत्रिका से कोई प्रेरणादायक लेख découper (काटकर चिपकाएं) करें और उस पर 5 पंक्तियों में अपने विचार लिखें।

# Hindi Worksheet

## पाठ – 1: वर्ण विचार..

### 1. रिक्त स्थान भरिए:

- (क) हिंदी वर्णमाला में कुल \_\_\_\_\_ वर्ण होते हैं।
- (ख) स्वर वर्णों की संख्या \_\_\_\_\_ होती है।
- (ग) व्यंजन वर्णों की संख्या \_\_\_\_\_ होती है।
- (घ) 'ँसी' शब्द में \_\_\_\_\_ प्रयुक्त हुआ है।
- (ङ) 'फ़रिश्ता' शब्द में \_\_\_\_\_ का प्रयोग हुआ है।

### 2. सही विकल्प चुनिए (MCQs):

1. 'अनुस्वार' का उच्चारण होता है—  
(a) नाक से  
(b) मुख से  
(c) गले से  
(d) तालु से
2. 'अनुनासिक' ध्वनि का उदाहरण है —  
(a) नाम  
(b) रात  
(c) सब्ज़ी  
(d) कल
3. 'नुक्ता' का प्रयोग होता है —  
(a) उच्चारण स्पष्ट करने के लिए  
(b) मात्राएँ बढ़ाने के लिए  
(c) वाक्य जोड़ने के लिए  
(d) विराम देने के लिए
4. निम्न में से कौन-सा 'आगत' (विदेशी) वर्ण है?  
(a) ख (b) फ (c) ज (d) स

### 3. निम्न शब्दों की ध्वनि के आधार पर वर्गीकरण कीजिए (स्वर/व्यंजन/अनुस्वार/अनुनासिक/नुक्ता/आगत):

शब्द वर्ग  
आँख  
जमीँ  
अम्बर  
सँसी  
फ़कीर

### 4. उत्तर लिखिए:

- (क) अनुस्वार और अनुनासिक में क्या अंतर है? उदाहरण सहित समझाइए।
- (ख) आगत वर्ण क्या होते हैं? कोई चार उदाहरण लिखिए।
- (ग) नुक्ता क्या है? इसका प्रयोग किन वर्णों में होता है?  
उत्तरपत्रक तैयार कीजिए व अध्यापिका को दिखाइए।

# SCIENCE

## Chapter 1: Motion - 10 Questions

1. Define displacement. How is it different from distance?
2. What is the SI unit of speed, velocity, and acceleration?
3. An object is moving with a constant speed. Can its velocity change? Explain.
4. State the difference between uniform and non-uniform motion.
5. A car travels 100 km in 2 hours. What is its average speed?
6. Derive the first equation of motion:  $v = u + at$ .
7. Draw a velocity-time graph for uniform acceleration and find the distance covered.
8. A body starts from rest and reaches a velocity of 20 m/s in 4 seconds. What is the acceleration?
9. What is meant by acceleration? Write its formula and unit.
10. What does the slope of a distance-time graph represent?

## Chapter 2: Matter in Our Surroundings - 10 Questions

1. Define matter. What are the characteristics of particles of matter?
2. List the three states of matter with two examples each.
3. Define evaporation. How does it cause cooling?
4. What factors affect the rate of evaporation?
5. Write any three differences between solids, liquids, and gases.
6. What is sublimation? Name two substances that sublime.
7. Explain latent heat of fusion and latent heat of vaporization.
8. Define boiling point and melting point with examples.
9. Explain how temperature and pressure affect the state of matter.
10. Draw a diagram showing the interconversion of the three states of matter.

## Chapter 3: The Fundamental Unit of Life (Cell) - 10 Questions

1. Who discovered the cell? Name the scientist and the year.
2. Define cell. Why is it called the structural and functional unit of life?
3. Differentiate between prokaryotic and eukaryotic cells.
4. Draw a neat labeled diagram of a plant cell.
5. Write functions of:
  - a) Cell membrane
  - b) Nucleus
  - c) Mitochondria
6. Name the cell organelle known as the powerhouse of the cell. Why?
7. List any three differences between plant and animal cells.
8. What is the function of vacuole and cell wall?
9. What is cytoplasm? What role does it play in a cell?
10. Define the term organelle. Name any four cell organelles with their functions.



# Worksheet

## Chapter: Motion

### Written Work:

#### 1. Define the following with examples:

- Distance and Displacement
- Speed and Velocity
- Acceleration

#### 2. Differentiate:

- Uniform vs Non-uniform motion
- Scalar vs Vector quantities

### Numerical:

- A train travels 120 km in 3 hours and 80 km in 2 hours. Calculate average speed.
- An object accelerates from 0 to 30 m/s in 5 seconds. Find acceleration.

### Activity:

- Draw a distance-time graph and velocity-time graph for:
- Uniform Motion
- Accelerated Motion

## Chapter: Matter in Our Surroundings

### Written Work:

#### 1. Define:

- Matter
- States of Matter

#### 2. Write properties of solids, liquids, and gases.

#### 3. Explain interconversion of states with a labelled diagram.

### Experiments (Simple):

- Take 3 bowls: ice, water, and steam (photos or drawings). Label states.
- Observe and write how evaporation causes cooling (e.g., wet hand under fan).

**Creative Task:**

- Create a flowchart or model of interconversion of states of matter.
- Chapter: The Fundamental Unit of Life (Cell)

**Written Work:**

1. Define Cell. Who discovered it?
2. Write functions of:
  - Nucleus
  - Cell membrane
  - Mitochondria
3. Difference between:
  - Plant and Animal Cell
  - Prokaryotic and Eukaryotic Cells
  -

**Diagram Work:**

Neatly draw and label:

- A Plant Cell
- An Animal Cell

**Creative Task:**

Make a 3D model of a cell using thermocol, clay, or recycled material.

Write: Why is the cell called the basic unit of life?

# Physical Activity Trainer

## Chart making on games

❖ Model making on equipment related to games

1. **Basketball** -
  - A. Court measurements
  - B. Rules
  - C. Equipment uses
  - D. 5 Top most famous players
2. **Volleyball**-
  - A. Court measurements
  - B. Ball making on ballon
  - C. Rules
  - D. Information about libro
- 3.**Badminton**-
  - A. court making
  - B. Equipments uses
  - C. Playing surfaces
- 4.**Fitness char**
  - A. Morning routine
  - B. Nutrition diet
  - C. Playing time
  - D. Fitness exercises

# MATHEMATICS

## WORKSHEET: MATHEMATICS CLASS: IX (2025-26) NUMBER SYSTEM

### Multiple Choice Questions

- The product of any two irrational numbers is:  
(A) always an irrational number  
(B) always a rational number  
(C) always an integer  
(D) sometimes rational, sometimes irrational
- The value of  $1.999\dots$  in the form  $\frac{p}{q}$ , where p and q are integers and  $q \neq 0$ , is:  
(A)  $\frac{19}{10}$       (B)  $\frac{1999}{1000}$       (C) 2      (D)  $\frac{1}{9}$
- $2\sqrt{3} \times \sqrt{3} + 1$  is equal to :  
(A)  $2\sqrt{9}$       (B) 6      (C) 7      (D)  $4\sqrt{6}$
- Between two rational numbers:  
(A) there is no rational number  
(B) there is exactly one rational number  
(C) there are infinitely many rational numbers  
(D) there are only rational numbers and no irrational numbers
- which of the following is equal to x?  
(A)  $x^{\frac{12}{7}} - x^{\frac{5}{7}}$       (B)  $\sqrt[12]{(x^4)^{\frac{1}{3}}}$       (C)  $(\sqrt{x^3})^{\frac{2}{3}}$       (D)  $x^{\frac{12}{7}} \times x^{\frac{7}{12}}$

### Short Answer Type Questions

- Find the three rational numbers between:  
(i) -1 and -2      (ii) 0.1 and 0.11      (iii)  $\frac{5}{7}$  and  $\frac{6}{7}$       (iv)  $\frac{1}{4}$  and  $\frac{1}{5}$
- Represent geometrically the following numbers on the number line:  
(i)  $\sqrt{4.5}$       (ii)  $\sqrt{5.6}$       (iii)  $\sqrt{8.1}$       (iv)  $\sqrt{2.3}$
- Simplify  $16^{\frac{-1}{4}} \times \sqrt[4]{16}$
- Find the value of x in  $3 + 2^x = (64)^{\frac{1}{2}} + (27)^{\frac{1}{3}}$ .
- If  $a = -2$ ,  $b = -1$ , then find  $a^{-b} - b^a$ .

### Long Answer Type Questions

- If  $x = \frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$  and  $y = \frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$ , find the value of  $x^2 + y^2 + xy$ .

12. If  $x = \frac{2-\sqrt{5}}{2+\sqrt{5}}$  and  $y = \frac{2+\sqrt{5}}{2-\sqrt{5}}$ , find the value of  $x^2 - y^2$ .

13. Determine rational numbers p and q if

$$\frac{7+\sqrt{5}}{7-\sqrt{5}} - \frac{7-\sqrt{5}}{7+\sqrt{5}} = p - 7\sqrt{5}q.$$

14. Simplify:  $\frac{6}{2\sqrt{3}-\sqrt{6}} + \frac{\sqrt{6}}{\sqrt{3}+\sqrt{2}} - \frac{4\sqrt{3}}{\sqrt{6}-\sqrt{2}}$

15. Simplify:  $\frac{3\sqrt{2}}{\sqrt{6}-\sqrt{3}} + \frac{2\sqrt{3}}{\sqrt{6}+2} - \frac{4\sqrt{3}}{\sqrt{6}-\sqrt{2}}$

16. Show that:  $\frac{1}{3-\sqrt{8}} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{1}{\sqrt{7}-\sqrt{6}} - \frac{1}{\sqrt{6}-\sqrt{5}} + \frac{1}{\sqrt{5}-2} = 5$

17. If:  $x = \frac{\sqrt{p+q} + \sqrt{p-q}}{\sqrt{p+q} - \sqrt{p-q}}$ , then find the value of  $qx^2 - 2px + q$ .

18. Show that:  $\frac{x^{-1}+y^{-1}}{x^{-1}} + \frac{x^{-1}-y^{-1}}{x^{-1}} = \frac{x^2+y^2}{xy}$

19. If  $x = 2 + 3\sqrt{2}$ , then find the value of  $\left(x + \frac{14}{x}\right)$ .

20. Find the value of a and b in the following:

(i)  $\frac{5+2\sqrt{3}}{7+4\sqrt{3}} = a - b\sqrt{3}$

(ii)  $\frac{\sqrt{2}+\sqrt{3}}{3\sqrt{2}-2\sqrt{3}} = a + b\sqrt{6}$

21. To judge the preparation of student's class IX on topic "Number System" Mathematics teachers write two numbers on black board (as shown in figure), and asks some questions about the members, which are following, then answer the question:



- (i) Write the decimal form of  $\frac{2}{11}$
- (ii) Write the p/q form of 0.38.  
Write the decimal expansion of  $\frac{2}{11}$ .
- (iii) If p/q form of 0.38 is m/n, then find the value of (m + n)

**WORKSHEET: MATHEMATICS**  
**CLASS: IX (2025-26)**  
**POLYNOMIALS**

**Multiple Choice Questions**

1. The degree of the polynomial  $3x^3 - x^4 + 5x + 3$  is:?  
(A) 3                      (B) -4                      (C) 4                      (D) 1
2. If  $p(x) = 5x^2 - 3x + 7$ , then  $p(1)$  equals to  
(A) -10                      (B) 9                      (C) -9                      (D) 10
3. If  $\frac{x}{y} + \frac{y}{x} = -1$ , ( $x, y \neq 0$ ), then the value of  $x^3 - y^3$  is  
(A) 1                      (B) -1                      (C) 0                      (D)  $\frac{1}{2}$
4. The remainder when  $f(x) = x^3 - 2x^2 + 6x - 2$  is divided by  $(x - 2)$ , is  
(A) 5                      (B) 8                      (C) -10                      (D) 10
5. If  $(x + 1)$  and  $(x - 1)$  are the factors of  $f(x) = ax^3 + bx^2 + cx + d$ , then  
(A)  $a + b = 0$                       (B)  $b + c = 0$                       (C)  $b + d = 0$                       (D)  $a + d = 0$

**Short Answer Type Questions**

6. If  $f(x) = 2x^3 - 15x^2 + 15x + 2$ , find  $f(2)$  and  $f(-3)$ .
7. If  $x = 2$  is a root of the polynomial  $f(x) = 2x^2 - 3x + 7a$ , find the value of  $a$ .
8. Check whether the polynomial  $f(x) = 4x^3 + 4x^2 - x - 1$  is a multiple of  $2x + 1$ .
9. If  $x + 1$  is a factor of the polynomial  $2x^2 - kx$ , then find the value of  $k$ .
10. Find the coefficient of  $x^2$  in  $(x^2 - 2)^3$ .
11. Find the value of (using identity only) i)  $249^2 - 248^2$                       ii)  $95 \times 96$ .

**Long Answer Type Questions**

12. Expand : i)  $\left(\frac{1}{x} + \frac{y}{3}\right)^3$   
ii)  $\left(4 - \frac{1}{3x}\right)^3$
13.  $x + \frac{1}{x} = 3$ , find the value of  $x^2 + \frac{1}{x^2}$  and  $x^3 + \frac{1}{x^3}$ .
14. If  $x - 2y = 11$  and  $xy = 8$ , find the value of  $x^3 + 8y^3$ .

15. If  $p(x) = x^3 + 3x^2 - 2x + 4$ , find the value of  $p(-2) + p(1) + p(0)$ .

16. If  $a + b + c = 6$  and  $ab + bc + ca = 11$ , find the value of  $a^3 + b^3 + c^3 - 3abc$ .

17. Using identities, find the product of

i)  $(x + 1)(x - 1)(x^2 + 1)(x^4 + 1)$ .

ii)  $\left(x - \frac{y}{5} - 1\right)\left(x + \frac{y}{5} - 1\right)$ .

18. Rationalise the denominator and simplify:

$$\frac{2\sqrt{6}-\sqrt{5}}{3\sqrt{5}-2\sqrt{6}}$$

19. Simplify

$$\frac{\sqrt{5}+\sqrt{3}}{\sqrt{5}-\sqrt{3}} + \frac{\sqrt{5}-\sqrt{3}}{\sqrt{5}+\sqrt{3}}.$$

20. Find the value of  $\frac{6}{\sqrt{5}-\sqrt{3}}$ , it being given that  $\sqrt{3} = 1.732$  and  $\sqrt{5} = 2.236$ .

21. On one day, principal of a particular school visited the classroom. Class teacher was teaching the concept of polynomial to students. He was very much impressed by her way of teaching. To check, whether the students also understand the concept taught by her or not, he asked various questions to students. Some of them are given below. Answer them.



i) Find the value of  $a$ , when  $x + 1$  is a factor of  $x^3 - 2ax^2 + 16$ .

ii) Find the value of  $k$ , when  $x - 1$  is a factor of  $4x^3 - 3x^2 - 4x + k$ .

iii) How many zeroes are there in the polynomial  $x^2 + 4x + 2$ .

