SUGHAR SINGH ACADEMY (SWARN JAYANTI VIHAR)
SUMMER VACATION HOLIDAY HOMEWORK (2025-26)
CLASS-IX

English	1. You are stuck in the lift of your residential apartment. Write a paragraph based on this in about 100 to 120 words. 2. Write a descriptive paragraph on the celebration of Children's Day in your school in 100-120 words. 3. Given below is the outline of a story write it using this outline with your own ideas in 100-120 words. Train journey -found a lost child – tried to help- parents came searching- accused of kidnapping- child revealed the truth. 4. Read the lessons of both the books taught in class.
Hindi	दो बैलों की कथा, कबीर की साखियां एवं शब्द, वॉख, उपसर्ग-प्रत्यय, समास-आदि पाठों में कराया गया समस्त कार्य कंठस्थ करें पहलगाम आतंकी हमले पर अपनी अभ्यास पुस्तिक में एक अनुच्छेद लिखें। महिलाओं के हित के संबंध में प्रधानमंत्री द्वारा चलाई गई 10 योजनाएं एवं उनके उद्देश्य। (परियोजना कार्य)
Science	**Physics**- Solve the given worksheet. **Chemistry**- Solve the given worksheet. **Biology**- Complete the given assignment.
Social Studies	**Make a project file for anyone:-** **1- Natural Disaster Management:** Create a project file on any three distinct natural disasters. For each selected disaster, include: a precise definition and explanation of the phenomenon; identification of susceptible regions globally or within India; a detailed analysis of preparedness strategies; a comprehensive overview of response mechanisms; and an evaluation of mitigation strategies to reduce future impact. **2- Economic Analysis of Uttar Pradesh:** Analyze the proportional contribution of the primary (agriculture), secondary (industry), and tertiary (services) sectors to the economy of Uttar Pradesh. Identify the dominant economic sector(s) based on output and employment. Discuss the growth drivers and inherent challenges within each identified dominant sector. Demarcate regions within Uttar Pradesh that are significantly associated with specific industrial activities. **3- Research Project:** French Revolution and Indian Nationalism: Investigate the impact of the French Revolution's ideals on the Indian National Movement. Identify the Indian ruler who held membership in the Jacobin Club. Analyze the influence of the French Revolution on the aforementioned Indian ruler's policies and actions.
Maths	Solve the given worksheet in Maths notebook.
Computer	Solve the given worksheet.

1) *Express the following decimals in the form* $\frac{p}{q}$

i) $1.3\overline{23}$ ii) $0.00\overline{32}$

iii) $0.3\overline{178}$ iv) $0.\overline{235}$

2) *If* $a = \frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$ *and* $b = \frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$, *find the value of* $a^2 + b^2 - 5ab$.

3) *Find the values of a and b, If:* $\frac{7+3\sqrt{5}}{3+\sqrt{5}} - \frac{7-3\sqrt{5}}{3-\sqrt{5}} = a + b\sqrt{5}$

4) *If* $x = \sqrt{13} + 2\sqrt{3}$, *Find the valus of* $x - \frac{1}{x}$?

5) *Simplify:* $-$

i) $\frac{2\sqrt{6}}{\sqrt{2}+\sqrt{3}} + \frac{6\sqrt{2}}{\sqrt{6}+\sqrt{3}} - \frac{8\sqrt{3}}{\sqrt{6}+\sqrt{2}}$ ii) $\left[5\left(8^{1/3} + 27^{1/3}\right)^3\right]^{1/4}$

iii) $\left(\frac{64}{125}\right)^{-2/3} + \left(\frac{256}{625}\right)^{-1/4} + \left(\frac{3}{7}\right)^0$ iv) $\left(\frac{x^p}{x^q}\right)^{p+q} \times \left(\frac{x^q}{x^r}\right)^{q+r} \times \left(\frac{x^r}{x^p}\right)^{r+p}$

6) *Find the remainder by using remainder theorem:* $p(x) = x^3 - 6x^2 + 2x - 4$, $g(x) = 1 - \frac{3}{2}x$

7) *Find the value of K for which* $(x-1)$ *is a factor of* $(2x^3 + 9x^2 + x + K)$

8) *Factorise the following*:

i) $108a^2 - 3(b-c)^2$ ii) $9a^2 + 6a + 1 - 36b^2$

iii) $81x^4 - y^4$ iv) $40 + 3x - x^2$

v) $\sqrt{5}x^2 + 2x - 3\sqrt{5}$ vi) $9(a-b)^2 - 4(a-b) - 13$

vii) $16x^2 + 4y^2 + 9z^2 - 16xy - 12yz + 24xz$ viii) $\frac{64}{125}a^3 - \frac{96}{25}a^2 + \frac{48}{5}a - 8$

ix) $\frac{x^3}{216} - 8y^3$ x) $(a+b)^3 + (a-b)^3$

xi) $8 - 27b^3 - 343c^3 - 126bc$ xii) $(a-3b)^3 + (3b-c)^3 + (c-a)^3$

Class 9 Physics Worksheet: Motion Chapter

I. Very Short Answer Questions

1. What is instantaneous speed?

2. Write the SI unit of acceleration.

3. What does a straight line on a distance-time graph represent?

4. Define average speed.

5. Can displacement be zero even if distance is not? Explain briefly.

II. Fill in the Blanks

1. Displacement is the shortest distance between _____ and _____.

2. SI unit of velocity is _____.

3. A body is said to be in motion if it changes its _____ with time.

4. Uniform acceleration means _____ change in velocity in _____ time intervals.

III. True or False

1. A curved distance-time graph indicates non-uniform motion.

2. Velocity can never be negative.

3. Speed is always greater than or equal to velocity.

4. Acceleration can be negative.

IV. Short Answer Questions

1. A car travels 100 m north and then 100 m south. What is the total displacement?

2. What is the difference between speed and velocity?

3. A car moves with a uniform speed of 72 km/h. Convert this into m/s.

4. A bus moves with an acceleration of 1 m/s². How much velocity will it gain in 10 seconds?

V. Long Answer / Numerical Questions

1. Derive the second equation of motion: s = ut + 1/2 at²

2. A body starts from rest and accelerates uniformly at 3 m/s². Find the distance covered in 5 seconds.

3. A car moving at 20 m/s is brought to rest in 10 seconds. Calculate the retardation and distance covered.

VI. Graph-based Question

1. Draw a distance-time graph for:

   a) Stationary object

   b) Object in uniform motion

   c) Object in non-uniform motion

Chapter-1

Worksheet-1

Q.1. In which of the following conditions, the distance between the molecules of hydrogen gas would increase?
(i) Increasing pressure on hydrogen contained in a closed container
(ii) Some hydrogen gas leaking out of the container
(iii) Increasing the volume of the container of hydrogen gas
(iv) Adding more hydrogen gas to the container without increasing the volume of the container
(a) (i) and (iii)
(b) (i) and (iv)
(c) (ii) and (iii)
(d) (ii) and (iv)

Q.2 When a gas jar full of air is placed upside down on a gas jar full of bromine vapours, the red-brown vapours of bromine from the lower jar go upward into the jar containing air. In this experiment:
(a) Air is heavier than bromine
(b) Both air and bromine have the same density
(c) Bromine is heavier than air
(d) Bromine cannot be heavier than air because it is going upwards against gravity

Q.3. A form of matter has no fixed shape but it has a fixed volume. An example of this form of matter is
(a) Krypton
(b) Kerosene
(c) Carbon steel
(d) Carbon dioxide

Q.4. Which one of the following statements is not true?
(a) The molecules in a solid vibrate about a fixed position
(b) The molecules in a liquid are arranged in a regular pattern
(c) The molecules in a gas exert negligibly small forces on each other, except during collisions
(d) The molecules of a gas occupy all the space available

Q.5. The correct procedure of heating iron-sulphur mixture to prepare iron sulphide is: :
(a) Heat the powder mixture at the base of the test tube using a blue flame throughout.
(b) Heat the iron filings and sulphur mixture in the middle of the test tube using yellow flame throughout.
(c) Heat the powder mixture at the top of the test tube using an orange flame throughout.
(d) Heat the iron filings-sulphur mixture at 3/4 quarters of the test tube using a red flame throughout.

Q.6. When water at 0°C freezes to form ice at the same temperature of 0°C, then it:
(a) Absorbs some heat
(b) Releases some heat
(c) Neither absorbs nor releases heat
(d) Absorbs exactly 3.34 x 10^5J/kg of heat

Q.7. When heat is constantly supplied by a burner to boiling water, then the temperature of water during vaporisation :
(a) Rises very slowly
(b) Rises rapidly until steam is produced
(c) First rises and then becomes constant
(d) Does not rise at all

Q.8. Which one of the following set of phenomena would increase on raising the temperature?
(a) Diffusion, evaporation, compression of gases
 (b) Evaporation, compression of gases, solubility

 (c) Evaporation, diffusion, expansion of gases
 (d) Evaporation, solubility, diffusion, compression of gases

Q.9. On converting 308 K, 329 K and 391 K to Celsius scale, the correct sequence of temperatures will be:
(a) 33°C, 56°C and 118°C
(b) 35°C, 56°C and 119°C
(c) 35°C, 56°C and 118°C
(d) 56°, 119°C and 35° C

Q.10. Which of the following phenomena always results in the cooling effect?

(a) Condensation

(b) Evaporation

(c) Sublimation

(d) None of these

Que-11 Explain why; diffusion occurs more quickly in a gas than in a liquid.

Que-12 When a crystal of potassium permanganate is placed at the bottom of water in a beaker, the water in the whole beaker turns purple on its own, even without stirring. This is an example of:

(a) distribution

(b) intrusion

Que-13 What do you understand by the term 'latent heat'? What are the two types of latent heat?

Que-14 Why is heat energy needed to melt a solid? What is this heat energy called?

Que-15 Why is solid carbon dioxide known as dry ice?

Que-16 Why does the temperature remain constant during the melting of ice even though heat is supplied continuously?

Que-17 Why does the temperature remain constant during the boiling of water even though heat is supplied continuously?

Que-18 Which contains more heat, 1 kg of ice of $0°$ C or 1 kg of water at $0°$ C? Give reason for your answer.

Que-19 Why does the temperature of a substance remain constant during the change of state?

Que-20 Why does all the water of the earth not get evaporated during hot summer days?

1. Why are we advised to gargle with salt solution during throat infections?

2. Why is leaking of gas easily detected in the house?

3. Write the function of contractile vacuole in the cells.

4. Distinguish between cytosol and cell sap.

5. Why are genes called hereditary vehicles?

6. Why do movement of certain ions in a cell require energy?

7. Differentiate between the shape of an animal cell and a plant cell when kept in a hypertonic medium.

8. Name two organelles which are associated with ribosomes and help in protein synthesis.

9. What is endocytosis? Explain the phenomenon with the help of a suitable example.

10. What would happen, if

(i) a plasmolysed cell is kept in a hypotonic medium?

(ii) a deplasmolysed cell is kept in a hypertonic medium?

(iii) a boiled plant cell is kept in a hypotonic medium?

11. Write any three functions of endoplasmic reticulum.

12. Draw a well-labelled diagram of the nucleus. Write one function of each part and any two unctions of the nucleus.

Or

Enumerate differences between a plant cell and an animal cell with the help of diagram.

1. What is the need of secondary memory?
2. What is the difference between EROM AND EEROM?
3. What is the difference between RAM and ROM?
4. Write the characteristics of non impact printers?
5. Differentiate between Flash drive and memory stick?
6. What do you understand by Blu-ray disk and microphone?
7. Explain the input device that is used to convert handwritten text into machine readable format?
8. Which input device is used to play video games in a more interesting way?
9. Write short notes: (a) Drum Scanner   (b) Flatbed Scanner
10. Which technology is used in laser printer? What are its basic features?
11. What are the two types of ROMs available in the market?
12. Write short notes: (a) Blog   (b) Wikis
13. Write differentiate between CD and DVD?
14. Explain different types of mouse?
15. Explain the functions and usage of a bar code reader?