## SRI GURU HARKRISHAN PUBLIC SCHOOL, DUGRI ROAD, LDH

#### SUMMER BREAK ASSIGNMENTS (2025-26)

**CLASS IX** 

#### **Dear Parents**

Greetings !!!

As already intimated, the Summer Break is scheduled from 2nd June 2025 till 5th July 2025. Summer Vacation has always been considered to be the most desirable period looked forward by children; when they can go beyond academics and embark on a journey of fun and adventure by reading books, exercising, meditating, and channelizing one's energy in a positive manner.

The Summer Break Assignments are designed in such a way that the students will learn by doing. The parents are requested to help the students in completing all the Assignments in a neat and clean handwriting. These assignments carry weightage so it is important for everyone to deposit them immediately after the Summer Break gets over.

We wish everyone a wonderful and well deserved Summer Break! May it be filled with relaxation, fun and creating cherished memories.

HAPPY SUMMER BREAK !!!





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Regards Principal



## Holidays homework Class – IX Science

- (a) Task : "Track the motion: uniform or not ?" Activity:
- Plan to go to a place by a vehicle.
- Take readings of odometer and speedometer after every minutes till you reach your destination **Submission :** .
- Record these observations in tabular form & plot graphs between distance-time and speed time.
- State whether this motion is uniform or non uniform. Learning outcomes : Students will :
- learn to plot distance-time graphs and interpret the shape of the graph to determine the type of motion.
- Based on collected data students will distinguish between uniform & non- uniform motion
- (b) Task : "The Human Cell Academy " :

#### Activity :

- Consider a cell like your school. Each part of the cell (school) has responsibilities that must be done and certain organelles (people) to do them.
- Identify the functions of the following parts of the cell then identify which person does the same job.
- First one is done as an example to follow:
- Part of School that has a similar function
- 1. Cell Membrane(front office)
- Function: Controls what goes in and out of the cell

Similarly you have to find the function of the following parts & identify which person in the school do the same function:

- 1.Mitochondria
- 2.Nucleus
- 3. Ribosome
- 4.Cytoplasm
- 5.Golgi Body
- 6.Cell Wall (only in plant cell)

#### Submission :

- Write all the information on an A4 sheet & also paste pictures of all the parts
- Neatness, accuracy and creativity will be assessed.

Learning outcomes: Students will :

- Identify cell organelles & their functions in both Plant & Animal cell
- Understand the analogy between organelles and parts of a school (e.g., nucleus as principal's office, mitochondria as the power supply, etc.)
- (c) Task : Make a 3D model of :
  - Animal cell (Roll No: 1-7)
  - Plant cell (Roll No: 8-14)
  - Bacterial cell (Roll No: 15-21)
  - Neuron (Roll No: 22-29)
  - Working model of hydraulic lift (Roll No: 30-37) Materials :
  - Use clay, paper mache, waste material, or food items (edible cells),syringes,plastic tubing,water,wooden board, glue,small load

• Label parts clearly

 You can take help from the link given below: <u>https://youtube.com/shorts/zF6B8XJAXpk?si=0wWhZpjZqLhU-7iN</u> <u>https://youtube.com/shorts/EsP8Wei6K68?si=6TiJf\_Csm9Aoe11b</u> <u>https://youtube.com/shorts/SmHeaEGsfUQ?si=6kcwY8bW75Dr7UUD</u> <u>https://youtube.com/shorts/GEfKbDVRG1U?si=W6-0LPoCG7-rW570</u>

(d) Task : "Marble Paper Creation":

#### Materials required:

- Shallow tray or plastic container
- Water
- Cooking oil or baby oil
- Food coloring or oil-based paints
- Droppers
- Toothpicks or sticks
- Absorbent white paper (e.g., chart/cartridge paper)
- Apron (optional)

#### Activity:

- Fill the tray halfway with water.
- Gently pour a layer of oil on the surface.
- Drop food coloring/paint into the oil layer.
- Use a stick to create patterns by gently swirling.
- Lay the white paper gently on the surface and hold for 5–10 seconds.
- Lift the paper and let it dry flat. Submission:
- Draw or describe the pattern on your paper
- Neatness, accuracy and creativity will be assessed.
   Learning outcomes: Students will :
- Explore the concept of immiscible liquids and density
- Develop values such as creativity, patience, cooperation, and respect for diversity.
- (e) Task: "To show the Process of Endosmosis & Exosmosis at home :

Activity: 1. Endosmosis :

- Take a glass of plain water (preferably lukewarm for faster results).
- Drop a few raisins into the water.
- Let it sit for 3–6 hours or overnight.
- The raisins will swell up because water enters the cells through osmosis.
   2. Exosmosis :
- Prepare a concentrated sugar or salt solution.
- Place the swollen raisins or grapes in the solution.
- Leave them for 2–4 hours.
- Observe them shrinking.
- You can take help from the link given below: <u>https://youtu.be/HKXMyht6h5Y?si=Snhoe58dgeE9a51L</u> <u>https://youtu.be/AYHELMy1kWI?si=aFKbmz5GaOYl0sIn</u> Submission :
- The Activity should be done manually and the project should be handwritten with images and done on a file (A4 size sheets)
- Decorate & organize the file properly

Learning outcomes : Students will :

- Predict the direction of water movement when cells/tissues are placed in hypotonic, hypertonic, or isotonic solutions.
- Apply the concept of osmosis to real-world situations
- (f) Task : "Atomic Comic Strip" Story of an Atom :

Activity : Create a comic strip or short illustrated story where an atom tells its life story:

- How it formed bonds
- Turned into molecules
- Experienced reactions Submission :
- Comic book style assignment or animation
   Learning outcomes : Students will :
- Understand atomic structure
- Recognise atomic behaviour in reactions

## Worksheet

## Ch-5 The fundamental unit of life

#### I.Answer the following :

- 1. Why is Plasma Membrane called a selective permeable membrane and Cell Wall is called as fully permeable membrane ?
- 2. Which cell organelle, you think, is known as "Head Quarter" of the cell and why?
- 3. What is the nuclear region of the prokaryotic cells called?
- 4. Where is Ribosomes synthesized? State the function of this organelle.
- 5. What will happen to an animal cell if placed in the hypertonic solution?
- 6. Name the only cell organelle seen in prokaryotic cell.
- 7. What is plasmolysis?

- 8. Why does the skin of your finger shrink when you wash clothes for a long time?
- 9. Name the mechanism by which substances like Carbon-di-Oxide and Water move in and out of the cell? Discuss.
- 10. Which plastid is responsible for yellow and other colours in petals of flower?

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- II. Name the organelles which show the analogy written as under.
- 1. Transporting channels of the cells.
- 2. Digestive bag of the cell.
- 3. Storage sacs of the cells.
- 4. Control room of the cell.
- 5. Kitchen of the cell.
- 6. Powerhouse of the cell.
- 7 Packing & dispatching unit of the cell

( हिन्दी गृहकार्य:- कक्षा- IX )

- प्रस्तुति का तरीकाः स्क्रैपबुक/प्रोजेक्ट फाइल/ सुलेख के लिए नोटबुक
- प्रस्तुति के सुझाव :- 1.पृष्ठों को कलरफुल बना।

2.हैडिंग्स को रचनात्मक

बनाएं।

## 3.इमोजी, स्टिकर या छोटी डूडल आर्ट शामिल करें।

1.कल्पना की उड़ान - कहानी लेखन

अगर रोबोट मेरे स्कूल आए...( 150-200 शब्दों में कल्पनाशील कहानी लिखें। साथ में संबंधित चित्र/डूडल्स बनाएं।)

2.सोशल मीडिया पोस्ट/ब्लॉग शैली लेखन

भेरी नजर में आदर्श शिक्षक″ [100 शब्दों में एक रचनात्मक पोस्ट या ब्लॉग लिखें, हैशटैग और इमोजी (अगर चाहें तो) जोड़ें।]

3.मेरी डायरी – एक अनुभव

जब मैंने पहली बार किसी की मदद की- (डायरी शैली में 100-120 शब्दों में अनुभव साझा करें।)

\* **Poster making:** Cartoon interpretation to summarise the benefits & features of democracy.

Also make a list of democratic & non democratic country.

\* Develop timeline of significant events related to the outbreak of Russian Revolution.

\*Write an essay about Adolf Hitler & paste his pictures .

\*Identify the species of plants found in your area paste picture and write names with their

medicinal value.

\*Make your Atlas : Locate, label & paste map of following lessons in your classwork

notebook with the help of book (maps work syllabus will be given)

Geography:Ch-1,2,3,4,5,6

HISTORY:- Ch-1,2,3

## \* Project on DISASTER MANAGEMENT :

• Every student has to compulsorily undertake any ONE project out of the given topics from

Disaster Management.

• Choose any man-made or natural disaster to which India is vulnerable to e,g, building

collapse, terrorist attack, earthquakes, cyclones, landslides, floods, etc.

• Prepare a detailed project under the following heads:

Meaning of Disaster, Hazard, the difference between Hazard & Disaster, Disaster Management, and the various causes and mitigation measures of the disaster chosen by you.

• Your project should be supported by suitable photographs and paper cuttings of the affected area.

• Collect the data and prepare a report on ANY ONE of the recent disasters that has taken

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place in the country .

- Define the role of citizens, NGOs, and government agencies during disasters.
- Students need to prepare their project on A4 size paper, which should be handwritten. The

project should consist maximum of 8 pages. (Cover Page: Title, Topic/ Name Of The

Student/ Class/Section/Scholar Number) should be mentioned in the project.

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Note: Holidays homework should be done on A4 size sheets and bring it in a folder

# **Holidays Homework of English** Note: Holidays Homework to be done in a separate copy. \*Locate the difficult words from the chapters and poems done till date and write their meanings along with the sentences. \* Write the descriptive Paragraph on the following: i)My Father ii)A Day with My Mother as a Child iii)A Brave soldier I read about iv)A stranger who left a lasting impression v)A Talented Artist in My School

## HOLIDAYS HOME WORK OF IT

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Grade-9

Write a Practical in a lab manual file

## Holidays homework of Punjabi ਜਮਾਤ- ਨੋਵੀ

ਵਿਸ਼ਾ-ਪੰਜਾਬੀ

1.ਲੇਖ ਲਿਖੋ

ਸੁਤੰਤਰਤਾ ਦਿਵਸ,ਸਮੇਂ ਦੀ ਕਦਰ,ਪਾਣੀ ਦੀ ਮਹਤੱਤਾ,ਰੁੱਖ ਦੀ ਮਹਾਨਤਾ,ਬੱਚਿਆਂ ਦਾ ਮਾਂ-ਬਾਪ ਪ੍ਰਤੀ ਫਰਜ਼ , ਵਾਦੜੀਆਂ ਸਜਾਦੜੀਆਂ ਨਿਭਣ ਸਿਰਾਂ ਦੇ ਨਾਲ

2. ਪੱਤਰ

ਨਿੱਜ਼ੀ ਪੱਤਰ 1 ਤੋਂ 7 on grammar book

ਸਰਕਾਰੀ ਪੱਤਰ 1 ਤੋਂ 7 on grammar book

ਕਿਸੇ ਇਕ ਵਿਸ਼ੇ ਤੇ ਪ੍ਰੋਜੈਕਟ ਤਿਆਰ ਕਰੋ।

ਵਿਸ਼ਵ ਸ਼ਾਂਤੀ ਜਾਂ ਸੰਸਾਰ ਅਮਨ

ਜੇਕਰ ਤੁਸੀਂ ਅਮਨ ਚਾਹੁੰਦੇ ਹੋ ਤਾ ਸਦਾ ਜੰਗ ਲਈ ਤਿਆਰ ਰਹੋ।

ਰੁੱਖਾ ਦੀ ਮਹਾਨਤਾ

ਬੱਚਿਆਂ ਦੇ ਮਾਂ ਬਾਪ ਪ੍ਰਤੀ ਫਰਜ਼

3. ਰੁੱਖ ਲਗਾਓ,ਰੁੱਖ ਬਚਾਓ ਦੇ ਆਧਾਰ ਤੇ ਇਕ ਪੌਦਾ ਤਿਆਰ ਕਰੋ ਆਈ

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Class 9th Subject - Mathematics Holidays homework 1) Prepare any one chart on one topic as per your roll number Charts should be covered with cellophane sheets. Roll number. Topics 1-10. Collage on Maths in Everyday Life OR Family Tree of Quadrilaterals. OR Geometry Nets (e.g. prism, pyramid, cylinder etc.) 11—20. Algebric Identities OR Spiral Square Root 21–30. Euclid's Axioms OR Real Numbers and it's types OR Geometry Town 31-40 Euclid's Postulates OR Indian Mathematicia (with pictures and their life time) Instructions. Charts should be very creative and beautifully decorated. 2) Do the following activities in your Lab manual Activity 1) To obtain a line segment corresponding to the square root of natural numbers using graduated strips. Activity 3) To verify the identity $a^3-b^3 = (a-b)(a^2+ab+b^2)$ for simple cases using a set of unit cubes. Activity 5) To interpret geometrically the factors of a quadratic expression of the type $ax^2+bx+c$ using square grids, strips and paper splips. Activity 5) To interpret geometrically the factors of a quadratic expression of the type $ax^2+bx+c$ using square grids, strips and paper splips. Activity 5) To interpret geometrically the factors of a quadratic expression of the type $ax^2+bx+c$ using square grids, strips and paper splips. Activity 7) To verify the identity ( $a^3+b^3$ )=( $a+b$ )( $a^2-ab+b^2$ ) for simple cases using a set of unit cubes. Activity 6) To obtain the mirror image of a given geometrical figure with respect to the x-axis and the y-axis. Activity 7) To verify the Mid Point Theorem for a triangle using paper cutting and pasting.	*			
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Activity 8) To explore criteria for congruency of triangles using a set of triangular cut outs.

Instructions Do all the activities in a creative manner.Untidy work will not be accepted.

3). Do the following assignments in a separate holiday homework register.

**Linear Equations** 

## MULTIPLE CHOICE QUESTIONS

1) Which one of the following options is not a solution of x + 2y = 6?

(a) (0, 3) (b) (6, 0) (c) (2, 2) (d) (6, 3)

2) One of the solution of 4x + 3y = 12 is

(a) (3, 4). (b) (0, 4). (c) (-3, 0). (d) (0, -4).

3) Equation of line passes through origin is

(a) X + y = 4. (b) x + 10y = 14. (c) 10x + y = 15. (d) 10x = y.

4) If x + y = 7 and 3x - 2y = 11 are linear equations, then the values of x and y which will satisfy these equations are (a) x = 2, y = 5. (b) x = 5, y = 5. (c) x = 5, y = 2. (d) x = 0, y = 3.

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5) An equation ax + c = 0, where a is non-zero number represent

(a) A curve. (b) a straight line parallel to Y-axis.

© a straight line parallel to X-axis. (d) a quadrilateral.

(a) 
$$X = 0(b) y = 0(c) x = 1(d) y = 1$$

7) Y = 5x, If x = 5 then the value of y is

(a) 5(b) 15(c) 25(d) 30

8) Express the given statement in the form of linear equation in two variables. The sum of abscissa and twice the ordinate is 6.

(a) X + 2y = 6(b) 2x + y = 6(c) x - 2y = 6(d) 2y - x = 6

9) Find the coefficient of x in the equation :

(a) (b) (c) ab(d)

10) Find the value of k in the equation 2x+3y=k, where x = 2 and y = 3 is the solution of the equation.

(a) 7(b) 9(c) 11(d) 13

SUBJECTIVE QUESTIONS

1) If a = b = 3, then find the value of x from the equation

- 2) On her birthday, Natasha donated 4 toffees each to children of an orphanage and 20 chocolates to adults working there. Taking the total item distributed as x and the number of children y.
  - a) Write a linear equation in two variables for the above situation and draw linear graph for the same.

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- 3) Write each of the following equations in the form ax+by+c =0 and Indicate the values of a, b and c in each case: (i)2x + 3y = 4.37 ,(ii) x-4 = 3y ,(iii) 4= 5x-3y
- 4) Solve the equation 2x+1=x-3, and represent the solution(s) on
  - (i) The number line.
  - (ii) The Cartesian plane.
- 5) If the point (-1,-5) lies on the graphs of 3x=ay+7 and y=bx+7, find the value of a and b.
- 6) Draw a graph of the equation x-2y=3. From the graph read off
  - a) The value of y, when x=-5
  - b) The value of x , when y=0
- 7) The taxi fare in a city is as follows. For the first kilometer, the fare is Rs.20 and for the subsequent distance it is Rs.6 per km. Taking x km as the distance covered and Rs.y as the total fare, write a linear equation for this information and draw its graph.

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- 8) The cost of a box is Rs.25. Taking x as the number of boxes and y, the total cost in rupees, construct a linear equation. Also, draw the graph.
- 9) When 5 times the larger of the two number is divided by smaller, the quotient and remainder are 2 and 9 respectively. Form a linear equation in two variables for the above and draw its graph.
- 10) Draw the graph of 2x+y=7. Write the points where line meets x and y axis.

#### POLYNOMIALS

If A and B be the remainders , when the polynomials y3+2y2 - 5ay -7 and y3+ay2 - 12y + 6 are divided by (y+1) and (y-2), respectively. If 2A + B = 6, then find the value of a.

If x - 2 is a factor of x5 - 3x4 - ax3 + 3ax2 + 2ax + 4, then the value of a is

(a) 3/2. (b) 2/3. (c) −2/3. (d) −3/2. Which identity will be used to find 99 x 101?

(a) (a+b)2(b) (a-b)2(c) a2-b2(d) a2+b2

If x+y+z=8 and xy+yz+zx=20, Find the value of x3+y3+z3-3xyzIf f(x) = x4-2x3+3x2-ax + b is a polynomial such that when it is divided by (x-1) and (x+1), the remainders are respectively 5 and 19. Determine the remainder when f(x) is divided by (x-2)

Find the value of 64x3-125z3, if 4x-5z=16 and xz=12.

Use the factor theorem to determine whether g(x) is a factor of f(x) in each of the following cases:

(i) F(x) = x3 - 3x2 + 4x - 4, g(x) = x - 2

(ii)If a+b+c=0, then prove that =1If = b, then find the value of .

(a) 2b(b) b3(c) 3b(d) b2

(b) Factorize the following using factor theorm  $x^3 + x - 3x^2 - 3$ . Simplify the following using identities Find the value of x3 – 8y3 – 36xy – 216, when x = 2y+6 Factorize (x+1)3-(x-1)3 X12-y12 27a^3+1/(64b^3)+(27a^2)/4b+9a/(16b^2)

X6-26x3-27

 $2\sqrt{2} a^3+8b^3-27+18\sqrt{2}ab$ 

(5)3+(-8)3+(3)3

A3(b-c)3 + b3 ( c-a)3 + c3 ( a-b)3

(a-b)3 + (b-c)3 + (c-a)3