DELHI PUBLIC SCHOOL
VASANT KUNJ
CLASS – IX
HOLIDAY HOMEWORK (2024-25)

Dear Parents

Vacation is an excellent time to learn new skills. It is a welcome break for the children to enjoy and explore things in their own way. Just the right time to let the children do some creative work.

Here are some interesting and fun-filled assignments for the children to learn and keep them occupied during the holidays. These assignments have been designed to ensure that the children enjoy and learn at same time. We would appreciate if the children do the assignments on their own. Help and guidance may be given wherever required. Let's work together towards the betterment of the students.

Happy Holidays!!

ENGLISH

1. Create a WORD CLOUD for the most memorable moments of your school life.
   A word cloud (also known as a tag cloud or a word collage) is a visual representation of words/vocabulary associated with a particular theme or topic. It is basically a cloud shaped image composed of words used in a particular text or subject, in which the size of each word indicates its frequency or importance.
   Refer to the picture given below. (A word cloud for English Grammar)

2. POETRY COLLAGE
   Create a poetry collage (a collection of different poems or poetic pieces such as lines, stanzas etc. to convey a theme or a message) from poems you have read or written. You can arrange the lines to create new poems.
   Show the use of any three poetic devices (such as metaphor, simile, personification, alliteration etc.) in your collage.

   Kindly do the homework on A-4 size sheets only.

Maths

To be done in A4-size ruled sheets:

1. Simplify $3 + 4\sqrt{3} - \frac{4}{\sqrt{3}}$
2. If a = $7 + 4\sqrt{3}$ then find the value of a^2+1/a^2
3. Find the value of **a** and **b** in the following

a) $$\frac{5+2\sqrt{3}}{7+4\sqrt{3}} = a - 6\sqrt{3}$$

b) $$\frac{7+\sqrt{5}}{7-\sqrt{5}} - \frac{7-\sqrt{5}}{7+\sqrt{5}} = a + \frac{7}{11}\sqrt{5}\,b$$

4. Find the value of $\frac{\sqrt{32}+\sqrt{48}}{\sqrt{8}+\sqrt{12}}$.

5. Evaluate $\frac{8\sqrt{3}}{\sqrt{10}+\sqrt{3}} - \frac{4\sqrt{5}}{\sqrt{6}+\sqrt{5}} - \frac{7\sqrt{2}}{\sqrt{15}+3\sqrt{2}}$

6. If $x = \frac{\sqrt{6}+\sqrt{7}}{\sqrt{7}-\sqrt{6}}$ and $y = \frac{\sqrt{7}-\sqrt{6}}{\sqrt{7}+\sqrt{6}}$, then find the value of $x^2 - y^2$

7. Convert the following into p/q form:

i) $2.0\overline{17}$

ii) $4.\overline{13}$

8. Simplify

$$\frac{9^{\frac{1}{3}} \times 27^{\frac{-1}{2}}}{3^{\frac{1}{6}} \times 3^{\frac{-2}{3}}}$$

9. Simplify

a) $(2\sqrt{5} - 3\sqrt{3})(5 + 4\sqrt{5})$

b) $27^{\frac{1}{3}} \times 9^{\frac{-1}{2}}$

10. If $\sqrt{2} = 1.4142$ then find $\sqrt{\frac{\sqrt{2}-1}{\sqrt{2}+1}}$

11. Factorise : $5\sqrt{5}x^2 - 26x + \sqrt{5}$
12. Factorise $x^2 - 3\sqrt{2}x + 4$
13. If $p(x) = x^3 - x + 3$, evaluate
    $p(1) + p(-2) + p(-3)$.
14. If $1176 = 2^a \times 3^b \times 7^c$, then find the value of a + b + c.
15. Factorise $2x^3 - 3x^2 - 17x + 30$.
16. If $2x - 3y = 11$ *and* $xy = 10$, then find the value of

i) $4x^2 + 9y^2$

ii) $8x^3 - 27y^3$

17. Find $x + 1/x$, if $x^2 + 1/x^2 = 14$.

PHYSICS

Note: Do the following questions in your Physics notebook.

1. Give answer to the following questions:
   (i) When do the distance and displacement of a moving object have the same magnitude?
   (ii) What type of motion – uniform or non-uniform, the object will have if distance travelled by it is (a) directly proportional to the time, (b) directly proportional to the square of time?
   (iii) What does the path of an object look like when it is moving with (a) uniform speed, (b) uniform velocity?
   (iv) An object can have zero average velocity cannot have zero average speed. Justify.
   (v) Can a particle be accelerated (a) if its speed is constant, (b) if its velocity is constant? Give reason.
   (vi) Which of the two – velocity or acceleration, determines the direction of motion of an object? Give reason for your answer.
   (vii) Distinguish between –
      (a) Distance and displacement
      (b) Speed and velocity
      (c) Uniform acceleration and non-uniform acceleration

2. Draw velocity-time graph for the following cases:
   (a) When the object is in uniform motion.
   (b) When the object is in uniformly accelerated motion with initial velocity (i) zero, (ii) non-zero.
   (c) When the object has uniformly retarded motion.

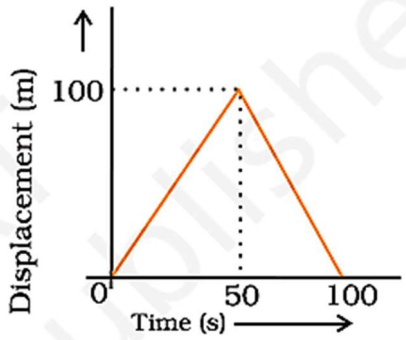
3. Starting from rest, Anil peddles his bicycle to attain a velocity of 10 m s^{-1} in 25 s. Then, he applies brakes such that he comes to rest in next 50 s. Calculate the acceleration of the bicycle in both cases. Also, find the total distance covered by Anil.

4. An electron moving with a velocity of 5×10^4 m/s enters into a uniform electric field and acquires a uniform acceleration of 10^4 m/s^2 in the direction of its initial motion.
   (i) Calculate the time in which the electron would acquire a velocity double of its initial velocity.
   (ii) How much distance the electron would cover in this time?

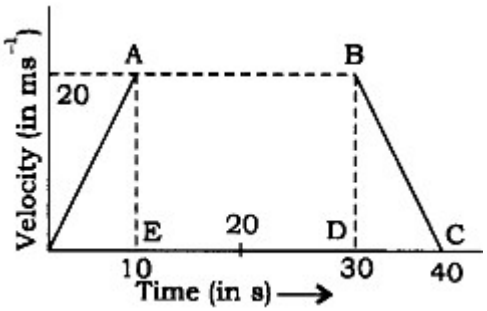
5. An object starting from rest travels 20 m in first 2 s and 160 m in next 4 s. What will be the velocity after 7 s from the start.

6. A motorcyclist drives from A to B with a uniform speed of 30 km h^{-1} and returns back with a speed of 20 km h^{-1}. Find its average speed.

7. A girl walks along a straight path to drop a letter in the letterbox and comes back to her initial position. Her displacement–time graph is shown in Figure. Plot a velocity–time graph for the same.

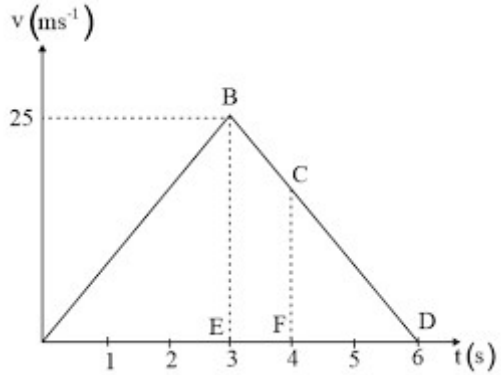


8. The velocity-time graph of a body is shown in figure.



(a) State the kind of motion reported by OA and OB.
(b) What is the velocity of the body after 10 s and after 40 s?
(c) Calculate retardation of the body.
(d) Calculate the distance covered by the object.

9. From the velocity-time graph given below, calculate:



(a) the acceleration from A to B.
(b) the acceleration from B to C.
(c) the distance covered in the region ABD.
(d) the average velocity from C to D.
(e) the distance covered in the region BCFE.

10. The brakes applied to a car produce an acceleration of 6 m s^{-2} in the opposite direction to the motion. If the car takes 3 s to come to rest after the application of brakes, calculate the (i) initial velocity of the car before applying the brakes, and (ii) the distance covered by the car before stopping.

Chemistry

Complete the following worksheet in your fair copy.

1. Fill in the blanks

a. Matter is made up of small_____.

b. The forces of attraction between the particles are _____ in solids, _____ in liquids and _____ in gases.

c. _____ is the change of gaseous state directly to solid state without going through liquid state, and vice-versa.

d. Solid, liquid and gas are called the three _____ of matter.

e. The smell of perfume gradually spreads across a room due to _____.

f. As the temperature of a system increases, the pressure of the gases _____.

g. As the volume of a specific amount of gas decreases, it's pressure _____.

h. As the temperature of a gas decreases, It's volume _____.

i. Forces of attraction in liquids are _____ than in solid.

j. Liquids that move quickly downhill are described as having _____.

2. Explain why?
   i. A gas fill a vessel completely.
   ii. Camphor disappears without leaving any residue .
   iii. The temperature does not rise during the process of melting and boiling, through heat energy is constantly supplied.
   iv. An iron almirah is a solid at room temperature.

3. When 50 g of sugar is dissolved in 100 mL of water, there is no increase in volume. What characteristic of matter is illustrated by this observation?

4. To which physical state of matter do the following statements apply?

(i) Incompressible, no fixed shape

(ii) Compressible, no definite volume

5. Why do the gases exert more pressure on the walls of the container than the solids?

6. Why do solids have a regular geometrical shape?

BIOLOGY

1. Draw a neat labelled diagram of:

a) A prokaryotic cell

b) An animal cell

c) A plant cell

2. Perform any one of the following activities on osmosis at home and record the observations. Also paste or draw the changes that would be observed in the specimens after the experiment.

Osmosis with an egg

(a) Remove the shell of an egg by dissolving it in vinegar overnight. The shell is mostly calcium carbonate. A thin outer skin now encloses the egg. Put the egg in pure water and observe after 5 minutes.

(b) Place a similar de-shelled egg in a concentrated salt solution and observe for 5 minutes

OR

Put dried raisins or apricots in plain water and leave them for some time. Then place them into a concentrated solution of sugar or salt.

SOCIAL SCIENCE

Project Work – Individual

Topic: **Disaster Management**

Objectives: 1. To create awareness in students about different disasters, their consequences and management.

2. Enable the students to create awareness and preparedness among the community.

3. To prepare the students in advance to face such situations.

4. To ensure the participation of students in disaster risk reduction plans

5. The project work will help in enhancing the Life Skills of students

Mode of Presentation

1. The Project can be handwritten or digital.
2. The Project can culminate in the form of Album, Power-point presentation, Storytelling, or paper presentation (files/chart paper/scrap book)

Methodology:

1. The students can take any one disaster Natural or Manmade (like floods, earthquake, tsunami etc) and research on the causes and their mitigation techniques.
2. Research can be made on the following aspects
    a. Cause of the Disaster
    b. How are the people affected by the disaster?
    c. Case Study of the Disaster in India.
    d. Mitigation Mechanisms (Structural and Non-Structural mechanisms)
3. The students need to find out about Disaster Preparedness and analyse the role an individual can play in making our community disaster -resilient.
4. The students can also analyse the role of government and agencies in providing relief to the disaster.
5. The students can add pictures, graphical analysis, newspaper clippings etc.

Distribution of Marks (5 Marks)

1. Content, Accuracy, Originality, and collaborative skills – 2 Marks
2. Competencies exhibited and Presentation – 2 Marks
3. Viva – 1 Mark

References – Together Towards A Safer India (Textbook on Disaster Management)

विषय - संस्कृत
कक्षा - नवमी

संस्कृत ग्रीष्मावकाश कार्य

१. शब्द रूप लिखिए :- मति, मुनि, नदी, साधु,
तत्, एतत्, किम् (तीनों लिंगों में)

२. किन्ही तीन चित्रों को चिपकाइए तथा उन पर संस्कृत मे ५-५ वाक्य लिखिए।

सभी कार्य फेयर नोटबुक में कीजिए।

विषय - हिन्दी
कक्षा - नवीं

१. 'दुख का अधिकार' पाठ के आधार पर लेखक और बुढ़िया में अपनी कल्पना से संवाद लिखिए तथा चित्र के द्वारा अपने कार्य को आकर्षक बनाइए।

२. 'पोशाक ही समाज में मनुष्य का अधिकार और उसका दर्जा निश्चित करती है' विषय के पक्ष और विपक्ष में अपने विचार लिखकर प्रस्तुत कीजिए। (लगभग १०० शब्दों में)

३. महादेवी वर्मा का सचित्र जीवन परिचय लिखिए।

संपूर्ण कार्य हिन्दी पुस्तिका में आकर्षक, सृजनात्मक व कलात्मक विधि द्वारा करें। कार्य को आकर्षक बनाने के लिए आप भिन्न-भिन्न रंगों व चित्रों का प्रयोग भी कर सकते हैं।

FRENCH

Choose any famous French personality (politician / actor / singer / model, etc). Paste a picture of that in your French notebook along with some basic facts about the person, in French. Later, using some props, enact the character in the class by speaking 7-8 lines in French with reference to his/her profession, physical features, achievements, etc.

GERMAN

Make a poster / ppt on any German festival. Please mail the ppt to your German teacher by the end of the summer holidays to papia.dutta@dpsvasantkunj.com. Posters to be submitted after school reopens.

JAPANESE

Note : Please do the Homework in Japanese Notebook

1. **Watch the movie 'The secret world of Arrietty'.Draw your favorite character/ scene and write 4-5 lines about it in Japanese.**
2. **Make your own Anime Character/Manga strip.**
3. **Use your creativity and make two bookmarks using Origami . Write your name in Katakana on the book mark .**
4. **Origami Fun**

Make a Kani(Crab) using origami and paste it in your Notebook.