



DELHI PUBLIC SCHOOL HATHRAS
SUMMER HOLIDAY HOMEWORK
SESSION: 2022-23
CLASS –X

ENGLISH -

1. Read the newspaper daily and find out five new adjectives and write them with their meanings in your notebook and make sentences.
2. Write a letter to the Editor of National Herald, New Delhi about water scarcity in your locality suggesting ways to improve the position of water supply. You are Ramnath/Reema of Vasundhara Ghaziabad.
3. Write an article on the topic-‘Environmental Pollution’, elaborating its reasons and consequences impacting the life of common man.
4. Express the poem, ‘A Tiger in the Zoo’ in the form of a diary depicting the feelings of the tiger.
5. Prepare a collage making caricatures depicting Lencho’s life in 5 stages. Use captions with the caricatures.

HINDI -

1. स्पर्श पाठ 1 से 10 मुहावरे अर्थ सहित लिखिए।
2. प्रकृति पर आधारित कोई स्वरचित कविता लिखिए।
3. मनाली पिकनिक पर जाने के लिए प्रधानाचार्या जी से विनती करते हुए प्रार्थना पत्र लिखिए।
4. ग्लोबल वार्मिंग, “जल है तो कल है” विषय पर 100 शब्दों में अनुच्छेद लिखिए।
5. नैतिक मूल्यों के आधार पर कोई कहानी लिखिए।

MATHEMATICS -

1. Show that $2 + \sqrt{3}$, $3 - \sqrt{5}$, $\sqrt{7}$ are irrational numbers.
2. Frame at least 3 Quadratic polynomials, find their zeroes and verify the relationship between the zeroes and the coefficients.
3. Frame at least 4 pairs of linear equations in two variables and solve them by substitution method, elimination method and cross multiplication method.
4. Learn and write squares (1 -30) and cubes (1 - 15).
5. Do revision of all the class work in a separate notebook.

SCIENCE -

1. Coal is used in thermal power stations and petroleum products like petrol and diesel are used in means of transport like motor vehicles, ships and aeroplanes. We cannot really imagine life without a number of electric appliances and constant use of transportation. So, looking into recent scenario of coal shortage and inflation in petroleum fuels think of ways in which our consumption of coal and petroleum products can be reduced and what can be the better alternate of fossil fuels.
2. Solve the Science Holiday Homework Worksheet attached with your Summer Holiday Homework.
3. Revise the Chapter 1, 6 (Nutrition in plants and animals) and 10 discussed during teaching learning activity in month of April and May 2022.

SOCIAL SCIENCE -

1. Make a project on the topic “Sustainable development” (minimum 14-15 pages). Do the research work, collect the information related to the following areas and arrange them in the same order in your file. To support your topic and make it impressive use some pictures/images/cut outs/articles.

- 1- Acknowledgement
- 2- Title with a background image
- 3- Introduction
- 4- Features and examples
- 5- Importance/Significance
- 6- Goals (national and global)
- 7- How can we make it happen?
- 8- What prevent it from happening?

- 9- Three pillars (Economic/Social/Environmental)
- 10- Principles
- 11- Conclusion
- 12- Bibliography

Or

2. Make a project on the topic "Public facilities" (minimum 14-15 pages). Do the research work, collect the information related to the following areas and arrange them in the same order in your file. To support your topic and make it impressive use some pictures/images/cut outs/articles.

- 1- Acknowledgement
- 2- Title with a background image
- 3- Introduction: What is public facility?
- 4- Need
- 5- Importance/Significance in our life
- 6- Characteristics
- 7- What will happen in its absence?
- 8- Growth of public facilities since independence
- 9- Conclusion
- 10- Bibliography

SCIENCE-X HOLIDAY HOMEWORK WORKSHEET

1. Name the reducing agent in the following reaction:
$$3\text{MnO}_2 + 4\text{Al} \longrightarrow 3\text{Mn} + 2\text{Al}_2\text{O}_3$$

State which is more reactive, Mn or Al and why?
2. Write the chemical equation of the reaction in which the following changes have taken place with an example of each:
 - (i) Change in colour
 - (ii) Change in temperature
 - (iii) Formation of precipitate
3. State the type of chemical reactions and chemical equations that take place in the following:
 - (i) Magnesium wire is burnt in air.
 - (ii) Electric current is passed through water.
 - (iii) Ammonia and hydrogen chloride gases are mixed.
4. Write the essential condition for the following reaction to take place:
$$2\text{AgBr} \longrightarrow 2\text{Ag} + \text{Br}_2$$

Write one application of this reaction
5. What do you mean by decomposition reaction. Explain its three types.
6. 2g of ferrous sulphate crystals are heated in a dry boiling tube.
 - (i) List any two observations.
 - (ii) Name the type of chemical reaction taking place.
 - (iii) Write the chemical equation for the reaction.
7. What is observed when a solution of potassium iodide solution is added to a solution of lead nitrate? Name the type of reaction. Write a balanced chemical equation to represent the above chemical reaction.
8. Which products will be obtained when lead nitrate is heated simply. Write balanced chemical equation for the reaction? State the type of chemical reaction that occurs in the change.
9. What is meant by skeletal type chemical equation? What does it represent? Using the equation for electrolytic decomposition of water, differentiate between a skeletal chemical equation and a balanced chemical equation.
10. Differentiate between combination and decomposition reactions.

11. Identify the type of reaction(s) in the following equations.
- $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$
 - $\text{Pb}(\text{NO}_3)_2 + 2\text{KI} \rightarrow \text{PbI}_2 + 2\text{KNO}_3$
 - $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2$
 - $\text{CuSO}_4 + \text{Zn} \rightarrow \text{ZnSO}_4 + \text{Cu}$
12. Describe an activity to observe what happens when quick lime is added to water taken in a beaker. State two important observations and name the type of reaction taking place.
13. Why does the colour of copper sulphate solution change when an iron nail is dipped in it? Write two observations.
14. Why are decomposition reactions called the opposite of combination reactions? Write equations for these reactions.
15. Differentiate between endothermic and exothermic reactions.
16. What do you mean by reflection of light? State the laws governing it. Explain with the help of a proper ray diagram.
17. What are enzymes? Name any one enzyme of our digestive system and write its function.
18. Write the balanced chemical equation for the process of photosynthesis.
19. When do the desert plants take up carbon dioxide and perform photosynthesis?
20. In single celled organisms diffusion is sufficient to meet all their requirements of food, exchange of gases or removal of wastes but it is not in case of multicellular organisms. Explain the reason for this difference.
21. Name the acid presents in the following:
- Tomato
 - Vinegar
 - Tamarind
22. State the role of the following in human digestive system :
- Digestive enzymes
 - Hydrochloric acid
 - Villi
23. Why do herbivores have longer, small intestine than carnivores?
24. What is the role of HCl in our stomach?
- What is emulsification of fats?
 - Which protein digesting enzyme is present in pancreatic juice?
25. In human alimentary canal, name the site of complete digestion of various components of food. Explain the process of digestion.
26. What are the final products after digestion of carbohydrates and proteins?
27. Explain the process of nutrition in Amoeba.
28. A concave lens has focal length of 20 cm. At what distance from the lens a 5 cm tall object be placed so that it forms an image at 15 cm from the lens? Also calculate the size of the image formed.
29. An object 50 cm tall is placed on the principal axis of a convex lens. Its 20 cm tall image is formed on the screen placed at a distance of 10 cm from the lens. Calculate the focal length of the lens.
30. Draw the ray diagram in each case to show the position and nature of the image formed when the object is placed:
- at the centre of curvature of a concave mirror
 - between the pole P and focus F of a concave mirror
 - in front of a convex mirror
 - at 2F of a convex lens
 - in front of a concave lens
31. The refractive index of diamond is 2.42. What is the meaning of this statement in relation to speed of light?
32. Which kind of mirrors are used in the headlights of a motor-car and why?

33. Explain with the help of a diagram, why a pencil partly immersed in water appears to be bent at the water surface.
34. A ray of light, incident obliquely on a face of a rectangular glass slab placed in air, emerges from the opposite face parallel to the incident ray. State two factors on which the lateral displacement of the emergent ray depends.
35. An object 2 cm high is placed at a distance of 64 cm from a white screen. On placing a convex lens at a distance of 32 cm from the object it is found that a distinct image of the object is formed on the screen. What is the focal length of the convex lens and size of the image formed on the screen? Draw a ray diagram to show the formation of the image in this position of the object with respect to the lens.
36. A convex lens has a focal length of 10 cm. At what distance from the lens should the object be placed so that it forms a real and inverted image 20 cm away from the lens? What would be the size of the image formed if the object is 2 cm high? With the help of a ray diagram show the formation of the image by the lens in this case.
37. It is desired to obtain an erect image of an object, using a concave mirror of focal length 20 cm.
- What should be the range of distance of the object from the mirror?
 - Will the image be bigger or smaller than the object?
 - Draw a ray diagram to show the image formation in this case.
38. What is the minimum number of rays required for locating the image formed by a concave mirror for an object. Draw a ray diagram to show the formation of a virtual image by a concave mirror.
39. One half a convex lens of focal length 20 cm is covered with a black paper.
- Will the lens produce a complete image of the object?
 - Show the formation of image of an object placed at $2F_1$ of such covered lens with the help of a ray diagram.
 - How will the intensity of the image formed by half-covered lens compare with non-covered lens?
40. A girl was playing with a thin beam of light from her laser torch by directing it from different directions on a convex lens held vertically. She was surprised to see that in a particular direction the beam of light continues to move along the same direction after passing through the lens. State the reason for this observation.

NOTE:-

- ❖ Do the homework in separate note book.
- ❖ 10 marks will be awarded for Summer Holiday Homework.

CLASS TEACHER'S SIGNATURE

PRINCIPAL'S SIGNATURE