JASWANT MODERN SR. SEC. SCHOOL SUMMER VACATION (2024-25) H.H.W CLASS IX

Chemistry

* Learn all the chapters thoroughly coming in the exams.

1. Make any one project out of the following in a separate folder by giving appropriate examples and pictures. (pages shouldn't be more than 10)

   a. Matter and its types
   b. Homogenous and heterogeneous solutions.
   c. Tyndall effect

2.What is the general name of the materials which contain at least two pure substances and show the properties of the constituents?

3.Which of the following is a mixture? Salt, Air, Water, Alum, Sugar

4.Classify the following into elements and compounds:

   a. H_2O b. He c. Cl_2 d. CO e. Co

5.Name the property:

   (a) Which allows metals to be hammered into thin sheets.

   (b) Which enables metals to be drawn into wires.

6.Which of the following are 'pure substances'?

   Ice, Milk, Iron, Hydrochloric acid, Calcium oxide, Mercury, Brick, Wood, Air

7.What is the other name for impure substances? Give two examples of impure substances.

8.State three reasons why you think air is a mixture and water is a compound.

9.Explain why, hydrogen and oxygen are considered elements whereas water is not considered an element.

10.Compare the properties of metals and non- metals with respect to

   (i) malleability (ii) ductility, and (iii) electrical conductivity

11.Choose the solutions from among the following mixtures: Soil, Sea-water, Air, Coal, Soda-water

12.Give two reasons for supposing that water is a compound and not a mixture.

13.List five characteristics by which compounds can be distinguished from mixtures.

14.(a) Differentiate between homogeneous and heterogeneous mixtures.

   (b) Classify the following materials as homogeneous mixtures and heterogeneous mixtures. Soda-water, Wood, Air, Soil, Vinegar, Alcohol and water mixture, Petrol and water mixture, Chalk and water mixture, Sugar and water mixture, Copper sulphate solution.

15. Draw a flow chart for the schematic representation of different types of matter.

16.A solution contains 5.6 mL of alcohol mixed with 75 mL of water. Calculate the concentration of this solution.

17What happens when the temperature of a saturated sugar solution is increased?

18.Which of the two will scatter light: soap solution or sugar solution ? Why?

19Define (a) solute, and (b) solvent

20.What is the difference between solutions and colloids?

21.What is the difference between colloids and suspensions?

22.Classify the following into true solutions and colloidal solutions: Ink, Salt solution, Starch, Blood, Sugar Solution

23.Explain what happens when a beam of light is passed through a colloidal solution.

24.Which of the following will show Tyndall Effect and why?

(a) Salt solution (b) Starch solution (c) Milk (d) Copper sulphate solution

25. Which of the following statements is correct? Give reason for each answer.

a.boiling is a bulk phenomenon and evaporation is a surface phenomenon

b. boiling is a surface phenomenon and evaporation is a bulk phenomenon

c. Boiling and evaporation both are surface phenomenon

d. Boiling and surface both are bulk phenomenon

26.Why do solids have a regular geometrical shape?

27. Why are gases compressible but not liquids?

28. Can a rubber band change its shape on stretching? Is it a solid?

29.Give two ways in which melting points and boiling points can be useful.

30 What do you understand by the term 'latent heat of fusion'? How much is the latent heat of fusion of ice?

31 Substance 'A' has high compressibility and can be easily liquefied. It can take up the shape of any container. Predict the nature of the substance. Enlist four properties of this state of matter.

32. Explain what happens to the molecular motion and energy of 1 kg of water at 273 K when it is changed into ice at same temperature. How is the latent heat of fusion related to the energy exchange that takes place during this change of state?

33. Explain how the rate of evaporation of a liquid is affected with:

- Increase in temperature of the liquid.
- Decrease in exposed surface area.
- Increase in moisture in the surrounding air.
- Increase in wind speed.

34. You want to wear your favourite shirt to a party, but the problem is that it is still wet after a wash. What steps would you take to dry it faster?