



Sree Sainath Nagar, Tirupati – 517 102.

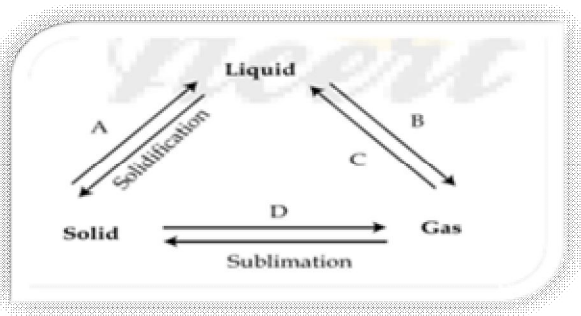
Class: IX

Subject: CHEMISTRY

MATTER IN OUR SURROUNDINGS

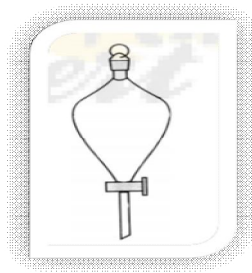
1. The rate of evaporation of a liquid increases on heating. Explain
2. Explain how during the burning of a candle, both physical and chemical changes take place.
3. A gas jar containing air is upside down on a gas jar of bromine vapour. It is observed that after some time, the gas jar containing air also becomes completely reddish brown.
 - a. Explain why this happens.
 - b. Name the process involved.
4. With the help of a labelled diagram, describe in brief an activity to show sublimation of ammonium chloride.
5. Give two examples of each of the following:
 - a. Colloids
 - b. Suspension
 - c. True solution
6.
 - i. Name the appropriate methods to separate the following:
 - a. Nitrogen from air
 - b. Dye from blue ink
 - c. Cream from milk
 - d. Ammonium chloride from common salt
 - ii. Crystallization is a better technique than simple evaporation. Give one reason to justify the statement.
 - iii. Draw a labelled diagram to show the process of separation of immiscible liquids.
7. Compare in tabular form the properties of solids, liquids and gases with respect to
 - a. Shape
 - b. Volume
 - c. Compressibility
 - d. Diffusion
 - e. Fluidity or rigidity
8. Why evaporation is called surface phenomenon?

9. The following triangle exhibits its inter conversion of the three states of matter. Complete the triangle by labelling the arrows marked A, B, C and D.



10. Observe the apparatus shown below and answer the following questions.

a. Name the apparatus.



b. State one use of the apparatus.

c. State the principle involved in this process

11. Pressure on the surface of a gas is increased. What will happen to the inter particle forces?

12. Name the three states of matter.

13. What happens when a liquid is heated?

14. A gas can exert pressure on the walls of the container. Assign reason.

15. Convert the following temperature to Kelvin scale (a) 100°C (b) 37°C

16. What is meant by density?

17. Give the characteristics of the particles of matter.

18. Water droplets seen on the outer surface of a glass containing ice-cold water is due to _____.

19. Change of gaseous state directly to solid state without going through liquid state is called _____.

20. evaporation is a surface phenomenon. comment

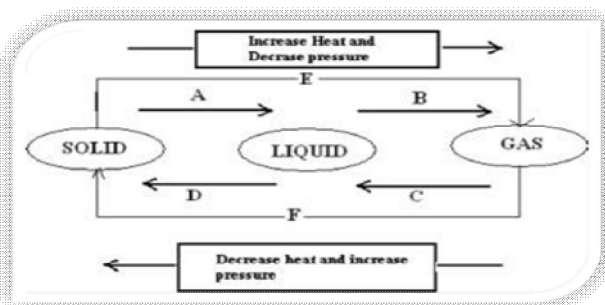
21. Define Latent heat of vaporization.

22. Explain why temperature remains constant during the change of state of any substance?

23. Define Sublimation with examples.

24. Do we sweat more on a dry day or humid day? Justify your reason.

25. Why do we see water droplets on the outer surface of a glass containing ice cold water?
26. Convert the following temperature to the Kelvin scale (a) 25°C (b) 373°C
27. List two properties that liquids have in common with solids.
28. List two properties that liquids have in common with gases.
29. What will happen to the melting point temperature of ice if some common salt is added to it? Justify your answer.
30. How will you show that air has maximum compressibility?
31. Why cooling effect of ice at 0°C is more effective than same amount of water at 0°C .
32. Give reason: doctor's advice to put strips of wet cloth on forehead of person having high temperature
33. Define the term (a) Latent heat of fusion (b) Latent heat of vaporisation
34. State the effect of (i) surface area (ii) nature of the liquid on the rate of evaporation.
35. Liquids generally have lower density as compared to solids. But you must have observed that ice floats on water. Why?
36. What is the physical state of water at 250°C , 100°C , and 0°C ?
37. Give reasons:
 - a. A sponge can be pressed easily; still it is called a solid.
 - b. Water vapours have more energy than water at same temperature.
38. What are intermolecular forces? How are these related to the three states of matter?
39. Is it possible to liquefy atmospheric gases? If yes, suggest a method.
40. a) what is meant by evaporation? What are the factors on which the rate of Evaporation depend upon?
b) How does evaporation causes cooling?
41. State the properties of all the three states of matter in respect of their shape, density, compressibility, force of attraction and rigidity.
42. Define: Melting point, Freezing point & Boiling point
43. Name A, B, C, D, E and F in the following showing state change:





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IS MATTER AROUND US PURE

- 1 Is air around us a compound or mixture?
- 2 Water is a compound. Justify.
- 3 Classify the following as element, compound and mixture: Iron, sea water, Milk
- 4 Are the naturally occurring material in nature chemically pure substances?
5. Give one example for each of the following mixtures:
 - i) Solid/solid (homogeneous) ii) Solid/solid (heterogeneous) iii) Liquid/liquid (homogeneous) iv) Liquid/liquid (heterogeneous) v) Gas/liquid (homogeneous)..
6. Classify the following as homogeneous & heterogeneous mixture:
 - i) sodium chloride & water ii) glucose & water iii) sand & water iv) air
7. Name the process you would use to:
 - i) Recover sugar from an aqueous sugar solution.
 - ii) Separate mixture of salt solution and sand.
8. How will you separate a mixture of sand, water and mustard oil?
9. Classify the following substances into true solutions and colloidal Solutions. Milk, ink, starch dissolved in water.
10. A solution has been prepared by dissolving 5g of urea in 95 g of water. What is the mass percent of urea in the solution?
11. Give an example of an aqueous solution in which gas is dissolved.
- 12 Which of the following is an example of physical change?
 - a. Mixing baking soda and vinegar together, and this causes bubbles and foam.
 - b. A glass cup falls from the counter and shatters on the ground.
 - c. Lighting a piece of paper on fire and the paper burns up and leaves ashes.
 - d. Baking a birthday cake for your mother.
13. Which of the following is an example of chemical change?
 - a. Filling up a balloon with hot air.
 - b. Taking a glass of water and freezing it by placing it in the freezer.
 - c. A plant collecting sunlight and turning it into food.
 - d. Your dog ripping up your homework.
14. Which change can be easily be reversed?
 1. Chemical Change

2. Physical Change
3. Both a physical and chemical change
- 4 .Neither a physical or chemical change
15. Why should we use alloys instead of pure metals?
16. State uses of Aluminium & Stainless steel alloys.
17. What is meant by pure substance?
18. What is meant by mass percentage of solution?
19. Name the process of separation of miscible liquids.
20. Arrange the following in decreasing order of size of the particles.
True Solution, Suspension, Colloid.
21. Give an example of an aqueous solution in which gas is dissolved.
22. Name the dispersion medium and dispersed phase in the white material inside an egg.
23. What happens when hot saturated solution is cooled?
24. How would you separate a mixture of chalk and water?
25. How much water should be added to 15 grams of salt to obtain 15 % salt solution?
26. What type of mixtures are separated by technique of crystallization?
27. Which of the following materials fall in the category of a pure substance?
a) Ice b) Milk c) Iron d) Hydrochloric acid e) Calcium oxide f) Mercury g) Brick h) Wood.
28. What do you understand by saturated solution and unsaturated solution?
29. What do you observe when sunlight passes through a dense forest?
30. List two points of differences between homogeneous and heterogeneous mixtures.
31. State the difference between aqueous & non aqueous solution.
32. Which of the following will show "Tyndall Effect" & Why?
a) Salt Solution b) Milk c) Copper sulphate Solution d) Starch Solution
33. How can we obtain pure copper sulphate from an impure sample?
34. Give two differences between compounds and mixtures.
35. Why is hydrogen considered as element? Give two reasons.
Why water is a compound and not a mixture?
36. Classify the following into elements, compounds and mixtures:
a) Sodium b) Soil c) Sugar solution d) Silver e) Calcium carbonate f) Tin g) Silicon h) Coal i) Air j) Soap k) Methane l) Carbon dioxide m) Blood.
37. Give any two applications of centrifugation.
38. Which of the following is chemical change?
a) Growth of a plant b) Rusting of iron c) Mixing of iron fillings and sand d) Cooking of food

- e) Digestion of food f) Freezing of water g) Burning of a candle.
39. State the difference between simple distillation & fractional distillation.
40. A solution contains 40 ml of ethanol mixed with 100 ml of water. Calculate the concentration in terms of volume by volume percentage of the solution.
41. What is meant by Tyndall effect? What is its cause? Illustrate with example.
42. How would you separate the mixture containing sulphur and sand?
43. What is crystallization? Give its two applications.
44. How are sol, solution and suspension different from each other?
45. What is chromatography? How do we obtain colored components, i.e. dye from blue/black ink? Write any two application of chromatography.