

NISCORT FATHER AGNEL SCHOOL, VAISHALI

QUESTON BANK

CLASS-IX CH-1 (THE MATTER IN OUR SURROUNDINGS)



CONTENTS:

- Physical Nature Of Matter
- Characteristics of particles of matter
- States Of Matter
 - Solid State
 - Liquid State
 - Gaseous State
- Change Of State Of Matter
 - Effect Of Change of temperature
 - Effect Of Change of Pressure
- Evaporation
 - Factors affecting evaporation
 - Evaporation Causes Cooling

KEYWORDS:

Matter, Diffusion, Brownian motion, Latent heat, Humidity, Sublimation, Condensation

VERY SHORT ANSWER QUESTIONS

1. Give one word for the following:-
 - (i) Which state of matter can easily change its shape and volume?
 - (ii) In which state of matter are the molecules most tightly packed?
 - (iii) In what form should energy be supplied to an object to change its state?
 - (iv) What is the process of change of state from a gas to a liquid called?
 - (v) What is mass per unit volume of a substance called?
2. The melting point of two solids are (X) and (Y) are 300K and 700K respectively. Which one has stronger interparticle forces?

3. If we heat a solid, it ultimately changes into a liquid. At what stage does this happen?
4. What is the reason that solution of copper sulphate remains coloured even after large number of dilutions?
5. Why does ice cream appear colder than water at the same temperature?

SHORT ANSWER QUESTIONS

6. When a crystal of copper sulphate is placed at the bottom of a beaker containing Water, the water slowly turns blue. Give reason?
7. Why is ice rubbed immediately on the burnt part of the skin?
8. How will you account for the following:
 - a. Density of a substance in a solid state is more than in the liquid state.
 - b. Ice floats over water although it is a solid.
 - c. After a hot shower, your bathroom mirror is covered with water.
 - d. We feel cold after applying shave lotion or perfume.
9. Small quantities of water and ether are placed on the palms of right and left hand respectively. Which will experience more cooling?
10. Butter is generally wrapped in wet cloth during summer if no refrigerator is available. Explain.
11. Why do people sprinkle water on the roof or open ground after a hot sunny day?
12. It is a hot summer day. Priyanshi and Ali are wearing cotton and nylon clothes respectively. Who do you think would be more comfortable and why?

LONG ANSWER QUESTIONS

13. Give an activity which demonstrate that particles of matter have space between them.
14. Describe an activity which demonstrate the process of sublimation.
15. Show experimentally that diffusion becomes faster when temperature is raised.
16. Regular cooking in vessels open to atmosphere takes long time in mountains Therefore cooking in pressure cooker is advised.

Now answer the following questions:

- a) Why does cooking in vessels open to atmosphere take long time in mountains? Why does cooking in pressure cookers take less time?

- b) Name any other advantage of using pressure cooker instead of cooking in open vessels.

VALUE BASED QUESTION

17. You have gone to a chemist shop to get medicines. A person is pleading with the shopkeeper to get sleeping pills without doctor's prescription. The chemist is reluctant to give him sleeping pills without doctor's prescription stating that the pills can be misused and have adverse ill effects.

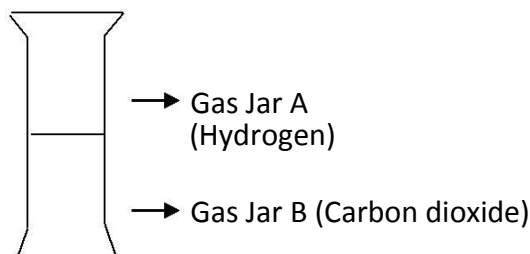
Now answer the following questions :

- a. Should the shopkeeper give sleeping pills to the customer? Justify
- b. Is there any alternative approach, the shopkeeper can take to help the customer without giving him the pills? Which values are reflected in the alternative approach?

MCQ

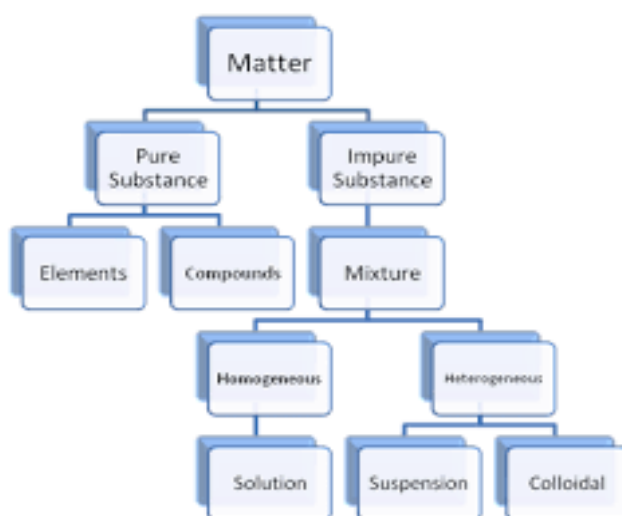
18. When water boils, its temperature
- Remains constant
 - First decreases than increases
 - Keeps on increasing as long as heating is continued
 - May increase or decrease depend on the place where the experiment is being carried out.
19. In the determination of boiling point of water, correct reading in the thermometer is noted when
- Water starts boiling
 - Whole of the water evaporates
 - Temperature starts rising
 - Temperature becomes constant
20. When we observe the melting of ice, the melting point of ice is a constant temperature at which
- Both ice and water are present
 - only water is present
 - only ice is present
 - First ice and then only water
21. A pressure cooker work on the basis of which of the following principle?
- Boiling point is lowered by increasing the pressure on the surface of liquid
 - Boiling point is raised by increasing the pressure on the surface of liquid
 - By increasing the quantity of liquid
 - By decreasing the quantity of liquid

22. The diagram show an experiment in which gases hydrogen and carbon dioxide are placed in two jars as shown in the figure. If the lid separating the two jars be removed, what will the constituents in the gas jar A after a few minutes?
- a) carbon dioxide
 - b) hydrogen only
 - c) mixture of carbon dioxide and hydrogen.
 - d) none of these



23. Ice floats on the surface of water because
- a). it is heavier than water
 - b). the density of both water and ice is the same
 - c). ice is lighter than water
 - d). none of these
24. Boiling point of water is
- (i). 40°F (ii). 212°C (iii). 0°C (iv) 100°C
- a). (i) and (iii) are correct
 - b). (ii) and (iv) are correct
 - c). Only (ii) is correct
 - d). Only (iv) is correct
25. Which of the following set of apparatus is required to determine the boiling point of water?
- a). Funnel, burner, clamp stand, test tube, thermometer, wire gauze
 - b). Tripod stand, conical flask, thermometer, wire gauze, stand with clamp, pair of tongs
 - c). Boiling tube, beaker, thermometer, burner, cork with one hole, wire gauze, stand with clamp
 - d). Round bottom flask, burner, thermometer, wire gauze, cork with two holes, stand with clamp, glass tube

CH-2 (IS MATTER AROUND US PURE) (TILL COLLOIDAL SOLUTION)



CONTENTS:

- Mixture and its types
- Solutions
- Properties of various types of solutions
- Concentration of a solutions
 - Mass by mass percentage
 - Mass by volume percentage
- Types of solutions
 - Saturated , unsaturated, supersaturated solutions
- True solution
- Colloidal solution
- Suspension

KEYWORDS:

Homogenous and heterogenous mixtures, alloys, solute, solvent, dispersed phase, dispersion medium, tyndall effect, foam, emulsion, sol, gel.

VERY SHORT ANSWER QUESTIONS

1. Identify solutions amongst the following mixtures:-
Lemonade, Sea water, Brass, Mixture of Salt and Sulphur
2. Name any two simple physical methods used to separate heterogenous mixtures into their constituents

SHORT ANSWER QUESTIONS

3. What is tincture of Iodine? Identify solute and solvent in the above solution.
4. What is a saturated solution? What happens when a saturated solution at a certain temperature is cooled slowly?
5. To make a saturated solution, 37 g of Aluminium chloride is dissolved in 100 g of water at 293 K. Find its concentration at this temperature.
6. A solution contains 40 cm³ of alcohol mixed with 150 cm³ of water. Calculate the concentration of this solution.
7. Some solid dissolve easily in liquids while the other do not.
 - (i) What is the name given to the liquids which dissolve solids?
 - (ii) What is the name given to the clear liquid formed when a solid dissolve in a liquid?
 - (ii) What is the name given to the liquid which contains in it some suspended particles?
8. Distinguish between homogeneous and heterogeneous mixture. Classify the following mixtures as homogeneous or heterogeneous-
 - i) Tincture of iodine
 - ii) Smoke
 - iii) Brass
 - iv) Sugar solution

9. Butter is an example of one type of colloidal solution. Name it. Give the reason for your choice.
10. Why sugar solution is considered as a mixture whereas sugar and water as compounds?

LONG ANSWER QUESTIONS

11. Compare the properties of true solution, suspension and colloids on the basis of type of mixture, particle size, scattering of light, method of separation and stability in tabular form.
12. During rainy season, the river water becomes muddy. It cannot be made fit for drinking purposes just by the decantation or filtration.

Now answer the following questions:

- (i) What makes water muddy?
(ii) Why can't muddy water be purified by either decantation or filtration?
(iii) Suggest two methods to make muddy water fit for drinking purposes.

MCQ

13. A student was asked to mix the white of an egg with water and stir well. The student observed that
- (a) a transparent solution is formed. (b) a translucent mixture is formed.
(c) egg white settles down at the bottom. (d) egg white floats on the surface.
14. Which one of the following is a correct statement about a colloid of starch in water?
- a. its particles are seen by naked eye
b. its components can be separated by filtration
c. it shows Brownian movement
d. it is transparent and unstable
15. The clear solution which passes through filter paper is called
- a. filtrate b. residue c. mother liquor d. none of these
16. When a strong beam of light is passed through a colloidal solution, the light will
- a. be scattered b. give a rainbow

c. be absorbed fully

d. be transmitted

17. In which of the following the particle size is equal to or greater than 100nm?

a. $\text{CuSO}_4 + \text{H}_2\text{O}$

b. sand + water

c. $\text{NaCl} + \text{H}_2\text{O}$

d. alum + H_2O

18. Colloidal particles can be seen :

a. By unaided eyes

b. through ultramicroscope

c. Through microscope

d. none of these

19. Size of colloidal particles is

a. $>10^{-6}\text{m}$

b. $<10^{-9}\text{m}$

c. $10^{-7} - 10^{-5}\text{m}$

d. $>10^{-9}\text{m}$

20. Which of the following is not heterogenous?

a. Smoke

b. Steel

c. Air

d. Milk

21. Which one of the following will not form a true solution in water?

a. common salt

b. alum

c. albumin

d. cane sugar