

1) Define the following

a) Matter

Ans) Matter is something that has mass, occupies space and can be perceived by our senses is known as matter.

b) Diffusion

Ans) The intermixing of two or more substances due to the motion of their particles in order to get a uniform mixture is called diffusion.

c) Intermolecular force of attraction

The molecules that attracts each other is known as intermolecular force of attraction

2) What do you mean by Kinetic Theory of Matter?

The theory stating that any substance whether solid, liquid or gas is made up of tiny particles called atoms, molecules or ions which are in constant motion is called "Kinetic theory of matter".

3) Write the postulates of Kinetic theory of matter.

Ans) The postulates of Kinetic theory of matter are :-

→ Matter is composed of very small particles called atoms and molecules.

→ The constituent particles of a kind of matter are identical in all respects.

→ These particles have spaces or gaps between them which are known as interparticular or intermolecular spaces.

4) What happens when :-

a) water is kept in a deep freezer.

Ans) When water is kept in a deep freezer it change its state to solid state this process is known as freezing.

b) Water is heated

Ans) When water is heated it starts boiling and change its to ~~solid~~ gaseous state

5) What do you mean by solid?
Give some examples.

Ans) A solid can be defined as a definite shape and a definite volume is known as solid. Example: wood, stone, ice etc.

6) Explain the interconversion the state of matter with examples.

Ans) The phenomenon of change of one state of matter into another and then back to the original state, without any change in its chemical composition is called interconversion of the states

of matter.

7) What is Sublimation? Mention any two substances that sublimates.

Ans) The substances that directly change from the solid state to the gaseous state is known as sublimation. The two substances that sublimates are :- Camphor and Iodine

8) Give reason why :-

a) Liquids are called fluids.

Ans) All liquids are called fluids. Liquid cannot flow upwards or against the gravity on their own.

b) Solids have a definite shape.

Ans) Solids have a definite shape because the inter-molecular force is very strong and kinetic energy is very less,

9) What are ~~the~~ the characteristics of the particles of matter?

The characteristics of the particles of matter are :-

- Particles of matter are very small.
- Particles of matter have interparticle space between them.
- Particles of matter attract each other.

10) Explain by an activity that the particles of matter are small in size.

Ans) Dissolve two or three of blue vitriol (Copper Sulphate pentahydrate) in about 10ml of water to get a clear transparent blue solution. Take four beakers and label them as A, B, C and D. Fill each beaker with 50ml of water. Now transfer 5ml of solution to beaker A, ~~transfer it to beaker~~ and stir it properly to get a uniform blue colour. Take 5ml of solution from beaker A, transfer it to beaker B and

Stain well. Again transfer 5 ml of solution from B to C ~~and~~ and then from C to D.

What do you observe?

The solutions in all the beakers are coloured though they become fainter due to successive dilution.

Thus it is concluded that a small crystal of blue vitriol contains a very large number of tiny particles which show all the properties of the substance.

The whole process can be repeated for potassium permanganate crystals or ink to prove the nature of a particle.

11) Explain Brownian Motion with an example.

Ans) Put some pollen grains in water and looked into the water through a magnifying glass. He observed that the pollen grains were moving throughout the water in a zig-zag or irregular ~~motion~~ manner.

Why were the pollen grains moving in an irregular manner?

This is because water is made up of tiny particles which are also in random motion. The pollen grains move in such a way because they collide with the moving particle of water.

This random, haphazard, random motion of suspended particles on the surface of a liquid or in air is called Brownian motion.