17/5/21

Assignment
Matter (1)

1. Define the following

a) **Matter** :- Matter is something that occupies space and mass and can be perceived by our senses organs.

b) **Diffusion** :- 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 of matter exert a force of attraction on each other. This force is is called intermolecular force of attraction.

2. What do you mean by kinetic theory of matter?

Ans- The theory which reveals that any substances whethers solid, liquid or gas is make up of tiny particles called

atoms, molecules or ions which are in constant motion is called the "kinetic theory of matter".

3. Write the postulates of the kinetic theory of matter.

Ans- * Matter is composed of very small particles called atoms and molecules.

* The constituents particles of a kind of matter are identical in all respects.

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

* This exists interparticular or intermolecular force of attraction in between the particles of matter.

* Particles of matter are always in a state of random motion and possesses kinetic energy which increases with the increase in temperature and vice-versa.

4. What happen when :-

a) Water is kept in a deep freezer.

Ans- Its becomes ice

b) Water is heated.

Ans- Water turns to vapour.

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

Ans- The particles of matter that are tightly packed and have strong intermolecular force of attraction in between them. is known as solid. e.g :- pencil, ice, book, stone, chair.

* The solid have definite shape, size and volume.

6. Explain the interconversion of the state of matter.

Ans- The process by which matter change its state into another state and back to the original state without any change its chemical composition is called interconversion of the state of matter.

e.g:- ice (solid) $\underset{\text{Cool}}{\overset{\text{Heat}}{\rightleftharpoons}}$ Water (liquid) $\underset{\text{Cool}}{\overset{\text{Heat}}{\rightleftharpoons}}$ Vapour (Gas)

7. What is sublimation? Mention any two substances that sublimes.

Ans- Sublimation :- The process by which substance change directly from solid state to gaseous state without going to the liquid state is called sublimation.

e.g:- Camphor (Solid) $\underset{\text{Cool}}{\overset{\text{Heat}}{\rightleftharpoons}}$ Vapour (Gas)

(ii) Naphthalene and iodine are two substance that sublimes.

Q. Give reasons why :-

(a) Liquids are calleds fluids.

Ans- Liquids are called fluids because they can flow or move.

b) Solids have a definite shape.

Ans- Solids have a definite shape because in solid particles are tightly packed and have strong intermolecular force of attraction in between them.

9. What are the characteristics of the particles of matter?

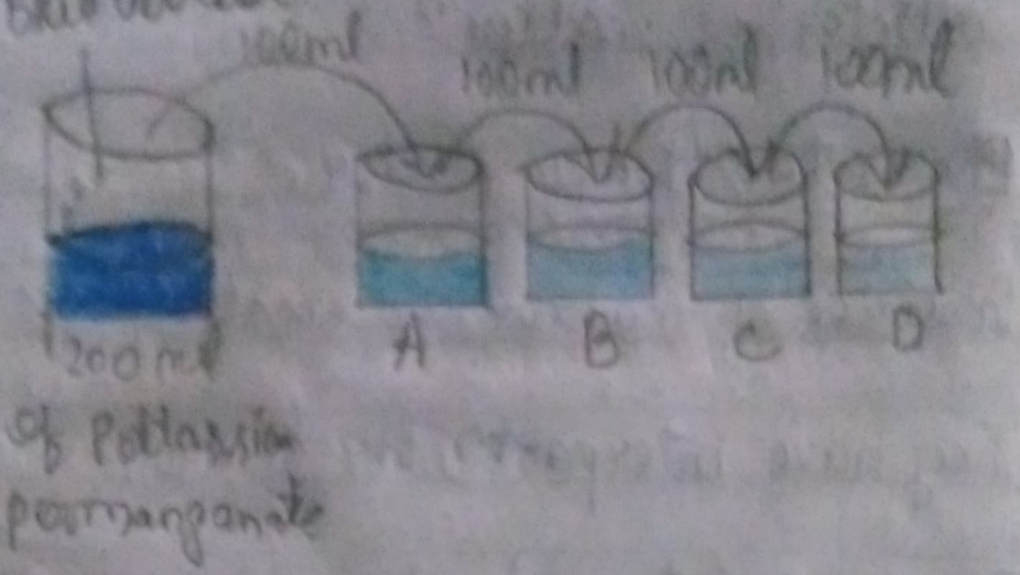
Ans- Characteristics of matter.

* Particles of matter are small.
* They have interparticular space.
* They have intermolecular force of attraction between them.
* Particles of matter are in Constant random motion.

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

Ans- * Aim :- To show that particles of matter are very small in size.

* Materials required :-



* Procedure :-

- 2, 3 no of potassium permanganate crystals were dissolved in 200 ml of water. Then the colour of the water is changed into blue.
- Four beakers were taken levelled them as A, B, C and D. All four beakers were filled with 100 ml of water.

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- 10ml of solution which transferred to beaker A and it was stired properly to get uniform blue solution. 10ml of solution was taken from beaker A and it was transffered to beaker B and it was stired well. Again 10ml of solution was transffered to beaker C and then from C to D.

* Observation :- It was observed that all the beakers are coloured as the solution and they were become fainter due to sucessive dilution.

* Conclusion :- So, it is concluded that the crystal of pottasium permenganate contains a large of tiny particles which are small in size and show all the properties of substances.

11. Explain Brownian motion with an example.

Ans- The haphazard, random motion of the suspended particles on the surface of a liquid or in air is called brownian motion.

* This was first noticed by Mr. Robert brown.
* It gives the evidence for the existance and movement of the particles in liquids.
* For example, movement of pollen grains in water.

12) Explain what changes will take place when few pieces of pieces of marbles are added to beaker containing water.

Ans- When few pieces of marbles are added to beaker containing water

$CaCO_3 + H_2O \rightarrow Ca(OH)_2 + CO_2$