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ch-1 matter

1. multiple choice questions:-

(a) The diameter of a molecules is approximately

Ans- 10^{-10} cm

(b) The intermolecular forces are strongest in

Ans- solids

(c) The molecules

Ans- in a liquid, move within its boundary.

(d) The solids are

Ans- more dense

(e) The intermolecular forces in liquids are

Ans- Weaker than in solids

1- fill in the blanks:-

(a) All the molecules of a substance are matter.

(b) The intermolecular spacing is tightly in the solids, weaker in liquids and free in gases.

(c) The molecular motion in liquid and gases in zig-zag path.

(d) In a solid, the molecules tightly but they remain at their fixed positions.

(e) The intermolecular forces are the weakest in water.

2. Name the ~~forth~~ three states of matter.

Ans- Air, water and gases are the three states of matter.

3. Define matter. what is its composition?

Ans- A matter is something which have mas and weight

it composition are air, water, earth, sky and fire

4. The molecules in a substance are in motion. what type of path do they have?

Ans- The molecules in a substance are in motin by zig zag path

short answer Type questions (Cont.)

1. One litre of water has 6.02×10^{26}. Estimate the size of a molecule.

Ans: The size of a particle (or molecule of matter is very small. 1 litre of water has 6.02×10^{26} molecules. So

$$\frac{10^{-3}\ m^3}{6.0 \times 10^{26}} = 1.6 \times 10^{-30}\ m^3$$

Thus the diameter of a water molecules is nearly 1.2×10^{-9} metre.

2. What are cohesive forces and adhesive forces?

Ans. Cohesive force = force of attraction between same material.

adhesive force - force of attraction between different materials.

That's why we use glues to paste different materials on other objects.

short answer type questions.

1. How do the solids, liquids and gases differ in their following properties?

Short answer Type questions

1. How do the solids, liquids and gases differ in their following properties?

(a) Size - Solid definite, Liquid definite, Gases definite

(b) Shape - Definite, Acquires the shape of the container

(c) Density -

	Solid	Liquid	Gases
(1)	definite	definite	definite
(2)	definite	Acquires the shape of the Container	Acquires the shape of the Container
(3)	differ	differ	differ

2. describe a simple experiment to illustrate that molecules are not at rest but they constantly move.

Ans. Add a little ink in water and Keep the water at rest. you will observe that after some time the ink has spread in water, this proves that the molecules are not at rest but they constantly moves.

3. Distinguish between the three states of matter - solid, liquid and gas on the basis of their molecular models.

Ans- Solid is the state in which matter maintains a fixed volume and shape; Liquid is the state in which matter adapts to the shape of its container but varies only volume; and Gas is the state in which matter expands to occupy the volume and shape of it's container.

Long answer type questions.

1. Write down the general properties of solids, liquids and gases.

Ans- Solids - (i) A solid has a definite shape and size (length, area and volume).

(ii) A solid can not be compressed.

(iii) A solid can not flow.

④ A solid can not flow.

⑤ A solid does not easily diffuse into other solids.

Liquid

1. liquids are almost incompressible.
2. liquid can flow
3. liquid are less rigid.
4. The molecules in a liquid are less closely packed.
5. A liquid can easily diffuse into other liquids.

Gases

1. Gases are highly compressible.
2. Gases are not rigid.
3. A gas has no free surface.
4. A gas diffuses into other gases very fast.

5. The thermal expansion of gases is very large.

2. Describe the molecular model of a for a liquid. How does it explain that a liquid has no definite shape. but has a definite volume?

Ans. In a liquid, the particles are still in close contact, so liquid have a definite volume. However, because the particles can move about each other rather freely, a liquid has no define shape and takes a shape dictated by its container.