

1. Matter

HOME ASSIGNMENT

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

→ i) Solids :

- The molecules here are very tightly packed having negligible or very less intermolecular space.

- They have the strongest force of attraction.

- The molecules have very small vibration about their mean position

- They have a definite shape and volume.

- They are generally hard and rigid.

ii) Liquids :

- Molecules are less tightly packed.

- Attraction is less than that of solids.

- The molecules here can move ~~re~~ from one place to another.
- Do not have ~~any~~ ~~part~~ any particular shape of their own and thus ~~so~~ acquire the shape of the vessel.
- A particular quantity of a liquid has a definite volume at a given temperature.

iii) **Gases :**

- The force of attraction between the molecules is the least.
- The intermolecular ~~less~~ space is the largest.
- Neither have a definite space nor a definite volume.
- The molecules move independently.
- Worst conductors of heat.

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

→ Here the molecules are less tightly packed as compared to solids and there is lesser force of intermolecular attraction. The ~~intermolecular~~ intermolecular attraction. The intermolecular distance is greater than that in the solids. Thus, they do not have a ~~definite~~ definite ~~sp~~ shape but acquire the shape of the vessel in which they are contained but have a ~~definite~~ definite volume at a given temperature.

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

→ i) Solid ~~At~~ States

Solid is the state in which matter maintains a fixed volume and shape.

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ii) Liquid State

Liquid is the state in which matter adapts to the shape of its container but varies only slightly in volume.

iii) Gas State

Gas is the state in which matter expands to occupy the volume and ~~sp~~ shape of its container.

4. How do the solids, liquids and gases differ in their following properties? (a) size, (b) shape, (c) Density

→	Solids	Liquids	Gases
(a) Size	They have definite size	Indefinite	Indefinite
(b) Shape	They have definite shape	Indefinite	Indefinite
(c) Density	Highly dense	Less denser than solids	Less denser than liquids and solids.

Give Reason:

Ans

- a) Because, in gases, the molecules are free to move. They are not stuck to each other and the intermolecular force of attraction is least in the gases. So the gas almost fills the whole vessel in which it is enclosed.
- b) In solids, particles are closely packed. There is a strong force of attraction and the intermolecular space is almost zero. Therefore the molecules are not ~~free~~ free to move, which makes them hard and rigid. So solids can't be compressed.
- c) In liquids, intermolecular force is ~~weaker~~ weaker because the particles are not closely packed and hence there is large intermolecular space. So ~~and~~ molecules in a liquid can move randomly and hence liquids can flow easily.

Select the correct alternative

1. The inter-molecular force is maximum in solids, gases, liquids or none of the above.

a) solids

b) gases

c) liquids

d) none of the above

2. The molecules can move freely anywhere in

a) solids

b) gases

c) liquids

d) none of the above