

Home Assignment

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

Ans- Five General properties

- * Solids are rigid. Liquid and Gases are not rigid.
- * Solids have a definite shape and volume. Liquid has a definite volume but not definite shape. Gas has neither definite shape nor volume.
- * A solid cannot flow. Liquid and Gas can flow.
- * The molecules in solid are tightly packed. The molecules in liquid are loosely packed. The molecules in a gas are wide apart.
- * Solid's intermolecular forces are very strong. Liquids intermolecular forces are less strong. Gases intermolecular forces are weak.

2. Describe the molecular model for a liquid.

How does it explain that a liquid has no definite shape, but has a definite volume?

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

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

Ans- The molecular models of solid are very tightly packed. Hence it has a definite shape and volume. The molecular models of liquid are less tightly packed and hence it has a definite volume but not definite shape. The molecular models of gases are farther apart from each other. Hence it has neither a definite shape nor definite volume.

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

Ans- Solid has a definite size. Liquids and gas has an indefinite size.

Solid has a definite shape. Liquids and gas has an indefinite shape.

Solid has high density. Liquid has less density. Gas has least density.

5. Give reasons.

a) A gas can fill the ~~part~~^{whole} vessel in which it is enclosed.

Ans- Gases have a negligible intermolecular force of attraction for which the random motion of particle in all direction. Hence, it fills the vessel in which it is kept.

b) Solids cannot be compressed.

Ans- The particles of solid are closely packed together, therefore solids cannot be compressed.

c) Liquids can flow.

Ans- The intermolecular force is weaker in liquids. Therefore liquids can flow.

Select the correct alternative.

The inter-molecular force is maximum in
Solids

The molecules can move freely
anywhere in
Gas