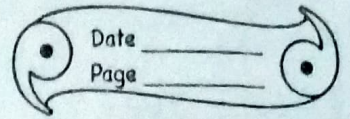


WORKSHEET



14.14.21
17/10/21
a. The solids are

Ans more dense

b. The intermolecular forces in liquids are

Ans weaker than in solids

c. What is state of motion?

Ans position of motion

d. The ~~straight~~ strength of force is expressed by?

Ans magnitude

e) The force between two charged bodies is called a muscular force
electrostatic

Ans ~~magnetic~~ force

f) When two forces act in opposite directions, then ~~net~~ net force acting two forces,

Ans difference between two factors

FIB

- a) All the molecules of a substance are identical.
- b) The intermolecular spacing is least in the solids, less in liquids and more in gases.
- c) The molecular motion in liquid and gas is in zig-zag path.

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

e) The intermolecular forces are the weakest in gas.

Short answer type questions (3 marks)

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

Ans- Difference between solid, liquid and gases are as follows:

SOLID	LIGUID	GAS
a) Size - It has definite shape size.	a) It has definite size.	a) It has no size.
b) shape - It has definite shape.	It has no definite shape.	It has no definite shape.
c) density - More	less	least

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

Ans - * Let's enter a ^{dark} room with a torch.

* Switch on ~~your~~ ^{the} torch and see any corner of the room or in the middle of the dark room.

* We will see different tiny molecules moving randomly on the ~~low~~ torch light.

* These tiny ~~particles~~ molecules are dust particles in gaseous state.

* So when light interacts with the gases, they collide with dust particles and ~~then~~ make them move.

* ~~This~~ Observation & / conclusion :- From this experiment we see that molecules are ~~not~~ not at rest but they constantly move.

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

Ans- Difference between three states of matter - solid, liquid and gas on the basis of their molecular models is as follows:

SOLID	LIQUID	GAS
* The molecules in a solid are rigid.	* Molecules are non-rigid.	* molecules are rigid, homogenous and perfectly elastic.
* Molecules only vibrate to and fro about their mean position.	* Molecules move within the boundary of vessel.	* Molecules move freely in available space.
* Molecules remain fixed at their position.	* molecules don't remain fixed at their position.	* molecules don't remain fixed at their position.
* molecules are closely packed.	* Molecules are loosely packed.	* Molecules are wide apart.
* Intermolecular forces are very strong.	Intermolecular * No force less strong (moderate)	* Intermolecular forces weak.

4. How does the density of a liquid or gas vary with temperature?

Ans → In general, matter expands on heating and contracts on cooling. For a substance having a fixed mass, the density will change if the volume of the substance changes. It means that if the volume of a fixed mass of a substance decreases, its density will increase whereas, if the volume increases, its density will decrease.

In case of liquids and gases, there is a large change in their volume even with small changes in temperature. As a result, when a liquid or a gas is heated, its density decreases, and when cooled, its density increases.

5. A given quantity of liquid is heated. Which of the following quantity will vary and how?

Ans - For a substance having a fixed mass, the density will change if the volume of a ~~fixed mass of a~~ substance changes.

When given quantity of liquid is heated

- a) mass: does not change
- b) volume: changes and increases with rise in temperature
- c) Density: changes and decreases

6. Two objects of same mass are moving with velocities v and $4v$ respectively. Find the ratio of their kinetic energies.

Ans - $K.E_1 = \frac{1}{2}mv^2$

$$K.E_2 = \frac{1}{2}m \times (4v)^2$$

$$\frac{1}{2} m v^2$$

$$= \frac{1}{2} m \times 16v^2$$

$$= \frac{K \cdot E_1}{K \cdot E_2} = \frac{\frac{1}{2} m v^2}{\frac{1}{2} m \times 16v^2}$$

$$= 1:16$$

7. Define kinetic energy and potential energy.

Ans

Kinetic energy - It is the energy possessed by a body due to its motion.

Potential energy - The energy possessed by a body due to its position or shape is called potential energy.

8. Define Pressure. Write it's SI unit.

Ans- Pressure is defined as the thrust per unit area. SI unit of Pressure is pascal.

9. Find the amount of work done if a force of 60 N moves an object through 5 m in the direction of force.

Ans- Force = 60 N
Distance (S) = 5 m

$$\begin{aligned}\text{Workdone} &= F \times S \\ &= 60 \times 5 \\ &= 300 \text{ Nm}\end{aligned}$$

10. Define moment of force.

Ans- The moment of force is equal to the product of the magnitude of the force and the perpendicular distance of the force from the pivoted point.