



**CLASS :8**

**Subject: physics**

**Date :- 01. 06 .2020**

**Topic:**

**Time:-**

***Worksheet No.:***

*[Read and learn the notes thoroughly. Copy the questions and solve them on a sheet of paper date wise. Keep the WorkSheet prepared in a file to be submitted on the opening day]*

**Worksheet – 1 (Answer)**

**Ans. 1)** Anything that have mass, occupy space and can be felt by our sense organ is known as matter.

**Ans. 2) Characteristics of solid are**

- I) They have definite shape, size and volume.
- II) They do not flow
- III) They are not easily compressed
- IV) They can be heaped
- V) Their molecules are tightly packed

**Ans. 3) Characteristics of liquid are**

- I) They do not have definite shape and size

- II) They have definite volume
- III) They are not easily compressed
- IV) They flow from higher level to lower level
- V) They cannot be heaped

**Ans. 4) characteristics of gas are**

- I) They do not have definite shape size and volume
- II) They occupy the entire space available to them
- III) They can flow in entire volume available to them
- IV) They cannot be heaped
- V) The molecules are very loosely packed

**Ans. 5)** The force of attraction that exists between two molecules is known as inter molecular force of attraction.

The space available between two molecules is known as intermolecular space

**Ans. 6)** The intermolecular force of attraction is maximum in solids so the inter molecular space is less in solids.

**Ans. 7)** The solid molecules are very tightly packed so they are not easily compressed.

**Ans.8)** The liquid molecules are loosely packed so they can slide on one another and therefore liquid can flow from higher level to lower level.

**Ans. 9)** The molecules of gases moves randomly in the entire volume available to them. In the course of their movement they collides with the wall of the container. In each collision the molecules exert pressure on the wall of the container. For this reason gases exert pressure on the wall of the container.

Ans.11)	Solid.	Liquid.	Gas
I)	They are hard.	I) They are not hard	I) They are not hard
II)	They are not Easily compressed.	ii) They are not easily Compressed.	ii) They are easily Compressed
III)	They can be Heaped	III) They cannot be heaped.	III) They cannot be Heaped

## Worksheet – 2 ( Answer)

**Ans.1)** Atom :- The smallest particle of matter that do not exist independently but takes part in chemical reaction is known as atom.

Molecules :- The smallest particle of matter that exist independently and contains all the characteristics of matter are known as molecule

**Ans. 2)** Atoms are made up of electron, proton and neutron.  
Matter are made up of molecules.

**Ans.3) Characteristics of atom are**

- I) They do not exists independently.
- II) They are made up of electron, protons and neutrons
- III) They takes part in chemical reaction
- IV) They do not contains the characteristics of matter

**Ans. 4) Characteristics of molecule are**

- I) They exists independently
- II) They are made up of atoms
- III) They do not takes part in chemical reaction
- IV) They contains all the characteristics of matter

**Ans. 5) The characteristics in the above two answers are the difference between atoms and molecules**

**Ans.6)** Basic postulates of kinetic theory of matter are.

- I) Every matter is made up of smallest particle known as molecules
- II) The molecules are made up of atoms
- III) The space between two molecules is known as intermolecular space
- IV) The force of attraction between two molecules is known as intermolecular force of attraction
- V) The molecules of same matter are equal in all aspect.

**Ans.7)** The total amount of energy possessed by each molecule is equal to the average kinetic energy possessed by the molecules of matter.

**Ans. 8)** The energy possessed by the molecules of matter depends on temperature.

### **Worksheet – 3 ( Answer)**

**Ans.1)** Inter molecular force of attraction are of two types

- I) Adhesive force of attraction
- II) Cohesive force of attraction

Adhesive force of attraction :- The intermolecular force of attraction that takes place between unlike molecules are known as adhesive force of attraction.

Cohesive force of attraction :- The intermolecular force of attraction that takes place between two like molecules are known as Cohesive force of attraction.

**Ans. 2)** When substance are heated the intermolecular force of attraction decreases and the molecules move far away from one another.

**Ans. 3)** When a solid substance is heated the inter molecular force of attraction between the molecules decreases and the molecules

move far away from one another and a time comes when the substance change into liquid state.

**Ans. 4)** When a liquid substance is heated the intermolecular force of attraction between molecules weakens and the molecules move far away from one another. On more heating the molecules move more further from one another and a time comes when the liquid substance change into gas.

**Ans.5)** On increasing the temperature the exerted by the molecules of gas on the wall of the container increases.

**Ans. 6)** When gases are heated the random motion of the molecules increases. The number of collisions on per unit area of the container due to gas molecules increases which increases the pressure on the wall of the container.

**Ans.7)** When gases are cooled the inter molecular force of attraction between the gas molecules increases. The molecules moves closer to one another and a time comes when the gas change into liquid.

**Ans. 8)** The molecules of solid are very tightly packed so they are not easy to compress.

**Ans. 9)** when liquid is cooled the inter molecular force of attraction between the liquid molecules increases and the molecules move close to one another and gradually change into solid.

**Ans. 10)** Gas molecules can move in the entire volume available to them. When perfume is sprayed in one room the gas molecules flows in the entire available to them and hence the fragrance is felt in another room.

## Worksheet – 4 (Answer)

### Ans. 1)

1) *Melting :- when solid changes to liquid state on heating then the Process is known as melting  
Example:- melting of ice to water. Etc*

2) *Vaporisation :- When liquid changes to gaseous state on heating then the process is known as Vaporisation.  
Example :- when water change to water vapour.*

3) *condensation :- When gas changes to liquid on cooling then the Process is known as condensation.  
Example :- when water vapour change to water.*

4) *Freezing :- when liquid changes to solid state on cooling then the process is known as Freezing.  
Example :- change of water into ice.*

1) **Ans.2)** *Boiling :- The fast and rapid process of changing of water into  
Water vapour at a particular temperature is known as boiling.*

2) *Evaporation :- The slow and continuous process of change of Water to water vapour at any temperature is Known as evaporation.*

3) *Sublimation:- when solid changes directly into gas without going through liquid state is known as Sublimation.*

*Example:- Solid camphor changing directly to camphor Vapour. etc*

4) *Deposition:- When gas changes directly to solid state without going through liquid state is known as Deposition*

*Example:- changing of water vapour into snow. Etc*

### **Worksheet – 5 (Answers)**

#### **Ans. 1) Difference between Evaporation and Boiling**

<i>Evaporation</i>	<i>Boiling</i>
<i>1) It is slow and continuous process</i>	<i>1) It is fast and rapid process</i>
<i>2) It takes place at any temperature</i>	<i>2) It takes place at a particular temperature</i>
<i>3) It produces cooling effect.</i>	<i>3) It do not produce any cooling effect</i>
<i>4) No sound is produced</i>	<i>4) sound is produced</i>

**Ans. 2)** *During change of state no temperature change takes place because the heat energy absorbed by the substance at that time is completely used up for changing the substance from one state to another state. No heat energy is used to increase the temperature of the su*

#### **Ans. 3)**

*Melting point :- At standard atmospheric pressure the particular temperature at which a solid completely changes into Liquid state is known as Melting point.*

*Example :- The Melting point of ice is 0°C.*

*Point of vapourisation:- At standard atmospheric pressure the particular temperature at which liquid completely changes into gaseous state is known as point of vaporisation*

*Example :- point of vaporisation of water is 100°C*

*Point of Condensation :- At standard atmospheric pressure the part-*

- ular temperature at which gas completely changes to liquid state is known as point of Condensation.

Example:- point of Condensation of water is 100°C

**Freezing point** :- At standard atmospheric pressure the particular temperature at which liquid completely changes to solid state is known as Freezing point.

Example:- Freezing point of water is 0°C

**Boiling point** :- At standard atmospheric pressure the particular temperature at which water vapour start forming rapidly through out the liquid is known as boiling point.

Example :- Boiling point of water is 100°C

### **Worksheet – 6 (Answer)**

**Ans. 1) Density :** The mass per unit volume of a substance is known as

Density.

If,  $D = \text{Density}$

$M = \text{Mass of the body}$

$V = \text{volume of the body}$

$$D = \frac{M}{V}$$

**Ans. 2) UNITS OF DENSITY**

- The C. G. S unit = gram / centimetre cube
- The S. I unit = kilogram/ metre cube

## RELATION BETWEEN THE UNITS OF DENSITY

*1 gram/centimetre cube = 1000 kilogram/metrecube*

We know

$$\begin{aligned} 1 \text{ kilogram/metre cube} &= \frac{1 \text{ kilogram}}{1\text{m} \times 1\text{m} \times 1\text{m}} \\ &= \frac{1000 \text{ gram}}{100\text{cm} \times 100\text{cm} \times 100\text{cm}} \\ &= \frac{1000 \text{ gram}}{1000000 \text{ cubic centimetre}} \\ &= \frac{1 \text{ gram}}{1000 \text{ cubic centimetre}} \end{aligned}$$

*1000 kilogram / metre cube = 1 gram /centimetre cube*

*1 gram / centimetre cube = 1000 kilogram / metre cube*

**Ans. 3)** *Density bottle is used for measuring density.*

**Ans. 4)** *Materials Required :-*

- 1) Physical balance*
- 2) Measuring cyjinder*
- 3) Wax coated thread*
- 4) A solid body heavier than water ( sample body)*
- 5) Pen, Pencil, Eraser, scale*

*Procedure :-*

- I) First of all we will measure the mass of the solid body with the help of a physical balance.  
Let  $M =$  mass of the body*
- II) We will take the measuring cylinder and fill it upto certain level, Let it be  $v$  ml.  
Initial volume of water in cylinder =  $v$  ml*
- iii) we will tie the solid body with the help of the wax Coated thread. We will Immerse the solid body into The measuring cylinder till it rest freely on the base Of the cylinder.*
- iv) we will note the height of water level in the cylinder.  
Let it be  $V$  ml  
Final volume of liquid in the cylinder =  $V$  ml*
- v) We will calculate the volume of the solid body as  
Volume of solid body = Final volume – Initial volume.  
Volume of solid body =  $(V - v)$  ml*

$$\text{Density of solid body} = \frac{M}{(V - v) \text{ ml}}$$

**Ans. 5)** *Measurement of density with the help of density bottle.*

- *Materials Required*

- I) Density bottle*
- II) Water*
- III) Liquid whose density need to be determined*
- IV) Dry and clean piece of cloth*
- V) Physical balance*

- *Procedure :-*

- I) First of all we will take a density bottle. Clean it and dry it. We will measure the mass of the bottle with the help of physical balance.*

Let  $x = \text{mass of the density bottle}$

ii). We will fill the density bottle with water and measure its mass with the help of physical balance.

Let  $X = \text{mass of density bottle along with water}$

iii) We will empty the bottle and dry it properly. Then we fill the bottle with liquid, whose density need to measure. Now we will measure the mass of the bottle with the help of physical balance.

Let  $Y = \text{mass of density bottle along with the liquid}$

iv). Mass of water  $= (X - x) \text{ g}$

v) Mass of liquid  $= (Y - x) \text{ g}$

vi) Volume occupied by 1 g water  $= 1 \text{ cubic centimetre}$

vii) Volume occupied by  $(X - x) \text{ g}$  water  $= (X - x) \text{ cc}$

viii) Volume of liquid  $= \text{volume of water}$

ix) Volume of liquid  $= (X - x) \text{ cc}$

$$\text{x) Density of liquid} = \frac{(Y - x) \text{ g}}{(X - x) \text{ cc}}$$

In this way we can find the density of any liquid with the help of density bottle.

**Ans. 6) THE RATE OF CHANGE OF POSITION OF A BODY WITH RESPECT TO TIME IS KNOWN AS SPEED**

Let,  $D = \text{Distance}$

$T = \text{Time}$

$S = \text{Spesd}$

$$\text{Speed} = \frac{D}{T}$$

**Ans. 7) Uniform Speed :-** When a body covers equal distance in equal interval of time then the speed is known as uniform speed.

- **Non uniform Speed:-** When a body covers unequal distance in equal interval of time then the speed is known as Non Uniform Speed.

**Note :-** speed is a scalar quantity.

Non Uniform Speed is also known as Variable Speed

- **Ans. 8) Units of Speed**

I) In C. G. S system = cm / sec

II) In S. I system = m / sec

**Ans. 9) mass of lead block = 69g**

Density of lead block = 11.5 g/cc

Volume of the block =  $69 / 11.5$   
= 6 cc

**Ans. 10) distance travelled by cockroach = 30m**

Time taken = 1.5 min

= 90 sec

Speed of cockroach =  $30/90$

= 0.33m/s

**Ans.11) speed of motor cycle = 15m/s**

Time = 45 s

Distance travelled by motorcycle = 675 m





