Class 8

Matter

Worksheet (Answers)

Short answer type question

1. Name the physical state when air is in contact with a very cold windowpane the water vapour changes into tiny ice crystals.

   Deposition occurs on windowpane the gas changes to solid ice crystals.

2. Name the process in which a box of dry ice when opened turns into gas.

   Sublimation takes place.

3. Give examples of two substances that undergo sublimation. Camphor ,dry ice

4. Do you think the interconversion of states of matter, Causes a change in the mass ?

No, mass does not change

Long answer type questions

1. Explain according to kinetic theory of matter the process of evaporation.

    - Molecules move randomly in the volume of the liquid with all possible kinetic energy
    - Molecules collide with eachother and those molecules which gain enough kinetic energy to overcome the intermolecular force of attraction are able to escape the liquid to change to gas.
    - This is the process of **evaporation.**

2. Differentiate between boiling and evaporation.
    - Evaporation takes place at all temperatures operation takes place at a fixed temperature which is the boiling point of the liquid.

- Evaporation is a slow and gradual process whereas boiling is a rapid and violent process.
- Evaporation takes place only at the surface of the liquid where as boiling takes place in the entire liquid
- Evaporation causes cooling but vaporization does not produce cooling.

3. What is vapour pressure?
    - When evaporation takes place in the liquid some of the particles join the liquid hence condensing again.
    - When the rate of condensation is equal to the rate of evaporation then the air above the liquid surface is saturated with molecules which have evaporated. The pressure exerted by this these molecules is constant and is known as vapour pressure of the liquid.

Complete the exercise at end of the chapter.

C **pick the correct answer**

1 .Mass 2. Ammonium chloride. 3 . sublimation 4. At all temperatures
5 boiling point.

D. Fill in the blanks.

1. Solid, liquid , gas. 2. Liquid , solid. 3. Closely packed

4 liquid , volume, shape. 5. Cohesive and adhesive

E. Define the following terms

Element an element is a substance which cannot be subdivided into two or more simpler substances by any chemical means.

Matter is that which has weight and occupies space.

Atom is defined as the smallest unit of an element which may or may not have an independent

existence but always takes part in a chemical reaction.

Molecule is defined as the smallest unit of matter which has an independent existence and can retain complete physical and chemical properties of the matter

Force of cohesion the intermolecular force between the molecules of the same substance

Force of adhesion the intermolecular force between the molecules of different substances

Boiling the process in which a substance changes which state from the liquid state to the gaseous state.

Vaporization the process in which a substance changes its state from the liquid to the gaseous state without boiling

Evaporation is a specific type of vaporization which occurs at temperature below the boiling point of liquid.

Melting is a process in which a substance change from the solid to the liquid.

F mark the statement is true or false

1. True 2. True. 3. False. 4. True. 5. False.

G choose the odd one out giving reason

1. Evaporation 2. Matter. 3.Mass. 4. Shape. 5. Sublimation

H. Match the following

1 . Solids - definite shape and a definite size
2. Evaporation- surface phenomenon
3. Ice crystals – frost.
4. Sublimation- dry ice
5. Condensation- dew drops.

I give one word for the following

1. Elements
2. Force of cohesion.
3. Force of adhesion.
4. Fusion,/ melting.
5. Sublimation

Worksheet

Answer the following questions in brief.

1.Why do liquid droplets stick to the wall of the container ?

The liquid vapour undergoes condensation to form liquid droplets.

2.What property of glue helps it too hold different types of material?

The force of adhesion holds different materials together .This property present in glue helps it to stick .

3.According to kinetic theory o On the basis of the kinetic theory of matter explain why

- **Solids have a fixed shape and a fixed volume.**

The intermolecular force of attraction is strong hence the molecules vibrate in their fixed position.

- **sponge is a solid But can be squeezed.**

  - **Sponge has spaces in it which holds air between it hence can be squeezed.**

1. **Differentiate between atoms and molecules.**
   - **Atoms may or may not have independent existence but molecules have independent existence**

List 4 differences between solids liquids and gases

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Solids	Liquids	Gases
Solids are rigid in comparison to liquids and gases.	The liquid is not so rigid.	Gases are also not rigid.
They have a definite shape and volume.	They have a definite volume but no definite shape.	Neither definite shape nor definite volume.
Solids particles have low kinetic energy.	Liquids molecules have intermediate kinetic energy.	They possess very high kinetic energy.
Can't be compressed appreciably.	Can easily be compressed.	Can be compressed easily to some extent level.
Their molecules are held rightly by strong nuclear forces.	Molecules are held tightly at an intermediate level.	Very weak attraction forces are present among the molecules of gases.
Solids are present in a very dense form.	Density is present at an intermediate level.	Gases possess very low density.
Solids cannot flow easily.	Known by flowing property.	Flows and evaporates easily.
The diffusion rate is very low.	The diffusion rate is moderate.	Diffuse at a very high rate of diffusion.

- **Explain why a drop of ink gets easily mixed in water, in a very short time?**

Diffusion process helps the ink to occupy the intermolecular space in water.