elements because it

Hw 6/8/2021

Objective type Questions

4. For each of the following statements, say whether it describes a solid, liquid or gas.

(a) Particles move about very quickly but do not leave the surface. liquid

(b) Particles are quiet close together. solid

(c) Particles are far apart and in all directions. Gas

5. Match the following.

(a) Solids – (iii) Can have any number of free surface.

(b) Sublimation – (i) The change of solid state to gas.

(c) ~~Conversion of ice into water~~ Boiling = (ii) The temperature at which liquid change to gas.

(d) Gases

(e) Inter bet

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(b) T exp

(c)

(d)

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(d) Gases - (i) Can flow in all directions

(e) Intermolecular Space - (iv) Gaps between particles

6. (a) Formation of water vapour from water - Vapourisation

(b) Disappearence of camphor when exposed to air - Sublimation

(c) Conversion of ice into water. Melting

(d) Conversion of water into steam Sublimation.

7. (a) Substances which sublime. Iodine, dry ice.

(b) Substances which donot change their state. Oxygen, hydrogen.

(c) Substances which are not rigid and not compressible. Glass, pen

MCQ

1. Which one is a kind of matter?
Ans- Petroleum

2. The state of matter which has no definite shape or volome is called.
Ans- Gas

3. There are large intermolecular gaps in
Ans- air

4. All kinds of matter
Ans- Can change their state

5. A kind of matter which can sublime is
Ans- Iodine

6. A substance which can change its state is :-
Ans- Oxygen

7. The process by which a solid changes in liquid is called

Ans- Melting

Ex Questions Short and long questions

1. State the three effects of heat on matter

Ans- • Interconversion of states of matter
• Thermal expansion of the substance and
• Chemical change

Objective type Questions

1. Fill in the blanks:

(a) Water is matter because it has molecules and occupies Space.

(b) Any matter which has a definite volume but no definite shape is called a water.

(c) Liquids and gases can flow.

(d) The molecules are at a greater distance in gas as compared to liquids.

(e) Water boils at 100°C.

(f) The physical state of a substance, which has neither fixed volume nor fixed shape is a gas.

2. (a) Only water can exist in three different states. False

(b) If the container in which a gas is collected has an opening, the gas will flow out and spread itself indefinitely.

(c) ~~False~~ True.

(c) Solids have the largest inter-molecular space. False.

(d) There is no difference between evaporation and boiling. True.

e) All solids on heating first change to liquid and then to the gaseous state. True

f) The intermolecular force of attraction is the weakest in gases. True

g) A gas has no free surface. false

Extra Questions

Q. What do you mean by matter?
Ans: Matter is anything which takes up space and have some mass.

Q. Describe monoatomic and diatomic molecules along with examples.
Ans - Monoatomic consists of only 1 atom. Ex- Neon, Argon etc
Diatomic consists of two molecules.
Ex- Oxygen molecule, hydrogen molecules.

Q Crive an example that shows matter offers resistance.
Ans - Resistance is the force offered by

they do not
carbon (in the form of

HW= 14/7/2021

Swarit Nath 6B

EX=11

1. Name the smallest particle from which matter is made up of.

Ans= The smallest particle from which matter is made up of is atom.

Q:

8. Give reasons:

(a) Liquids and gases can flow but solids do not.

Ans= liquids and gases can flow but solid can't because molecules are very tightly packed in solids than liquids and gases.

(b) A gas fills up the space available to it.

Ans= Intermolecular force of attraction is least and intermolecular space is very large, hence gas can fill up space available to them.

(c) The odour of scent spreads in a room.

Ans- Scent fumes being gases fill the space between air molecules and the molecules of air fill the spaces between scent molecules due to diffusion, fumes spread in a room. Due to the intermixing of scent molecules and air molecules, the scent fumes spread into the room.

(d) We can walk through air.

Ans= The molecules of air are far apart. So, we can walk through air.

(e) Liquids have a definite volume but no definite shape.

Ans= The molecules of a liquid are loosely packed in liquid and intermolecular force of attraction is small but number of molecules remain same.

(f) When a teaspoon of sugar is added to a glass of water the water level doesn't change.

Ans= When a teaspoon of sugar is added to water the water level doesn't change as sugar particles are mixed with the watermolecules.

g) When an empty gas jar is inverted over a gas jar containing a coloured gas, the gas also spreads into the empty jar

Ans= This is because gases can diffuse or flow in all directions.

h) A red ink drop added to a small of water in a glass turns the water red in some time.

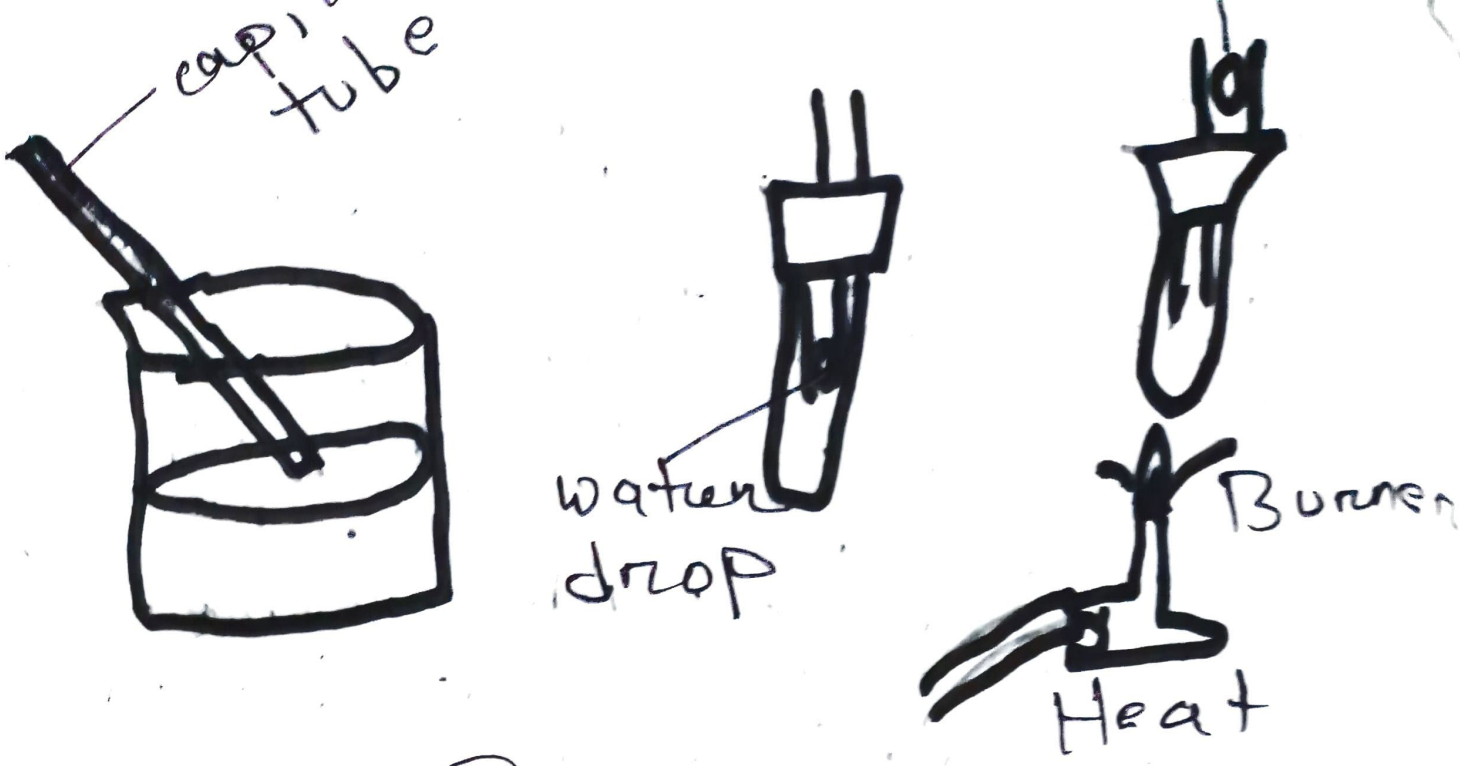
Ans: When we put a drop of red ink in a glass of water, its particles diffuse with particles of water slowly but continously and the water turns red.

9. Define:

(a) Cohesive force: The force of attraction between particles of same substance is called cohesive force.

(b) diffusion: The phenomenon of intermixing of particles of one kind with other kind is called diffusion.

(c) Brownain movement: The zig-zag motion of particles suspended in a medium is called brownain movement.



Ex = ∏

2. What are molecules?

Ans = Matter is made up of molecules.

3. Give one difference between atoms and molecules.

Ans: ~~An atom is the smallest possible unit of matter that exhibits all the properties of matter~~

Ans = Atoms may or may not have independent existence but

molecules have independent existence.

4. Define
(i) Intermolecular force of attraction
(ii) Intermolecular space.

Ans: (i) The molecules of matter are always in motion and attract each other with a force, and this force is called intermolecular force of attraction.

(ii) The molecules can only move only when there are gaps or spaces between them. This is called intermolecular space.

Q5. Name the three states of matter and define them.

Ans: Solid state - The molecules are very close to each other hence inter-molecular spaces are small and inter-molecular force is strong. Hence solids have definite volume and shape and are rigid.

liquid state: The molecules are less closely packed have more inter molecular space. Hence, liquids have less rigidity and have a definite volume but no definite shape.

Gases: The molecules in gases are far apart from each other and have the weakest intermolecular force. Hence gases have neither definite volume nor definite shape and are easily compressible.

Q6. What are fluids? give examples.

Ans: Substances that can flow are called fluids. Both gases and liquids are fluids. Gases (carbon dioxide, oxygen, hydrogen), liquid (water, Petrol).

Q7. Classify the following into solids, liquids, gas

Oxygen, milk, common salt, wax, stone, LPG, Carbon-dioxide, sugar, mercury, coal, blood, butter, copper, coconut oil, kerosene.

Ans: Solids - Common salt, wax, stone, sugar, coal, butter, copper.

Liquids - Milk, mercury, Blood, coconut oil, ~~kerosene~~ kerosene

Gases - Oxygen, LPG, Carbon dioxide

Q. Why an egg kicked out a bottle when air is blown inside the bottle?

Ans: When we invert the bottle and blow air into the bottle through the side opening. It creates high pressure inside the bottle and and the egg is kicked out.

Ex-I

1. Define matter.

Ans: Matter is anything which takes up space and have some mass.

2. What are the two main types of matter? Give examples.

Ans: The two main types of matter are: Living matter: Earth is a home to all kinds of plants and animals. They can grow, move and reproduce on their own.
Ex: Plant, lotus, animals, humans etc.

Non-living matter: most matters in the universe is non living. It can be natural or man made.
Ex- Coal, iron, gold, cotton etc.

Natural matter - It occurs in nature and can be used to make useful Substances such as wood coal silk, cotton, jute, cereals etc.

Man-matter - It produces artificially from natural matter Ex- Soaps, paint, glasses etc.

3. Differentiate between living matter and non-living matter.

Ans- Living matter - The earth is home to all kind of living things which can move on their own
It is natural only

Non-living matter - In the universe many matter is nonliving which cannot grow, reproduce and move on its own.

Q.4 Select the natural and man-made matter.

Natural - wood, silk, coal, water, fruit

Man-made matter - Plastic, medicines, detergents, ceramic, cotton, glass, nylon..

cw =

melting point - The temperature at which a solid melts to liquid.

Boiling point = The temperature at which a liquid boils and turns to vapour.

Non-metals

Exercise - III

(1.) State the three effects of heat on matter.

Ans: When matter is heated, it can cause

1. Interconversion of matter
2. Thermal expansion of substance
3. Chemical change.

(2) (a) Define: Interconversion of states of matter

(b) What are two conditions for the interconversion of matter?

Answer (a) The process in which matter changes from one state to another and back to original without any chemical ~~changes~~ composition changes.

(b) Two conditions (1) change in temperature
(2) by applying pressure.

(3) Define the following terms:

(a) Fusion - Heating process by which a solid changes to liquid state.

(b) Vaporisation - Heating process by which a liquid changes into vapour state.

(c) Condensation – Process by which a substance in gaseous state changes into its liquid state.

(d) Sublimation – Change of solid state to vapour state due to heating without passing through liquid state. Also viceversa.

Solid $\xrightarrow{\text{heating}}$ Vapour

Vapour $\xrightarrow{\text{cooling}}$ Solid

(e) Diffusion – phenomenon of intermixing or spreading of gaseous molecules.

(f) Melting Point – A fixed temperature at which a solid changes into a liquid at a given pressure. Temperature remain constant till the process is over.

(g) Boiling Point – Fixed temperature at which liquid starts changing into gaseous state.

(h) liquification → Change of vapour on cooling to liquid is called liquification.

(4) Differentiate between –

(a) Solidification and Condensation – Process of changing liquid into solid

state by cooling is solidification.

Example- water → Ice.

Condensation change of state of vapour to liquid state by cooling is condensation.

Example steam → water

(b) Melting and Boiling.

Melting- temperature at which solid changes to liquid state.

Boiling- temperature at which liquid starts changing to gaseous state.

(c) Gas The substance which remain in the gaseous state under normal conditions of temperature and pressure.

Vapourisation matter changes from a liquid state to vapour state.

(d) Miscible Liquid which ~~do not~~ mix with each other.

Example - water and alchohol.

Immiscible Liquid which donot mix with each other. Example- water and oil.

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(Q6)

Soln

(Q5) (a) How is interconversion of states of matter different from chemical reaction?

Ans- During interconversion of state of matter, composition of substance remain the same. Matter changes from one state to another and back to original.

But in case of chemical reaction, rearrangment of molecular structure and composition changes.

(b) Why a solid does not flow, but a liquid flows?

Ans→ In solids there is a strong force of attraction between the molecules and the space between them is negligible. So molecules are not free to move. They only vibrate about their mean position.

In case of liquid, the molecules are not closely packed and do not attract strongly each other. Intermolecular spaces are layer. This make liquid flow.

(Q6) How does a liquid changes into gaseous state? Explain.

Sol^n As liquid is heated, its particles starts gaining energy and move more vigoursly. So space between particles increases and

force of attraction decreases. Ultimately a liquid changes to gaseous state.

Q7 water cycle is an example of interconversion of states of water. Explain.

Soln → water from oceans, rivers, lakes and from leaves of trees changes into vapours when temperature increases or evaporates and enters the atmosphere. It makes clouds. When temperature falls, the vapour changes into water and fall as rainfall water.

Q8 What happens to a metal ball when it is heated? What does this show?

Soln When metal ball is heated, it expands. This can be found by experiment. Take a ball and a ring. Ball can ~~pass~~ just past through the ring.

If ball is heated for 5-6 minutes, then it can not pass through the ring.

(Q9) Why
burni
Ans On
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with
and

(Q9) Why does a candle become smaller on burning with time?

Ans- On heating, candle wax melts. Then turns into vapour which react with air to produce carbon dioxide and water.

Burning a candle → Candle wax $\xrightarrow{\text{Heating}}$ carbon dioxide + water

Therefore, burning candle become smaller and smaller.