HW
13/5/21

Ch-1

Date
Page 3

Matter and its composition
Home assignment

1) What are the five basic elements of which matter is made up of according to ancient philosopher?

Ans) The five basic elements of which matter is made up of according to ancient philosophers is Panchatatva.

- air
- earth
- fire
- sky
- water

2) What do you understand by the term matter? Give examples.

Ans) Matter is anything that has mass, occupies space and can be perceived by our senses. Ex- Water, sugar, alcohol, milk; gold, coal, hydrogen, oxygen, rocks are all made of matter.

3) Write one point to differenciate an atom and a molecule.

Ans)

Atom	Molecule
→ An atom is the smallest possible unit of matter that exhibits all the properties of that matter	→ A molecule is the smallest unit of matter which exhibits all the properties of that kind of matter.

HW
13/5/21

Date
Page 4

4) Mention the characteristics of the particles of matter

Ans) i) Particles of matter have space between them. This space is called interparticular or intermolecular space.
ii) Particles of matter are always in random motion.
iii) Particles of matter attract each other.

5) Differentiate between solid, liquids and gases.

Ans) Solid :- A solid has a definite shape and a definite volume. The particles are tightly packed in solids. The intermolecular force of attraction is very strong and intermolecular space is almost negligible.

Liquid :- A liquid has a definite volume but no definite shape. The particles in a liquid are less tightly packed in comparison to solids. The intermolecular gaps are larger.

Gas :- A gas has neither a definite shape nor a definite volume. The particles in a gas are far apart. The intermolecular force of attraction between the particles is very weak and the space between them is large.

HW
13/5/21

Date
Page 5

6) Define sublimation. Name any two materials that sublimes.

Ans) Sublimation is the process in which solid turns directly into gas without converting into liquid. The substances undergoing sublimation are termed as sublimate.
ex- dry ice and moth balls.

7) What do you mean by interconversion of the state of matter? Mention the factors that caused the interconversion.

Ans) The process by which matter changes from one state to another and back to original state, without any change in its chemical composition is called interconversion state of matter. Two factors responsible for cause of state of matter are: (i) Temperature (ii) Pressure.

8) What do you mean by Fluids? Give examples.

Ans) A fluid is any substance that flows or deforms under applied shear stress. Fluids comprise a subset of the states of matter and include liquids, gases, and plasma.
ex - water and blood.

HW
13/5/21

Date
Page 6

9) Give one word for the following.

a) The change of vapour into a liquid. Condensation

b) The change of solid directly into gases without undergoing into the liquid medium. Sublimation

c) The substances that can flow. Liquid

10) Give reasons

a) A teaspoonful of sugar added to 100 ml of water does not increases its volume.

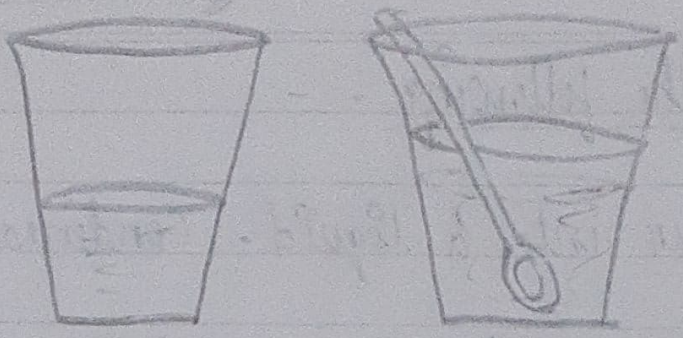
Ans) Because sugar soluble in water.

b) A sponge can be compressed though it is a solid.

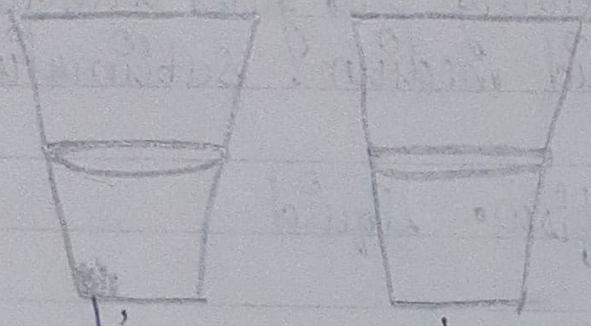
Ans) because it is having porces in which air is trapped.

11) Explain by an activity to show that the particles of matter have space in between them. Draw labelled diagram in support of your answer.

Q11)



water level rises on dipping a spoon in water

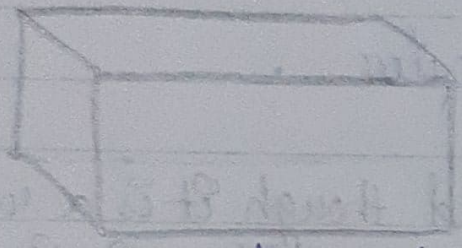


water level does not rise.

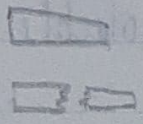
Sugar particles

Sugar solution

Q12)

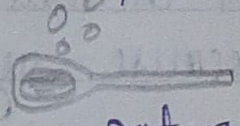


wooden box



chalk piece

spherical water droplets



water

HW
13/5/21

Date
Page 7

Ans) Activity about :- particles of matter have space

Materials :- Two glasses, water, sugar, spoon.

Method :- put the spoon in the a glass of water. we see that the water rises. Then, if we put sugar in a glass of water. But the water donot rises.

Observation :- When the spoon is put in the glass, the water rises but when sugar is put in the glass, the water donot rises.

Conclusion :- Here, we conclude that the particles of matter have space like the spoon.

12) Show an activity the particles of matter attract each other.

Ans) Activity about :- Particles of matter attract eachother.

Materials :- Wooden box, chalk pieces, water.

Method :- 1) Take the wooden block. Try to break it by applying a force on it. It does not break. It is made up of particles which do not separate easily.

Ans
13/5/21

Page 8

ii) Take a chalk piece, apply some force on it and it breaks up into two pieces

iii) Take some water in a tablespoon and throw it up.

Observation :- Falling droplets of water are spherical in shape.

Conclusion :- At last, we conclude that water molecules hold each other.

13) What do you mean by Mass? How does it differ from the weight of an object?

Ans) The quantity of matter that a body contains is known as its mass. Mass is different from the weight of an object as mass is the amount of matter in an object whereas weight is the force exerted on an object by gravity.

14) What do you mean by intermolecular force of attraction? How does it vary with reference to the solids and gases?

Ans) Intermolecular force of attraction or repulsion which act between neighbouring particles. Intermolecular forces are weaker attractions

HW
13/5/22

that hold molecules or noble gas particles close together when they are in a liquid or solid form. Gas particles have been broken away from the intermolecular forces that hold liquids and solids together.

15) Expand LPG. Mention its use.

Ans) LPG = Liquefied Petroleum Gas. This gas is a flammable blend of hydrocarbon gases that is used as fuel in heating, cooking, and automotive appliances.