

LORD BUDDHA NATIONAL PUBLIC SCHOOL
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Class - 4th

Subject - Science

Chapter - 4 - (Solid, Liquid and Gas)

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Matter:-

Anything that has mass and occupies space is called matter.

What is Matter Made up -

Matter is made up of tiny particles called molecules. They are so small that we cannot see them with naked eyes.

States of Matter -

Matter exists in three states - Solid, Liquid and Gas.

Solids -

Solids have definite shape and definite volume. Ex - Stone, Table Book etc.

Properties of Solids -

- i) A solid does not change its shape or volume.
- ii) Molecules of solid are closely packed and hence they can not

move freely.

Liquids -

Liquids do not have definite shape but they have definite volume.
Ex- Milk, Juice, Curd etc.

Properties of Liquids -

- (ii) They can take the shape of container in which they are kept.
- (iii) Molecules of liquids are loosely packed, hence they can move freely.

Gases -

Gases neither have fixed shape nor fixed volume. They fill the space any vessel and take its shape. Ex- Hydrogen, Natural gas, Air etc.

Properties of gases -

- (i) They are easy to compress.
- (ii) They expand to fill their container.
- (iii) They occupy more space than the liquids or solids.

Change of States -

The matter exist in three states - Solids, Liquids and Gases.

In some substances, one state can be changed into another state either by heating or cooling.

* - We know that water exists in all three states - These three states are interconvertible.

Solid - ice

Liquid - water

gas - steam

Melting -

A solid changes into liquid form on heating. This process is called melting. Its molecules loosen up and starting move. as ice cubes change into liquid when heat.

Evaporation -

On heating, liquid changes into gas as its molecules becomes free to move. This process is called evaporation. Ex - water changes into water vapour on

heating.

Condensation -

When we cool a gas, it changes to its liquid form. This process is called condensation. ex - water vapour changes into water on cooling.

Freezing -

On cooling, liquid gets converted into solid. This process is called freezing.

The molecules of liquid come even more closer.

Ex - water changes to ice cubes on cooling.

* These changes from one form to another are called changes of states of matter.

Solution -

A solution is a liquid mixture in which the component present in small amount is uniformly distributed within the

Component present in large amount.
Ex - Sweet water is a solution of sugar and water.

A solution has two parts -
> Solute
> Solvent

Solute -

A substance that dissolves in a liquid is called solute.
As - Sugar (Small amount)

Solvent -

A liquid in which a solute dissolves is called a solvent.
As - Water (Large amount)

* - Water has the property to dissolve many substances in it.

As - Sugar, common salt, potassium permanganate, copper sulphate and many other substances are soluble in water. This is the reason -
Water is known as the universal solvent.

Solubility -

Solubility is a chemical property that refers to the ability of a given substance (the solute) to dissolve completely in a solvent.

Gases as Solutes -

Many gases dissolve in water.

Plants and animals get oxygen, dissolve in water, to survive.

* All aerated drinks contain dissolved carbon dioxide in them.

As we open the bottle, the fizzy sound signifies the presence of gas.

H.W.

(A) Tick the right answer.

(W) It has a definite volume but no definite shape.

(a) Mango (b) Water (c) Air

2) On cooling water vapour change into
(a) steam (b) water (c) ice

3) Which of these is not a matter?
(a) Water (b) Air (c) Love

B) Fill in the blanks.

- i) A solid changes into liquid on _____.
- ii) _____ is known as universal solvent.
- iii) A _____ has fixed shape and definite volume.

C) Write T for true and F for false.
i) Liquids can flow.
ii) We can hold gas in our hand.
iii) Molecules are tightly packed in gas.

D) Short answer questions.

- i) What is matter?
- ii) Why can not solid flow?
- iii) Name two soluble gases.
- iv) How is gas able to spread in all direction?

E) Long answer questions.

- i) List the properties of solids, liquids and gases.
- ii) How will you show that liquids have no definite shape.
- iii) Define the terms: evaporation, condensation and freezing.