

Matter

1. What is Material?

Ans. The substance that an item is made is called Material.

Ex: A dress is made of cotton Material.

2. What is Mass?

Ans. Mass is the amount of matter present in an object or things.

3. What is Volume?

Ans. The amount of space that an object occupies is called its Volume.

4. What is Matter?

Ans. Matter is anything that has a mass and occupies space.

5. What are the different states of Matter?

Ans. The different states of matters are:

- a. Solid
- b. Liquid
- c. Gaseous

6. What are the properties of Solid?

Ans. The properties of Solids are:

- a. Solids have a specific size and shape,
- b. They occupy space and have a fixed volume
- c. Solids have mass

7. What are the properties of Liquid State?

Ans. The properties of Liquid are:

- a. They do not have any shape. It takes the shape of the container where they are stored.
- b. Liquid have a particular mass.

8. What are the properties of Gas?

Ans. The properties of gases are:

- a. Gases are generally colorless
- b. They spread easily and occupy all the available space. So they do not have any specific shape or volume.
- c. They have a specific mass.

9. Why liquid and gas both are called Fluid?

Ans. Liquid and Gas both flows, so that they are called Fluid.

10. What is Atom?

Ans. An atom is defined as the smallest unit of an element that always takes part in a chemical reaction but may or may not have any independent existence.

11. What is Molecule?

Ans. Two or more atoms of the same or different elements constitute a molecule. Molecules possess the same physical and chemical properties of that matter.

12. What is Intermolecular Force?

Ans. the molecules in the matter always exert force of attraction on each other. This force is called Intermolecular Force of attraction.

13. What is the relation between Intermolecular Force and Intermolecular Space?

Ans. The force of attraction between the molecules of a given substance is called intermolecular force and the space between these molecules is called intermolecular space. The basic relation between the two is that they are inversely proportional to each other. More is the intermolecular force lesser is the intermolecular space and vice-versa.

14. What are the differences between Solid, Liquid, Gas?

Ans.

Solids	Liquids	Gases
Highly Strong intermolecular forces between the molecules, leads to a definite volume in Solids.	The intermolecular forces are stronger than gases but weaker than solids.	The intermolecular forces are practically non-existent. Thus, there is no definite volume.
Solids have a definite shape to them.	Liquids do not have a definite shape.	Gases do not have a definite shape.
The intermolecular space between solids is absent.	The intermolecular space is moderate but present.	The intermolecular space is free-flowing and plenty.
The force of attraction between the molecules is incredibly high.	The force of attraction between molecules is pretty moderate.	There is no intermolecular force of attraction between the molecules.
They are incompressible.	Liquids cannot be compressed.	Gases can be compressed quite easily.

15. What is Brownian Motion?

Ans. A unique features of liquid and gases is that the molecules are rapid, constant and randomly moves, striking against one another and the walls of the container. This phenomenon is called Brownian Motion.

16. What is Diffusion?

Ans. Diffusion is the movement of a substance from an area of high concentration to an area of low concentration.

- Solids are rigid and do not diffuse into each other.
- Some liquids (Water and Honey) diffuse into each other whereas some liquids (water and oil) do not.
- Molecules of gases easily diffuse to each other due to high intermolecular space.

17. What are the effects of heat on Solid, Liquid, and Gas?

Ans. When a matter is heated any of the following can happen:

- a. Increase in temperature
- b. Expansion
- c. Change the state
- d. Change in chemical Nature.

18. What is Expansion?

Ans. **Expansion** is the tendency of **matter** to change its shape, area, and volume in response to a change in temperature.

19. What is Melting or Fusion?

Ans. The process in which solid substances changes into liquid on heating is called Melting.

20. What is Freezing or Solidification?

Ans. Freezing means solidification. It is reversal of melting. The process in which liquid substance changes into solid is called Freezing.

21. What is Freezing Point?

Ans. The temperature at which temperature at which a liquid becomes a solid is called Freezing Point.

Ex: The freezing point of Water is 0°C .

22. What is Melting Point?

Ans. The melting point of a substance is the temperature at which it changes state from solid to liquid.

Ex: The melting point of Water is 0°C .

23. What is Vaporization or Evaporation?

Ans. The process in which liquid substance changes into a gas rapidly on heating, is called boiling.

24. What is Condensation or Liquefaction?

Ans. The process of changing gas to a liquid by cooling, is called Condensation.

25. What is Boiling Point?

Ans. The temperature at which temperature at which a liquid becomes vapor is called Boiling Point.

26. What is Condensation Point?

Ans. Condensation point is a temperature at which gas changes to liquid. Generally, boiling point is same as condensation point. For water boiling point is 100°C . So, condensation point is also 100°C

27. What is Sublimation?

Ans. The process of directly changing from the solid to gaseous state is called Sublimation.

Ex: Naphthalene, Dry ice etc.

28. What is Deposition?

Ans. Deposition is the reverse of process of sublimation. Here a gas solidifies directly without going through the liquid stage when it undergoes a reduction of temperature.

29. Explain Chemical Change with example.

Ans. A chemical change is a change of materials into another, new materials with different properties and one or more than one new substance are formed.

Ex: Rusting of Iron: When a piece of Iron is exposed to moist air a layer of rust forms on it. It is a new substance. The part of the iron which is rusting cannot become Iron again.

30. Give an Example when an object is heated a new product is formed?

Ans. When wood is burned heat and smoke are produced. The smoke contains Carbon-Di-Oxide escapes into the air and only ashes are left. It is impossible to get back the wood from the ashes.

31. Write the difference between Physical Change and Chemical Change.

Ans.

Physical Change	Chemical Change
(a) Change is temporary and reversible.	Change is permanent and irreversible.
(b) No new products are formed.	New products are formed.
(c) Generally energy is neither absorbed nor released during the change.	Generally energy is either absorbed or evolved during change.
Example : Melting of ice, melting of wax.	Example : Change of milk into curd and burning of candle.