Solid Liquid and Gas

1. **What is Matter?**
   Ans. Matter is anything that has mass and occupy space.

2. **What is Molecule?**
   Ans. All matter is made up of very tiny particle, this particle is called Molecule.

3. **What is Volume?**
   Ans. the amount of space occupied by a matter is called Volume.

4. **What are the states of matter?**
   Ans. There are three states of matter
   a. Solid
   b. Liquid
   c. Gas

5. **What is Solid?**
   Ans: A material that has a definite shape and definite volume, such that it can have any number of free surfaces, is called solid.

6. **What are the properties of Solid?**
   Ans. The properties of solid are:
   a. Solids have definite shape and volume
   b. Solids are rigid and retain their shape.
   c. Solids do not flow.
   d. Solids are incompressible. Except- Sponge
   e. Solids have high density.
   f. Solids can have a number of free surfaces.
   g. Solids exert pressure at their base due to their weight.
   h. Solids show low thermal expansion.
   i. Solids do not diffuse easily into the other solid.

7. **What is Liquid?**
   Ans. A material which has a definite volume, but no definite shape and has only one free surface is called liquid.

8. **Write the properties of liquid?**
   Ans. The properties of liquid are
   a. Liquid do not have definite shape
   b. Liquids have definite volume
   c. Liquids are not rigid
   d. Liquids can flow easily
   e. Liquids are slightly compressible.
   f. Liquids have low density in comparison to solid.
   g. Liquid has only one free surface.
   h. Liquid exert pressure in all direction.
   i. Liquids show high thermal expansion
   j. Liquids can easily diffuse into other liquid
   k. Liquids tend to adequate minimum surface area, So they have a tendency to form a drops.

9. **What is Gas?**
   Ans. A material which has neither definite shape nor definite volume and is easily compressed and has no free surface is called Gas.
10. **Write the properties of Gas.**
    Ans. The properties of gas are
    a. Gases neither have a definite shape nor a definite volume.
    b. Gases are not rigid
    c. Gases flow in all direction.
    d. Gases are highly compressible, due to the molecules are far apart and large space are between them.
    e. Gases have very low density
    f. Gases do not have any free surface.
    g. Gases exerts pressure from all direction on the walls of the container in which they kept.
    h. Gases show very high thermal expansion.
    i. Gases can diffuse into other gases very fast.

11. **What is Chrystal?**
    Ans. Crystals are types of solids. Their particles are arranged in a pattern. Sugar, copper sulphate and alum are some substances that exist as crystals.

12. **What is Mixture?**
    Ans. The substance formed by mixing two or more substances is called Mixture.

13. **What is Solution?**
    Ans. If one substance dissolves in a substance and spreads evenly in it, this mixture is called Solution.

14. **What is Solute?**
    Ans. The substance that is dissolved in another substance is called the Solute.

15. **What is Solvent?**
    Ans. The substance that dissolves the solute is called the Solvent.

16. **What are Soluble Substances?**
    Ans. A substance that dissolves in a solvent to form a solution is said to be soluble in that solvent.

17. **What are Insoluble Substances?**
    Ans. A substance that does not dissolve in a solvent is said to be insoluble in that solvent.

18. **Why water is called Universal Solvent?**
    Ans. Water is a special liquid. Many substances dissolve in it. For this reason, it is called the Universal Solvent.

19. **What are Miscible Liquids?**
    Ans. Liquids that mix with each other completely and are called miscible liquids.
    Ex: Water and milk are miscible with each other.
20. **What are Immiscible Liquids?**
    Ans. Liquids that do not mix with each other easily are called immiscible liquids.
    Ex: oil and water are immiscible liquid.

21. Which methods are used to separate Insoluble Solids?

Ans. Insoluble solid can be separated from a liquid by

a. Sedimentation
b. Decantation or Filtration

22. What is Sedimentation?

Ans. It is defined as the separation process in which solids are separated from the liquid. All the solids settle down at the bottom of a beaker and on top, a clear layer of liquid is obtained. Sedimentation is a process by which heavier impurities present in liquid normally water settle down at the bottom of the container containing the mixture.

23. What is Decantation or Filtration?

Ans. It is defined as the separation process in which insoluble impurities are separated from the solution.

During the process, the mixture is passed through a filter that allows the liquid to pass but holds back the insoluble impurities. The liquid that collects after filtration is called the filtrate. The insoluble impurities left on the filter form a residue.

24. How can we separate of soluble substance?

Ans. Soluble substances can be separated from liquids by

a. Evaporation
b. Distillation

25. What is Evaporation?

Ans. Evaporation Involves heating a solution containing soluble Impurities to make It boll. Only the liquid solvent turns into a vapour and is lost. The substance that is left behind in the beaker Is the soluble Impurity. Salt or sugar dissolved in water can be separated by this method.

26. What is Distillation?

Ans. Distillation refers to the selective boiling and subsequent condensation of a component in a liquid mixture. It is a separation technique that can be used to either increase the concentration of a particular component in the mixture or to obtain pure components from the mixture.

27. What is Distillate?

Ans. The solvent obtained by distillation is pure and is called the Distillate.

28. What is Atmosphere?

Ans. Air surrounds the Earth as a layer called the atmosphere.

29. What is Humidity?

Ans. The amount of water vapour (moisture) in the air is known as the humidity of the air.

30. What is the importance of Nitrogen?

Ans. Approximate proportion of Nitrogen is 78%.

Importance of Nitrogen is

a. Living things need nitrogen to live. They do not use nitrogen directly from the air but get it from food.
b. It does not support burning, and therefore helps Control fire.

31. **What is the importance of Oxygen in Air?**
    Ans. Amount of oxygen in air is 21%
    Importance of Oxygen is
    a. It is essential for living things to survive.
    b. It is also needed for fire to burn
32. **What is the importance of Argon?**
    Ans. percentage of Argon in air is less than 1%. It is used in fluorescent light tubes.

33. **What is the importance of Carbon Di Oxide?**
    Ans. Percentage of Carbon Di Oxide in air is 0.037%.the importance of Carbon DI Oxide is
    a. It is used by plants to make food.
    b. The carbon dioxide in the atmosphere helps to retain heat in the atmosphere, thereby ensuring a temperature suitable for life on earth.

34. **What is the importance of Water Vapour?**
    It is an essential part of the water cycle that ensures the supply of water to all living things.

35. **What is Wind?**
    Ans. Moving air is called Wind.

36. **What is Breeze?**
    Ans. A gentle wind Is called a Breeze.

37. **What is Gale?**
    Ans. A wind that blows very fast is called a Gale.

38. **What is Strom?**
    Ans. A strong wind that brings with it heavy rain and sometimes lightning is called a Storm.
39. **Why does Wind blow?**
    Ans. Warn, air is lighter than cold air. Therefore, when air at a place gets warmed by the heat of the Sun, the warm air, being lighter, rises. Cold air from nearby rushes in to take the place of the warm air. This movement of air is called an air current. Such a current results in wind.

40. **What is See Breeze?**
    Ans. During the day, the land heats up faster than the sea. The air over the land becomes warm and rises. Cooler air from over the sea blows in to take the place of the warm air. The breeze that blows from the sea to the land during the day is the Sea Breeze.
41. **What is Land Breeze?**
    Ans. At night, the land cools much faster than the sea. The sea remains warmer, and so the air over it warms and rises. Cooler air from over the land blows towards the sea to take the place of the warm air. The breeze that blows from the land towards the sea at night is the land breeze. Thus, at night, the direction of the wind is reversed.

42. **What are Monsoon Winds?**
    Ans. Winds that bring rain to the land are called Monsoon Winds.