

Class: IX: Chemistry
Chapter 1: Matter in our Surroundings

Top concepts

1. Anything that occupies space and has mass is known as matter.
2. Matter is not continuous but rather consists of large number of particles.
3. Characteristics of Particle
 - Large number of particles constitutes matter.
 - Particles of matter are very small in size.
 - Particles of matter have spaces between them
 - Particles of matter are continuously moving
4. Solids have definite shape, distinct boundaries and fixed volume
5. Liquids have fixed volume but no fixed shape.
6. Gases neither have fixed shape nor volume.
7. Solids possess least compressibility.
8. Liquids possess higher compressibility than solids.
9. Gases possess highest compressibility as compared to solids and liquids.
10. The process in which a solid changes to liquid state by absorbing heat at constant temperature is called fusion.
11. The temperature at which a solid melts to become a liquid at the atmospheric pressure is called as melting point.
12. SI unit of temperature is Kelvin. $T(K) = T(^{\circ}C) + 273$
13. The hidden heat which breaks the force of attraction between the molecules during change of state is called latent heat.
14. Latent heat of fusion is the amount of heat energy required to change 1kg of solid into liquid at its melting point.
15. The melting point of a solid is an indication of the strength of the force of attraction between its particles.
16. The temperature at which a liquid changes to solid by giving out heat at atmospheric pressure is called freezing point.
17. The temperature at which a liquid starts boiling at the atmospheric pressure is known as boiling point.
18. Latent heat of vaporisation is the heat energy required to change 1kg of liquid to gas at atmospheric pressure at its boiling point.

19. Boiling is a bulk phenomenon.
20. The phenomenon of change of a liquid into its gaseous state at any temperature below its boiling point is known as evaporation.
21. In evaporation, the conversion of liquid to gaseous state occurs at a much slower rate, compared to boiling.
22. Evaporation takes place only at the surface of the liquid while boiling can take place in all parts of the liquid.
23. Evaporation is surface phenomenon
24. Boiling is a bulk phenomena
25. The amount of water vapour present in the air is called humidity.
26. Evaporation is a continuous or ongoing process.
27. Evaporation causes cooling.
28. The process of evaporation of water from the aerial parts of plants especially leaves is known as **transpiration**.
29. The rate of evaporation is affected by the surface area exposed to atmosphere, temperature, humidity and wind speed.
30. Since evaporation is a surface phenomenon, therefore, it increases with an increase in surface area
31. Evaporation increases with an increase in temperature.
32. Evaporation decreases with an increase in humidity
33. Evaporation increases with the increase in wind speed
34. The process in which a gas changes into liquid state by giving out heat at constant temperature is called condensation.