

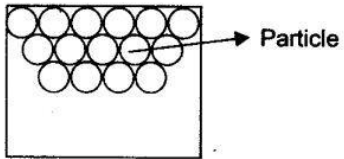
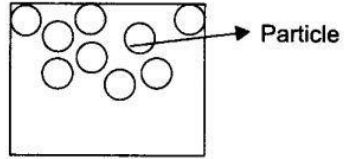
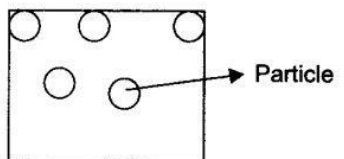
Matter in Our Surroundings

Facts that Matter

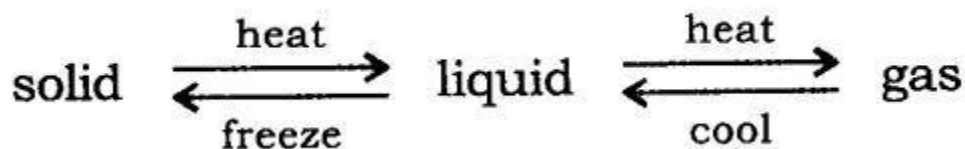
Introduction

- Everything in this universe is made of materials which scientist has names 'matter'.
- **The matter** is made up of very small tiny particles. It is not continuous but is particulate.
- **The matter** is anything that occupies space and has mass.
- Particles of matter have space between them and are continuously moving.
- Particles of matter attract each other.

States of Matter: It has 3 states.

Solids	Liquids	Gases
<p>Strong intermolecular force. Very less intermolecular space. Have definite shape and volume. High density, melting point and boiling point. Solids cannot be compressed. Solids cannot flow.</p>	<p>Weak intermolecular force. Large intermolecular space. No definite shape but definite volume. Density is lower, low melting and boiling point. Liquids can be compressed. Liquids can flow.</p>	<p>Very weak intermolecular force. Very large intermolecular space. No definite shape and volume. Density is very low. Gases are highly compressible. Gases can flow.</p>
 <p>Solid</p>	 <p>Liquid</p>	 <p>Gas</p>

Matter can change its state from solid to liquid and from liquid to gas and vice-versa.



Effect of temperature: On increasing the heat, the particles gain energy and start vibrating with greater energy. Due to increased kinetic energy the particles overcome the force of attraction and a new state is obtained.

Melting point: The temperature at which a solid melts to become a liquid at the atmospheric pressure is called its melting point.

Boiling point: The temperature at which a liquid starts boiling at the atmospheric pressure is known as its boiling point. Boiling is a bulk phenomenon.

Latent heat of fusion: The amount of heat energy required to change 1 kg of a solid into liquid at its melting point is called the latent heat of fusion of the solid.

Latent heat of vaporization: The amount of heat energy required to change 1 kg of a liquid to vapour at atmospheric pressure, at its boiling point is called the latent heat of vaporization of the liquid.

Effect of change of pressure on the matter: On applying pressure, the particles of matter can be brought close together and the state of matter can be changed. For example, CO₂ gas can be solidified by applying pressure and lowering temperature.

Evaporation: The phenomenon of changing of a liquid into its vapour state at any temperature below its boiling point is called evaporation. Evaporation is a surface phenomenon.

Factors affecting evaporation.

- An increase in surface area increases evaporation.
- An increase in temperature increases the rate of evaporation.
- A decrease in humidity increases the rate of evaporation.
- An increase in wind speed increases the rate of evaporation.
- Evaporation causes a cooling effect.

Some measurable quantities and their units

Quantity	Unit	Symbol
Temperature	Kelvin	K
Length	Metre	m
Mass	Kilogram	Kg
Weight	Newton	N
Volume	Cubic metre	m ³
Density	Kilogram per cubic metre	Kg/m ³
Pressure	Pascal	Pa

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