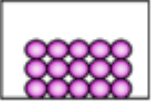
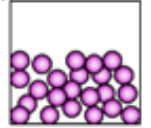
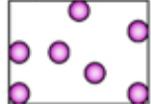


1.1 - States of Matter

Solids 	<p>Particles are close together and regularly arranged. Particles vibrate around fixed positions. Strong forces between particles.</p> <p>Fixed shape. Fixed volume. Cannot flow. Cannot be compressed. High density.</p>
Liquids 	<p>Particles are close together and randomly arranged. Particles move around each other. Weak forces between particles.</p> <p>No fixed shape. Fixed Volume. Can flow. Cannot be compressed. Medium density.</p>
Gases 	<p>Particles are far apart and randomly arranged. Particles move quickly in all directions. No forces between particles.</p> <p>No fixed shape. No fixed volume. Can flow. Can be compressed. Low density.</p>

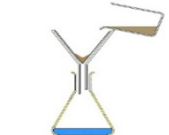
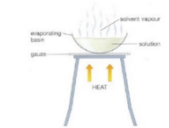

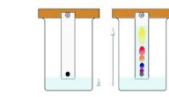
1.2 - Changes of State

Melting	Solid to liquid
Boiling	Liquid to gas (All of the liquid, bubbles , only happens at boiling point)
Evaporating	Liquid to gas (Only the surface of the liquid, no bubbles , can happen over a range of temperatures)
Condensing	Gas to liquid
Freezing	Liquid to solid
Subliming	Solid to gas
Melting Point	Temperature at which a substance melts when heated or freezes when cooled . (MP of ice = 0°C)
Boiling Point	Temperature at which a substance boils when heated or condenses when cooled . (BP of water = 100 °C)

1.3 - Solutions

Solution	A mixture formed when a solute dissolves in a solvent .
Solvent	The liquid part of a solution e.g. water, ethanol .
Solute	The substance dissolved in the solvent e.g. sugar, salt, carbon dioxide, copper sulphate .
Soluble	Will dissolve in a solvent e.g. sugar in water .
Insoluble	Will not dissolve in a solvent e.g. sand in water .
Saturated Solution	A solution that contains the maximum amount of solute that can be dissolved at that particular temperature .

1.4 - Separating Mixtures

Filtration 	<p>Separates an insoluble solid from a mixture. E.g. sand from water.</p> <p>Pour mixture through filter paper in a funnel. Collect filtrate in a conical flask. Residue collects in paper.</p>
Evaporation 	<p>Separates a soluble solid from a solution e.g. salt from water.</p> <p>Heat the mixture. Liquid evaporates. Solid forms crystals.</p>
Distillation 	<p>Separates a liquid from a solid e.g. salt and water, or a mixture of liquids. e.g. ink</p> <p>Heat the mixture in a round bottom flask. Liquid evaporates and rises, then cools and condenses in the condenser. Collect the distillate.</p>
Chromatography 	<p>Separates a mixture of coloured dyes.</p> <p>Draw a start line in pencil on filter paper. Put a dot of the sample on the line. Dip paper in a solvent.</p>

Y7 Science Cycle 2 - Sheet 1

Particles and Solutions

