

What should I already know?

- I know the difference between an object and the material from which it is made.
- I can identify and name a variety of everyday materials and compare their suitability for particular uses.
- I can describe, compare and group materials according to their physical properties.
- I know how the shape of solid objects can be changed.

Vocabulary

melting	To change from solid to liquid because of heat or pressure.
freezing	When a liquid becomes solid at low temperatures.
temperature	A measure of how hot or cold something is.
solid	A state of matter that has a firm shape or form.
liquid	A state of matter where the material holds the shape of the container.
gas	A state of matter where the particles are spread out.
state change	A change from one state of matter to another.
melting point	The temperature at which a material melts.
boiling point	The temperature at which liquid starts to boil.
evaporation	To turn from liquid into gas.

Solids, Liquids and Gases

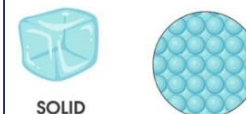
Matter is the stuff that makes up our planet and the whole universe. All matter exists in three states; solids, liquids and gases. Matter can change state depending on its temperature.

Solids

- Solids hold their shape.
- Solids are rigid.
- Solids have a fixed volume.

Examples:

- ice cubes
- rock
- most metals

Liquids

- Liquids do not hold their shape.
- They have a fixed volume and are not rigid.
- Liquids can be poured.

Examples:

- water
- oil
- milk

Gases

- Gases do not hold their shape.
- They are not rigid.
- They do not have a fixed volume.

Examples:

- oxygen
- carbon dioxide
- helium



Changing States of Matter

States of matter can change, depending upon the temperature of the matter.

Freezing

The process of turning a liquid into a solid. For water this happens at 0°C.

Melting

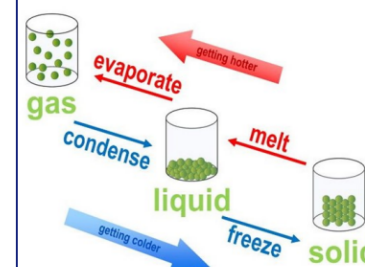
Melting is the process of changing a solid into a liquid.

Evaporation

Evaporation is the process of changing a liquid into a gas. Water boils when it is heated to 100°C. Evaporation is the same state change as boiling only it happens more slowly.

Condensation

Condensation is the process of changing a gas into a liquid caused by cooling.



The Water Cycle

Changing states of matter plays an important part in the water cycle:

Evaporation - Energy from the sun heats up the surface of the Earth. This causes the temperature in rivers, lakes and oceans to rise and the water rises into the air as water vapour.

Condensation - As the water vapour rises, it cools in the higher air and turns back into liquid - condensation. This creates clouds.

Precipitation - When too much water has condensed, the clouds become too big for air to hold them. Precipitation occurs as rain or snow.

