

Alverton School Science Knowledge Organiser Year 5 MATERIALS AND THEIR PROPERTIES

What we already know:

That materials can be grouped into solids, liquids and gases.

That some materials change state when they are heated or cooled and these processes are known as melting, freezing, evaporating and condensing.

Core Knowledge

Materials can be grouped and compared on the basis of their physical properties, including rigidity, transparency, electric conductivity and magnetism.

A thermal insulator is a material that does not allow heat to pass through easily. This means that good thermal insulators can be used to keep things warm or cold.

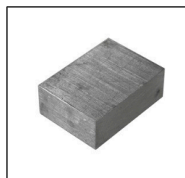
Some solids dissolve in liquids to form a solution. Solids that dissolve are said to be soluble. A substance that does not dissolve is said to be insoluble.

Different types of filters can be used to separate insoluble solids from liquids or gases. Soluble solids can be recovered using evaporation.

Changes of state are reversible changes when the material that has been changed can return to its original state. If a change is irreversible, it cannot be undone.

Key Vocabulary

Condensing	The change from a gas to a liquid
Conductor	A material that transmits heat or electricity
Dissolve	A solid is incorporated into a liquid to form a solution
Evaporating	The change from a liquid into a gas
Freezing	The change from a liquid into a solid
Gas	A substance with no fixed shape
Insulator	A material that does not transmit heat or electricity
Liquid	A substance that flows freely with constant volume
Material	The substance or matter from which a thing is made
Melting	The change from a solid into a liquid
Solid	A substance that is firm and stable in shape.
Thermal	Relating to heat
Transparency	The quality of a substance to allow light to pass through it



Solids keep their shape.

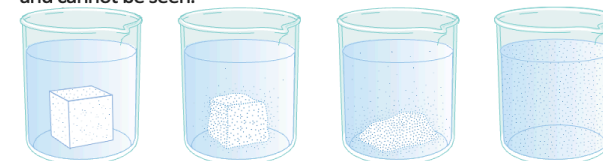


Liquids flow and take the shape of their container.

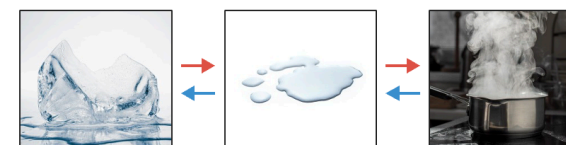


Gases spread out to fill all available space.

What is a solution? A solution forms when a solid dissolves in a liquid. The particles become so small that they spread out evenly and cannot be seen.



Transparent	Opaque



solid

liquid

gas

Reversible changes of state include melting, freezing, evaporating and condensing, and these changes can be undone.