



Vocabulary I need to know

Thermal/ electrical insulator	Material that prevents heat or electricity moving through it
Change of state	When a material changes from gas to liquid to solid or back
mixture	a material made up of two or more different chemical substance/substances which are not chemically combined.
dissolve	to become incorporated into a liquid
Solution	A liquid mixture
Soluble	When a material is able to be dissolved
Sieve	a utensil consisting of a wire or plastic mesh held in a frame, used for straining solids from liquids or separating coarser from finer particles
Reversible change	a change that can be undone or reversed
rusting	the red or orange coating that forms on the surface of iron when exposed to air and moisture

Things I already know before I start the journey

- Compare and group materials together, according to whether they are solids, liquids or gases.
- Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C).
- Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.



Things I need to know by the end of the journey

Materials have different uses depending on their properties and state (liquid, solid, gas). Properties include hardness, transparency, electrical and thermal conductivity and attraction to magnets. Some materials will dissolve in a liquid and form a solution while others are insoluble and form sediment.

Mixtures can be separated by filtering, sieving and evaporation.

Some changes to materials such as dissolving, mixing and changes of state are reversible, but some changes such as burning wood, rusting and mixing vinegar with bicarbonate of soda result in the formation of new materials and these are not reversible.

LO: To know how the properties of different materials can be used for different purposes

Create a chart or table grouping/ comparing everyday materials by different properties

LO: To know that some materials dissolve into liquids and what affects the rate of dissolving

use test evidence gathered about different properties to suggest an appropriate material for a particular purpose

LO: To know how to separate mixtures

Separate mixtures by sieving, filtering and evaporation

LO: To know that some changes are non reversible

Explore a range of non-reversible changes e.g. rusting, adding fizzy tablets to water, burning

LO: To know how to compare and carry out fair testing involving non reversible changes

Explore a range of non-reversible changes e.g. rusting, adding fizzy tablets to water, burning

LO: To know chemists who created new materials

Spencer Silver—glue from sticky notes
Ruth Benerito—Wrinkle free cotton