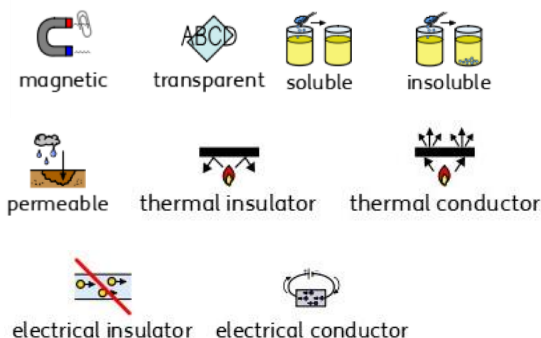


What should I already know?

- A variety of everyday materials.
- The physical properties of a variety of everyday materials.
- How materials are suitably used based on their properties.
- How magnets and electrical circuits work.
- How shapes of solid objects can be changed.

What will I know by the end of the unit?

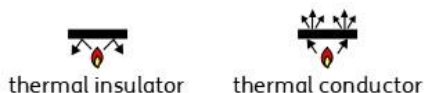
How to group materials based on these properties.



What are thermal insulators and conductors?

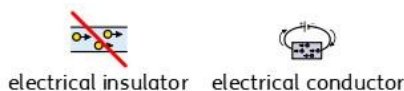
- **Thermal conductors** allow heat to move through them easily, e.g. **metal** is used to produce **saucepans**.
- **Thermal insulators** do not let heat travel through them easily, e.g. **wool** is used to produce **warm jumpers**.

What products are they used for?



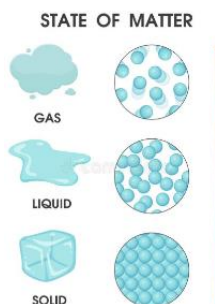
What are electrical insulators and conductors?

- **Electrical conductors** allow electricity to **easily pass through** them.
- **Electrical insulators** have a high resistance so it is **hard for electricity to pass through** them.



What are solids, liquids and gases?

- Some materials change state when they are heated or cooled.
- Some changes are **reversible** and some are **irreversible**
- Mixtures can be separated in a variety of ways including by **evaporating, condensing, filtering, sieving, melting** and **dissolving**.



How can this knowledge be used to separate mixtures?

Vocabulary – properties of materials

condensing	changing from a gas to a liquid
conductor	a substance that heat or electricity can pass through or along
dissolving	mixing a solid with a liquid to create a solution
evaporating	turning from liquid into gas
filtering	using a device with tiny holes in it to remove solids from liquids or gases .
gas	A state of matter. A gas rapidly spreads out when it is warmed and contracts when it is cooled.
insoluble	impossible to dissolve
insulator	does not conduct electricity or heat
irreversible	impossible to change back
liquid	A state of matter. A liquid flows easily but does not separate.
magnetic	having to do with magnets and the way they work
melting	to change from a solid to a liquid state through heat or pressure
particles	a tiny amount or small piece
permeable	gas or liquid can pass through it
process	a series of actions used to produce something or reach a goal.
properties	the ways in which an object behaves
reversible	able to turn or change back
solid	having a firm shape or form that does not flow.
soluble	able to be dissolved .
solution	a mixture that contains two or more substances combined evenly
thermal	relating to heat or temperature
variable	something that can change

Data Handling

- Independently select the appropriate graph from a bar chart or line graph, depending on whether their data is discrete (bar chart) or continuous (line graph).
- Take average data recordings for accuracy and identify anomalies in data.

