Material World 1 Knowledge Organiser

Subject vocabulary

thermal conductor **thermal insulator**	A thermal conductor is a material that allows heat to pass through it. A thermal insulator is a material that prevents heat from passing through it.
evaporate	heat liquid until it turns into gas.
Solution	mixture of solid and liquid, where the solid has dissolved (you might not be able to see the solid).
Solute	the substance that dissolves
Solvent	(Usually) liquid that the solute dissolves in
Dissolve	when a solid mixes with liquid to make a solution.
Mixture	two or more substances that can be separated
Soluble	when something can dissolve.
Insoluble	when something can't dissolve
Filter	use porous material to separate solid and liquid.
sieve	An instrument with fine holes to separate grains of different size
Reversible change	A change that can be undone.

What can sieves do?

A mixture of sand, rice and dried peas can be separated using sieves.

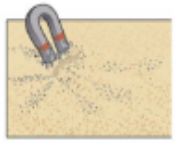
Each sieve has different-sized holes.

The big peas cannot get through the sieve with the biggest holes, but rice and sand can.

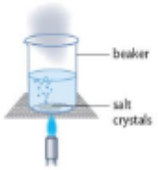
The sieve with the smallest holes lets the sand through but traps the rice.

Reversing changes

- A magnet will lift out iron filings from a mixture of sand and iron filings.



- If you leave salty water in a hot room, the water will evaporate and leave salt crystals behind.



More changes that can be reversed

- Boiling water changes it into a gas. Letting it cool reverses this change.

- Heating chocolate causes it to melt. Cooling it turns it back into a solid.

Key facts to know by the end of this unit

Materials are used for different purposes because of their properties. For example: steel is used for saucepans because it is tough and conducts heat; glass is used for windows because it is transparent and waterproof.

Examples of reversible changes: Melting is when a solid converts into a liquid after heating. An example of melting is turning ice into water. Freezing is when a liquid converts into a solid.

Mixtures can be separated out by methods like filtering and evaporating. A change is called reversible if it can be changed back again.

Some materials will dissolve in liquid to form a solution.

You should use your knowledge of solids, liquids and gases to decide how different mixtures might be separated, including through filtering, sieving and evaporating.