

What will we be learning?

- Identify materials.
- Describe materials' properties.
- Identify thermal and electrical conductors and insulators.
- Identify materials that are soluble or insoluble in water.
- Follow instructions to separate mixtures.
- Identify irreversible changes.

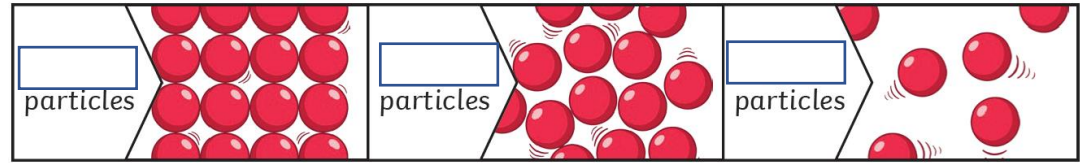
Key facts

- Different materials are used for particular jobs based on their properties: electrical conductivity, flexibility, hardness, insulators, magnetism, solubility, thermal conductivity, transparency.
- Reversible changes, such as mixing and dissolving solids and liquids together, can be reversed by: Sieving, filtering and evaporating.

Key vocabulary

- **Materials:** The substance that something is made out of, e.g. wood, plastic, metal.
- **Solids:** One of the three states of matter. Solid particles are very close together, meaning solids, such as wood and glass, hold their shape.
- **Liquids:** This state of matter can flow and take the shape of the container because the particles are more loosely packed than solids and can move around each other. Examples of liquids include water and milk.
- **Gases:** One of the three states of matter. Gas particles are further apart than solid or liquid particles and they are free to move around. A gas fills its container, taking both the shape and the volume of the container. Examples of gases are oxygen and helium.
- **Melting:** The process of heating a solid until it changes into a liquid.
- **Freezing:** When a liquid cools and turns into a solid.
- **Evaporating:** When a liquid turns into a gas or vapour.
- **Condensing:** When a gas, such as water vapour, cools and turns into a liquid.
- **Conductor:** A conductor is a material that heat or electricity can easily travel through. Most metals are both thermal conductors (they conduct heat) and electrical conductors (they conduct electricity).
- **Insulator:** An insulator is a material that does not let heat or electricity travel through them. Wood and plastic are both thermal and electrical insulators.
- **Transparency:** A transparent object lets light through so the object can be looked through, for example glass or some plastics.

Use the word solid, liquid or gas to fill in the blank spaces.



Changes of State

	The solid melts.	
	The liquid freezes.	
	The gas condenses.	
	The liquid evaporates.	

Irreversible changes often result in a new product being made from the old **materials** (reactants). For example, burning wood produces ash. Mixing vinegar and milk produces casein plastic.

What I have learnt.