

Key Vocabulary

- Properties
- Hardness
- Electrical conductor
- Thermal conductor
- Conductivity
- Insulation
- Dissolve
- Solution
- Soluble
- Separate
- Magnetic
- Solids
- Liquids
- Gases
- Reversible changes
- Dissolving
- Mixing
- Evaporation
- Filtering
- Sieving
- Melting

Key Knowledge

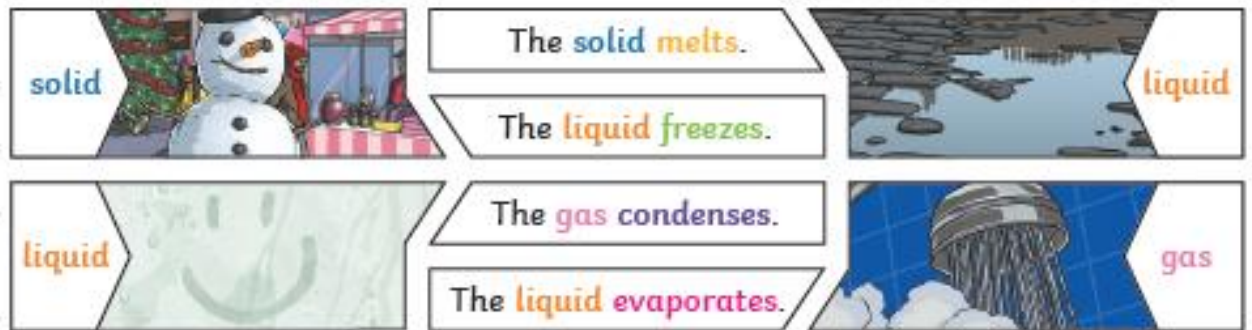
Different **materials** are used for particular jobs based on their properties: electrical **conductivity**, flexibility, hardness, insulators, magnetism, solubility, thermal **conductivity**, transparency.



For example, glass is used for windows because it is hard and transparent. Oven gloves are made from a thermal insulator to keep the heat from burning your hand.



Changes of State



Key Vocabulary

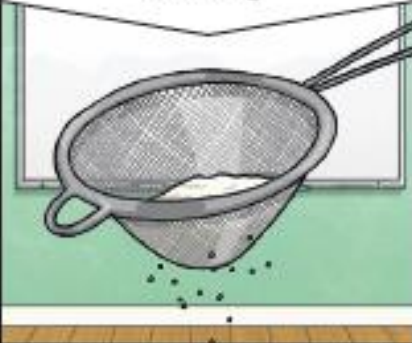


Irreversible	Fair test
New material	Variables
Burning	Prediction
Rusting	Conclusion
Chemical	

Key questions:

1. Can you name any of the separating processes?
2. What do the terms 'reversible' and 'irreversible' mean?
3. What are the names of each change of state?
4. Can you explain how a solid turns into a liquid?
5. Can you explain how a liquid turns into a gas?

Key Knowledge

Reversible changes, such as mixing and dissolving **solids** and **liquids** together, can be reversed by:

Sieving	Filtering	Evaporating
		
Smaller materials are able to fall through the holes in the sieve, separating them from larger particles.	The solid particles will get caught in the filter paper but the liquid will be able to get through.	The liquid changes into a gas , leaving the solid particles behind.

Dissolving

A solution is made when **solid** particles are mixed with **liquid** particles. **Materials** that will dissolve are known as soluble. **Materials** that won't dissolve are known as insoluble. A suspension is when the particles don't dissolve.

Sugar is a soluble **material**.



Sand is an insoluble **material**.



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.

