

Science: Properties and changes of materials

What should I already know?

In KS1 children identified a variety of everyday materials, described their physical properties and compared and grouped them based on these. They investigated and compared the suitability of everyday materials for particular uses and found out how the shapes of solid objects made from some materials can be changed. In Y4 children compared and grouped materials according to whether they were solids, liquids or gases; observed that some materials change state when heated or cooled and explored the part played by evaporation and condensation in the water cycle.

Filter	When you filter a liquid you remove anything that is solid or cannot dissolve.
Insulator	It halts the passage of electricity, heat or sound through an object or substance.
Conductor	Electrical conductor: A material that electricity flows through easily. Thermal conductor: A material that heat passes through easily.
Soluble	This is the liquid that is produced after you have dissolved a solid into another liquid.
Insoluble	This is when a solid is unable to dissolve into a liquid.
Irreversible	A change in a substance that is permanent. Examples of irreversible changes are BURNING toast, COOKING a cake or an egg, RUSTING.
Solution	This is the mixture of two or more substances, a solute dissolves in a solvent. The substance made when a solid disappears in a liquid.
Change of state	A substance can be made to change state by heating it up or cooling it down.
Mixture	This is when two or more substances mixed together without actually joining them so that they can be separated again.
Dissolve	If a solid disappears when it is added to a liquid we say it has dissolved. The resulting liquid is called a solution. For example sugar will dissolve in water to form sugar solution.
Thermal	Relates to heat
Rusting	Red or orange coating that forms on the surface of iron when exposed to air and moisture.
Burning	Very hot or bright. On fire.

Conductors	Insulators
Aluminum	Wood
Steel	Plastic
Gold	Rubber

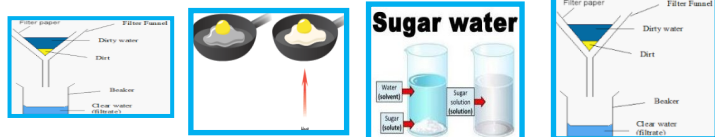
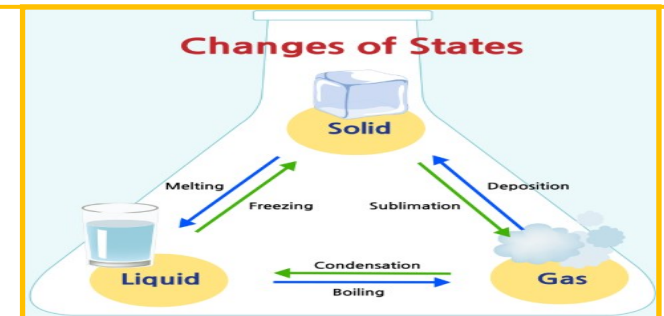
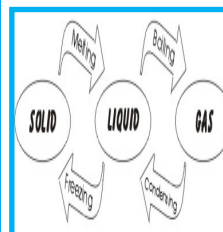


Reversible & irreversible changes

All changes in the world are one of the two types - reversible changes and irreversible changes. A change which can happen backward, that is, can be reversed is called a reversible change. ... A change which cannot happen backward, that is, it cannot be reversed is called an irreversible change.



We can change a solid into a liquid or gas by changing its temperature. Water is a liquid at room temperature, but becomes a solid when you cool it to zero degrees Celsius and water becomes water vapour when you heat it 100 degrees Celsius.



Book we will be reading

