Year 5 Science : Properties and changes of materials

Spring

Core Knowledge—Comparing and grouping materials

Materials can be compared and grouped according to what they are like (their **properties).**

Properties include **hardness**, **transparency**, **electrical** and **thermal conductivity** and **attraction to magnets.**

Materials have different uses depending on their **properties** and **state** (liquid, solid, gas).

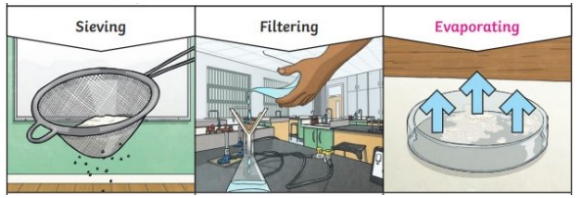
The best choices for the particular uses of everyday materials, including metals, wood and plastic, can be identified and reasoned using **comparative and fair tests.**

Core Knowledge—Separating mixtures

Some materials are **soluble** and will dissolve in a liquid and form **a solution** while others are **insoluble** and form **sediment** (the solid settles at the bottom of the liquid). Mixtures can be separated by filtering, sieving and evaporation.

Sieving can be used to separate solids with different sized pieces, for example a mixture of pasta, lentils and sand.

Filtering can be used to separate an insoluble solid from a liquid, for example, sand and water.



Evaporation can be used to separate a soluble solid from a liquid, for example, salt and water.

Scientific Enquiry

Engaging in practical enquiry to answer questions.

Recording and presenting evidence.

Game

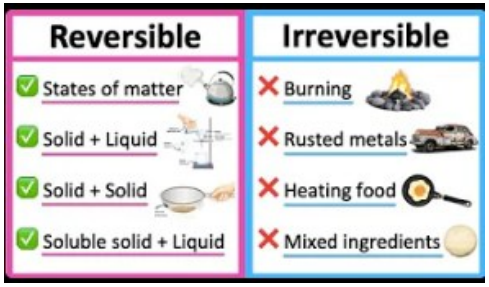
Year 5 Properties & Changes of Materials - Key Knowledge Electrical Insulators & Conductors - Teaching resource

Key Vocabulary

Vocabulary	Definition
Thermal or electrical conductors	Materials which are good **conductors** allow heat (thermal conductors) or electricity (electrical conductors) to move through them easily.
Thermal or electrical insulators	Materials which are good **insulators** do NOT allow heat (thermal insulators) or electricity (electrical insulators) to move through them easily. Thermal insulators keep hot things hot and cold things cold.
transparent	A material that allows light to pass through it so that objects can be seen clearly.
Comparative test	Evaluates the strengths and weaknesses of two or more different materials or objects.
Fair test	Keeps all variables the same and only changes one independent variable.

Core Knowledge—Reversible and irreversible change

Some changes to materials such as dissolving, mixing and changes of state are reversible changes and can be undone as a new material has not been created.



Some changes such as burning wood, rusting and mixing vinegar with bicarbonate of soda result in the formation of new materials and these are irreversible.