



Knowledge Organiser

Science: Properties and changes of materials

Year 5/6

Theme: Cause and Effect

Autumn Term B

Prior Knowledge

KS1

Distinguish between an object and the material it is made
Identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock

Compare and group together a variety of materials based on their simple physical properties.

LKS2

Compare and group materials together, according to whether they are solids, liquids or gasses.

Observe that some materials change state when they are heated or cooled and measure or research the temperature at which this happens in degrees Celsius

Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature

Application of Knowledge

- compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets
- know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution
- use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
- demonstrate that dissolving, mixing and changes of state are reversible changes
- explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda

Vocabulary

What I will know by the end of this topic

What properties of brick mean that it can be used to make buildings? *It is strong, hardwearing, waterproof and rigid*
Give 3 examples of properties a material could have *Soluble, Transparent, Conductive, Magnetic, waterproof and absorbent.*
Why are certain materials used for a particular purpose? *Materials are used based on their properties*
What do thermal insulators do? *Control heat and keep things hotter for longer*
What is a reversible change? *A change that can be undone*
How do we recover a dissolved substance? *Evaporating the liquid*
Which materials can be separated by sieving? *Larger solids such as stones or rice*
What is an irreversible change? *A change that cannot be undone in which a new substance is produced*
How can we tell if a material is soluble? *It will dissolve into a liquid*
What is the name for materials that will dissolve in liquid? *Soluble*
Give three examples of soluble materials. *Salt, sugar and coffee*



rigid	Unable to bend or be forced out of shape ; not flexible
flexible	Capable of bending easily without breaking and able to be changed
absorbent	A material that is able to soak up liquid easily
reversible change	A change that can be undone or reversed such as dissolving, melting or freezing
irreversible change	A change that cannot be undone and the original material cannot be brought back
dissolve	When a solid becomes or is incorporated into a liquid to form a solution
solution	A liquid mixture in which the dissolved material is distributed in the liquid evenly
solute	A substance that will dissolve into a liquid
soluble	Able to be dissolved into a liquid
solvent	Able to dissolve into other substances
thermal conductor	A material that will allow heat to flow through it easily