Knowsley Junior School

Properties of Materials
Year 4

Learning outcomes with context

- To compare and group together everyday materials based on their properties, including their hardness, solubility, transparency, conductivity and response to magnets
- To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
- To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution
- To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating
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Learning outcomes without context

- To make decisions, ask relevant questions and use different types of scientific enquiries to answer them
- To set up simple practical enquiries, comparative and fair tests
- To make systematic and careful observations using notes and simple tables
- To gather, record, classify and present data in a variety of ways
- To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- To report on findings from enquiries, using relevant scientific language, including oral and written explanations, displays or presentations of results and conclusions
- To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- To use straightforward scientific evidence to answer questions or to support their findings
- To recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations

Key vocabulary children should know by the end of the topic

Solubility	How much a substance can mix into a liquid.
Thermal conductor	The ability of a material to conduct heat.
Dissolve	A substance dissolves when mixed with a liquid and may look like it has disappeared.
Solution	Two or more substances mixed together which cannot be easily separated.
Mixture	Two or more substances mixed together which can be easily separated.
Filtering	To remove solids from a liquid.
Sieving	Used to separate a mixture.
Reversible	A change that can be undone.
Irreversible	A change that cannot be undone and new materials are formed.