









# Science – Properties and Changes of Materials – Autumn Term 1

## Prior Knowledge

- States of Matter: Solids keep their shape, liquids flow, gases spread out; heating and cooling can change them.
- Rocks and Soils: Rocks and soils have different looks, feels, and uses for building and gardening.
- Uses of Materials: Materials are chosen for what they are good for, like wood for furniture or glass for windows.
- Everyday Materials: Materials can be hard, soft, flexible, shiny, or dull.

## Key Vocabulary

<b>soluble</b>		Can dissolve in a liquid.
<b>opaque</b>		You can't see through it. It does not let light pass through.
<b>insulator</b>		A material that does not let heat or electricity pass through easily.
<b>conductor</b>		A material that allows heat or electricity to pass through easily.
<b>solute</b>		The substance that dissolves in a liquid.
<b>reversible change</b>		A change that can be undone.
<b>filtration</b>		A way to separate solids from liquids using a filter.
<b>solution</b>		The mixture made when a solute dissolves in a liquid.

## Core Knowledge

- Materials can be rigid, flexible, absorbent, waterproof, opaque, transparent, or magnetic. These properties help us decide what materials to use for different purposes.
- Thermal conductors, like metal, allow heat to pass through easily. Thermal insulators, like wood or plastic, stop heat from passing through.
- Metals are good electrical conductors because electricity can flow through them. Most non-metals are electrical insulators, which means electricity cannot pass through them.
- The solid that dissolves is the solute, the liquid it dissolves in is the solvent, and when they mix together they make a solution.
- We can separate mixtures by sieving, filtration, or *evaporation*. Sieving separates solids of different sizes, filtration separates insoluble solids from liquids, and evaporation separates dissolved solids from liquids.

## Diagrams

