

# Knowledge Organiser - Science - Properties of Materials Upper Key Stage 2 (Years 5 and 6) - Spring 1 2026



## What I already know

- I can distinguish between an object and the material that it is made from
- I can identify and name the materials wood, plastic, glass, metal, water and rock.
- I can show how properties of materials make them suitable for different purposes

## Sticky Learning

### Properties of Materials

conducts energy	
insulates energy	
transparent	
waterproof	
durable (strong)	
magnetic	

### Everyday Materials

Metal saucepans **conduct** heat to warm food.



Wooden spoons and plastic handles **insulate** heat so hands do not get burned.

### Soluble Materials

Some solids **dissolve** in water (**SOLUBLE**).



Some solids do not **dissolve** in water (**INSOLUBLE**).



### Separating Materials

#### Sieving



#### Filtering



#### Magnetism



**Magnetic metals:**

- iron
- nickel
- steel

## Core Learning



1. Explore properties of materials



2. Explore thermal conductors and thermal insulators



3. Explore hardness of materials



4. Discover materials that are soluble in water




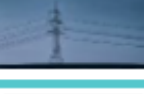







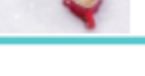


5. Investigate the solubility of materials



6. Explore how mixtures can be separated by filtering, sieving, evaporating or magnets

## Rocket Words

	conductive	a material that allows heat and/or electricity to pass through it
	magnetic	material that is attracted to a magnet
	thermal	using or producing heat
	conduction	heat moving from one object to another through contact
	hardness	resistance to scratching and pressure
	force	when an object is acted upon by a pull or push motion in a specific direction
	dissolve	to mix with a liquid and become part of the liquid
	solute	a substance that can be dissolved in liquid
	solvent	a substance that can dissolve in a solute, water is a solvent
	substance	any material, such as sugar
	filtering	the separation of a mixture using a tool with small holes to separate particles
	evaporation	the process where a liquid changes into a gas



## Knowledge Organiser: Year 5 Properties of Materials Before & After Test



Label the 2 materials used to make this wire.



Explain why the properties of these materials make it a good choice for its purpose.

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Nahim wants to carry out a fair test to see which solids dissolve in water.

Name 2 variables he must keep the same to make it a fair test.

1. \_\_\_\_\_
2. \_\_\_\_\_

What is the variable that he must change?

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Sort these materials in the following table:



coffee



sugar



salt



pepper



sand



jelly



wax

Soluble	Insoluble

Draw lines to match the mixtures to the best method of separation.

Mixture

sand and water
gravel and water
iron filings and sand
flour and water

Process of separation

magnet
sieving
picking out by hand
filtering