



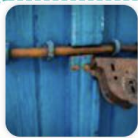
Lesson Sequence



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

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**).

coffee



sugar



salt



jelly



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

pepper



sand



wax

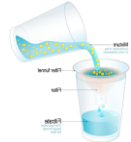


Separating Materials

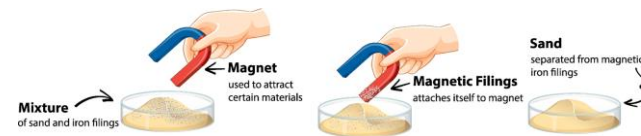
Sieving



Filtering



Magnetism



Magnetic metals:

- iron
- nickel
- steel

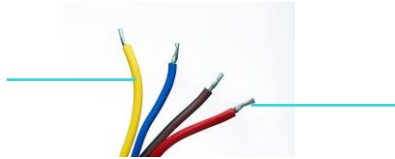


Knowledge Organiser: Year 5 Properties of Materials

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.

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?

Sort these materials in the following table:



Soluble	Insoluble

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

Mixture













Process of separation

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

magnet
sieving
picking out by hand
filtering



Rocket

	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