Knowledge Organiser: Year 5 Properties of Materials



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 

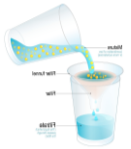
wax 

Separating Materials

Sieving



Filtering



Magnetism



Magnetic metals:

- iron
- nickel
- steel

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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:


coffee


sugar


salt


pepper


sand


jelly


wax

Soluble	Insoluble

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

Mixture	Process of separation
sand and water	magnet
gravel and water	sieving
iron filings and sand	picking out by hand
flour and water	filtering

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Unit Rocket Words: Year 5 – properties of materials

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

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