



## Y5 Thinking like a scientist

### Properties of Materials

#### Key Knowledge:

- **Material**—is a substance that objects are made out from such as wood, metal or plastic.
- **Physical properties**— are the features that can be observed or measured.
- **Transparent**— to let light pass through so you can see clearly through them.
- **Electrical conductor**—is a material that allows electricity to pass through it.
- **Magnetic**— materials that are attracted to magnets.

#### Everyday Materials

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



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

#### Properties of Materials

conducts energy	
insulates energy	
transparent	
waterproof	
durable (strong)	
magnetic	

Why do we use different materials for different jobs?

#### 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

#### Soluble Materials

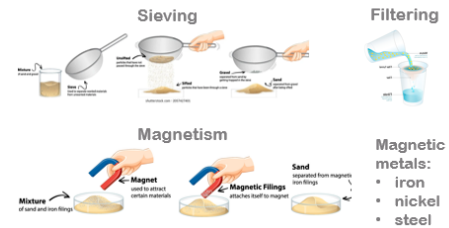
Some solids **dissolve** in water (**SOLUBLE**).



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



#### Separating Materials



## Learning Questions

How can I identify and explore the properties of materials?

What are thermal conductors and thermal insulators?

How can we test the hardness of materials?

What are the properties of materials that are soluble in water?

How can we test solubility of different materials?

How can we separate different mixtures?

What else do I know?