



Key Vocabulary

WORD	DEFINITION
Conduction	heat moving from one object to another through contact
Conductive	a material that allows heat and/or electricity to pass through it
Dissolve	to mix with a liquid and become part of the liquid
Evaporation	the process where a liquid changes into a gas
Filtering	the separation of a mixture using a tool with small holes to separate particles
Force	when an object is acted upon by a pull or push motion in a specific direction
Hardness	Hardness – resistance to scratching and pressure
Magnetic	material that is attracted to a magnet
Solute	a substance that can be dissolved in a liquid
Solvent	a substance that can dissolve in a solute, water is a solvent
Substance	any material, such as sugar
Thermal	using or producing heat

Key Knowledge

Different materials are used for particular jobs based on their properties: electrical conductivity, flexibility, hardness, insulators, magnetism, solubility, thermal conductivity, transparency.

Properties of Materials	
conducts energy	
insulates energy	
transparent	
waterproof	
durable (strong)	
magnetic	

**Sieving** - Smaller materials are able to fall through the holes in the sieve, separating them from larger particles.

**Filtering** - The solid particles will get caught in the filter paper but the liquid will be able to get through.

**Dissolving** - A solution is made when solid particles are mixed with liquid particles. Materials that will dissolve are known as soluble. Materials that won't dissolve are known as insoluble. A suspension is when the particles don't dissolve.

Irreversible changes often result in a new product being made from the old materials (reactants). For example, burning wood produces ash. Mixing vinegar and milk produces casein plastic.



**Soluble Materials**

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

coffee    sugar    salt    jelly

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

pepper    sand    wax

**Everyday Materials**

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

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

**Separating Materials**

**Sieving**

**Filtering**

**Magnetism**

**Magnetic metals:**

- iron
- nickel
- steel

