



Elm Class - Science	Topic: Properties & changes of materials	Strand: Physics	
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Working Scientifically				
Plan different types of enquiry to answer questions	Take measurements with increasing accuracy	Record results using diagrams and tables	Use test results to make further predictions	Report and present findings

What I should already know
<ul style="list-style-type: none"> How to describe properties of everyday materials How to group and compare different materials based on their state - are they a solid, liquid, or a gas? Solids keep their shape and have a fixed volume. Liquids have a fixed volume, but change in shape to fit their container. A liquid can be poured, or flows. Gases have no fixed shape or volume. A gas fills all available space Understand that some materials change state when they are heated or cooled Boiling is a change of state from liquid to gas when the liquid is heated to a certain temperature. Water boils at 100 °C Know that evaporation is the change from a liquid to a gas. Condensation is the change back from a gas to a liquid. This normally happens through cooling.

Key Vocabulary	
absorbent	Material which has the ability to soak up another substance - usually liquids
boiling point	Temperature at which a substance boils and changes from a liquid to a gas
burning	Setting something alight, setting fire to a material
change of state	When a substance changes from one state to another without changing its chemical makeup. Substances can change from solids to liquids to gases
cooling	Falling temperature
conductor	A substance or material that transmits electricity, heat, light or sound
dissolve	When a substance is broken up or absorbed and disappears into another substance.
evaporation	When a liquid changes to a gas (vapour) after being heated up
filter	A device with tiny openings that allows you to remove things from a gas or liquid

Key Vocabulary	
freezing	When a substance changes from a liquid to a solid in lower temperatures . Water freezes at 0°C
gas	Air-like substance that moves around. Gases don't have a shape, but fill the space they are in
insoluble	Solid which won't dissolve into a liquid , even when stirred or mixed
insulator	A substance or material that that doesn't transmit electricity, heat, light or sound.
liquid	One of the 3 states of matter. Liquids flow and take the shape of the container they are in
melting point	Temperature at which a solid changes to a liquid . Different solids have different melting points
mixture	2 or more substances are mixed, but not joined together. One substance hasn't dissolved into the other. Mixtures can be easily separated
non-reversible	When a change cannot be undone or reversed
reversible	When a change can be undone or reversed
rusting	Orange, red or brownish coating that appears on metals left exposed to air and water
sieve	Device for straining out lumps
solid	One of the 3 states of matter. Solids keep their shape and have a fixed volume
solution	Mixture where one substance is dissolved into another. The two substances can't be separated by filtering
soluble	Substance which will dissolve into a liquid
temperature	Degree of hotness or coldness measured with a thermometer
thermal	Type of energy in the form of heat
translucent	Lets light pass through, but not clearly
transparent	Lets light pass through

What I will know by the end of the unit	
Compare and group together materials based on their properties	<p>Materials are in different states - solid, liquid or gas</p> <p>Materials have many different uses depending on their properties.</p> <p>Properties can include: the hardness or transparency of a material; whether it is a conductor or insulator of heat or electricity or whether it is attracted to magnets.</p> <p>Different materials are more suitable for different purposes based on their properties.</p> <div>  <div> <p>Gas</p> <p>Liquid</p> <p>Solid</p> </div> </div>
Materials can change state	<p>Changes of state occur depending on temperature. Heating, cooling, evaporation and melting are 4 ways of changing state</p>
Changes of state can be reversible or irreversible	<p>Mixtures and solutions can be separated</p> <p>Some materials will dissolve in a liquid to form a solution (salt and water are an example of this); other materials are insoluble</p> <p>Some changes of state - dissolving and mixing are reversible</p> <p>Materials mixed together to form a solution or a mixture can be separated through filtering, sieving or evaporation</p> <p>Some changes of state - burning and rusting are irreversible and a new material is formed</p> 

Investigate	
<ul style="list-style-type: none"> Investigate different liquids and how long they take to freeze. What happens to clothes when they dry on the washing line on a hot day With an adult's help, bake a cake or bread. What irreversible change takes place? With an adult's help, melt chocolate to make chocolate crispy buns. Is this a reversible or irreversible change? Can you separate a solution of water and sugar? 	