



Year Group	5	Term	Autumn 1	Subject	Science	Topic	Reversible and Irreversible Changes	
							Key Question	Are all changes reversible?
Prior Learning and other Curriculum Links	<ul style="list-style-type: none">• know the properties of some materials and can suggest some of the purposes they are used for.• observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius ($^{\circ}\text{C}$)• identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses• describe the simple physical properties of a variety of everyday materials					Skills Statements	<ul style="list-style-type: none">- Demonstrate that dissolving, mixing and changes of state are reversible changes- Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda- Compare and group materials together, according to whether they are solids, liquids or gases- Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary (Year 5 focus)- Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate (Year 5 focus)- Record data and results of increasing complexity using scientific diagrams and	

			<p>labels, classification keys, tables, scatter graphs, bar and line graphs (Year 5 focus)</p> <ul style="list-style-type: none"> - Use test results to make predictions to set up further comparative and fair tests (Year 5 focus) - Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations (Year 5 focus) - Identify scientific evidence that has been used to support or refute ideas or arguments (Year 5 focus)
<p>Fundamentals</p>	<ul style="list-style-type: none"> • compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets • know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution • use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating • give reasons, based on evidence from comparative and fair tests, for the 	<p>Key Facts/Sticky Knowledge</p>	<ul style="list-style-type: none"> • Reversible means it can be changed back to its original state • Irreversible means that it cannot be returned to its original state and produces a new material. • A change can occur through a change of temperature for example from hot to cold (melting) or cold to hot (heating) • Irreversible changes produce a new material in a different state - e.g. rusting metal. • Reversible changes produce a different state before returning to the old one, e.g. melting candle or evaporating water.

	<p>particular uses of everyday materials, including metals, wood and plastic</p> <ul style="list-style-type: none"> • demonstrate that dissolving, mixing and changes of state are reversible changes • explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda 		<ul style="list-style-type: none"> • A variable is the one thing you change in the test. • A fair test is when everything is kept the same except for the variable.
Our Curriculum Journey	<p>They begin by learning about the differences between reversible and irreversible changes. They then perform a variety of experiments to identify reversible and irreversible changes - e.g. gas produced by bicarbonate soda and vinegar or rust on a nail. Finally, they use their understanding of irreversible changes to perform their own experiment and create a change.</p>		
Key Vocabulary (revisited)	<p>solid, liquid, soft, pour, flow, pile, pool, surface, horizontal, runny, sticky, grain, powder, ice, water, temperature, cool, cooling, warm, warming, hot, degree Celsius, melt, melting, freeze, freezing, solidify, solidifying, heating</p>	Key Vocabulary (new)	<p>material, change, compare, contrast, solid, liquid, gas, change of state, reaction, dissolve, melt, reversible, non-reversible</p>