



Shadsworth Junior School



Curriculum

Year 5 Scheme of Work

Term: Autumn 2		Topic: Science – Reversible and Irreversible Changes
Key Skills and Knowledge:		
<p><u>Reversible and Irreversible Changes</u> 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 particular uses of everyday materials, including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes. Explain that some changes result in 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.</p>	<p><u>Working Scientifically</u> Plan different types of scientific enquiry to answer questions, including recognising and controlling variables. Take measurements using a range of scientific equipment. Record data and results in tables and bar / line graphs. Use test results to set up further comparative and fair tests. Children should explore reversible changes, including evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes. Pupils should explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda.</p>	
Reading and Writing Opportunities (Long and Short Activities)		
Creative Ideas and Hooks		
<p>Research scientists linked to materials and their properties, male and female</p> <ul style="list-style-type: none"> • Ruth Benerito (cotton) • Spencer Silver (adhesive) • Harry Brearly (Metals) • Madame CJ Walker (chemicals) 	<p>Lots of practical opportunities to investigate changing state and developing children’s understanding of melting versus dissolving.</p> <p>Reversible changes versus irreversible</p>	
Links to PSHCE, Equality and British Values Work		
<p>Keeping safe when using candles both in school and at home. Washing your hands after carrying out investigations.</p>		
Key Vocabulary:	Resources Available / Visits/Visitors	Useful Websites:
<p>Reversible and irreversible changes. Dissolving Evaporating Filtering Soluble Insoluble</p>	<p>Stop watches, measuring jugs, tea light candles and holders, filter paper, consumables: oil, vitamin C tablets, sugar, salt, coffee beans, bicarbonate of soda, jelly.</p>	<p>Virtual science online experiments BBC bite size videos https://www.bbc.co.uk/bitesize/topics/zity4wx/articles/zpbdbpk STEM website</p>