



Big Question: Why is recycling beneficial to Wales?

AoLE: Science and Technology	Subject: Science – Chemistry	Year: 9
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Big Question / Aim / Objective / Concept	Vision (Proposed outcome) / Purpose of curriculum	Prior knowledge / Learners previous knowledge
Why is recycling beneficial to Wales?	In this topic students will be looking at Earth's resources both natural and synthetic. They will look at the impact this has on the environment both with extraction process and disposal of materials. Students will look into pollution and the effects of recycling on the planet.	Properties of some material and what they are used for Understand the principle of recycling Have a basic knowledge of the recycling process Understand examples of natural and synthetic

What does progression look like in this Big Question?

Progression Indicator	Description of learning (What matters statements)	Student evidence of progression (Blooms) / Knowledge
Excelling	I can use different methods to analyse materials in order to understand their composition.	Analyse methods to extract metals Compare recycling schemes across the country
Advancing	I can describe and explain the properties of different types of matter and relate these to how they are used.	Explain the impact of not recycling Explain how pollution has change over time
Securing	I can describe the impacts of science and technology, past and present, on society I can describe how various materials need different techniques in order to separate and refine them	Describe the properties of metals Describe the properties of polymers Describe pollution
Beginning	I can use my findings to draw valid conclusions. I can recognise that our planet provides natural materials and can explain why they may have been processed to make them useful.	Recall examples of metals Recall examples of polymers Recall examples of ceramics Recall the meaning of Reduce, Reuse and Recycle

Authentic learning experiences (Local / National / International)	Skills (Literacy / Numeracy / DCF) / Cross Curricular links
<p>Local: Looking at local material resources i.e. local quarries, mines and labs. Also reference local recycling schemes.</p> <p>National: Compare national availability of resources and different recycling schemes.</p> <p>International: Looking at maps that show availability of different resources around the world and how different countries deal with waste disposal.</p>	<p>Literacy</p> <ul style="list-style-type: none"> <li>• Written Assessment</li> <li>• Topic Reading</li> <li>• Comparison writing</li> </ul> <p>Numeracy</p> <ul style="list-style-type: none"> <li>• Plotting bar charts</li> <li>• Analysing Data</li> </ul> <p>DCF</p>



	<ul style="list-style-type: none"><li>• Research</li></ul>
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Assessment (How will we know that students have learnt what we taught them?)	
<p>Formative assessment:</p> <ul style="list-style-type: none"><li>• Teacher circulating</li><li>• Q&amp;A discussions on various phenomenon and scientific understanding</li><li>• Identify key terms to definitions/examples</li><li>• Peer/self-assessment tasks</li><li>• Group experimental work</li><li>• Explanations of specific processes such as conduction, convection and radiation</li><li>• Lesson tasks such as measuring angles precisely allows the use of whiteboards or tasks that feedback to the teacher to ensure pupils have learnt the desired process</li></ul>	<p>Summative assessment:</p> <p>Written assessment mid-point</p> <p>Evaluate and explain the impact of recycling</p> <p>Summative Assessment End of topic</p> <p>End of topic test Extraction of metals and recycling</p>

Evaluation (to be completed 2024)		
Strengths	Areas for Development	Pupil Voice