

Subject: Engineering Unit 2 Year Group: 8

Week Beginning	1	2	3	4	5	6
Subject Topic	<p>Understanding where metal comes from and how they are categorised.</p> <p>Ferrous and non-ferrous metal</p> <p>Measuring and marking in Engineering</p>	<p>Cutting and filing metal</p>	<p>Annealing and brazing metal</p> <p>Risk assessment</p>	<p>Shearing metal</p> <p>Metal finishing techniques</p>	<p>Structures</p>	<p>Engineer research</p>
Key Learning	<p><b>Intentions:</b></p> <ul style="list-style-type: none"> <li>- Understand how metals are extracted as ore and turned in to aluminium and steel</li> <li>- Become familiar with mining and its impacts on the environment.</li> </ul> <p><b>Questions:</b></p> <p>What colour was the Statue of Liberty originally and why has it changed?</p> <p>Name products normally made from copper</p> <p>From science lessons, can you tell me what an ore is?</p> <p>From where in the earth would they be extracted from?</p> <p>Other than the energy used, name some other negative impacts that might arise from mining?</p> <p>What benefits could mining bring to a region?</p> <p>What may happen to an open pit at the end of its useful life?</p> <p><b>DP:</b></p> <p>What may be the knock-on effects of the pollution caused by this industry?</p> <p>Understand the difference between ferrous and non-ferrous metals</p>	<p><b>Intentions</b></p> <ul style="list-style-type: none"> <li>- Complete work on keyring</li> <li>- How to use a pillar drill safely (risk assessment)</li> <li>- Start to measure, mark and cut the pieces for the coat hook</li> </ul> <p><b>Questions:</b></p> <p>Recap tools used for marking out during previous lesson</p> <p>What is meant by accuracy?</p> <p>What is a tolerance?</p> <p>If we work to a 1mm tolerance and something has to be 50mm in length, what are the acceptable upper and lower limits that we can work to?</p> <p>What safety precautions should we take when using a pillar drill?</p> <p>What does PPE stand for?</p>	<p><b>Intentions</b></p> <ul style="list-style-type: none"> <li>- Understand how to join steel using the brazing process</li> <li>- Annealing steel to make it more malleable</li> </ul> <p><b>Questions</b></p>	<p><b>Intentions:</b></p> <ul style="list-style-type: none"> <li>- What is shearing</li> <li>- Measure mark and cut piece for letter holder</li> <li>- Metal finishing techniques</li> </ul> <p><b>Questions:</b></p>	<p><b>Intentions:</b></p> <p>Introduction to wood box project</p> <p><b>Questions:</b></p>	<p><b>Intentions:</b></p> <p><b>Questions:</b></p>

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	Understand the parallels between engineering and maths How to measure and mark out accurately Start marking out aluminium key ring					
Linked Assessment	<b>E4: Investigate &amp; analyse products considering life cycle analysis and 'cradle to grave'.</b>	<b>M11 – Modifying the appearance of materials.</b> Samples of block printing and sublimation printing.	<b>T1/2: Materials</b> <b>M11 – Modifying the appearance of materials.</b> Samples of dyeing and tie dye produced. Questions about cotton and polyester	<b>M1: Tools &amp; equipment</b> Teacher assessment of how student uses the sewing machine including setting up.	<b>M10: Joining methods</b> <b>M1: Tools &amp; equipment</b> Sample of a plain seam Step by step instructions showing how to produce a plain seam.	<b>M10: Joining methods</b> <b>M1: Tools &amp; equipment</b> Samples of patchwork
Resources	Link to SharePoint					

Week Beginning	1	2	3	4	5	6	7	8
Subject Topic	Rendering Techniques	Design ideas	Design Ideas Manufacturing Specification	Sewing machine practise	Pattern making & Cutting fabrics	Sewing patchwork together	Smart Materials: Thermochromic Stencilling	Stencilling Complete coaster

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