

## CURRICULUM MAP- Year 9 USB Lamp

**Resistant Materials:** Throughout their Year 9 rotation students will continue to develop their working knowledge of materials, they will follow the design process in order to manufacture a USB lamp. Students will also acquire new skills and knowledge surrounding the use of CAD/ CAM within their project.



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							EOR Assessment Point
							<i>Practical Assessment</i>
						<b>Rotation Weeks</b> <b>9 and 10</b> <b>19</b> <b>28 and 29</b> <b>38 and 39</b>	<p><b><u>Key Disciplinary Knowledge</u></b></p> <p>Health and safety Cutting techniques Marking out Joining techniques Finishing techniques Hand tools Fixed equipment Use of CAD/CAM Working electronic circuit Soldering</p> <p><b><u>Key Concepts</u></b></p> <p>Students will be assessed on their ability to demonstrate the correct health and safety throughout the project, demonstrate the correct and confident use of tools and equipment and the overall quality of their finished product.</p>
					<b>Assessment Point:</b> <b>Summative or AFL</b>	<b><u>Overarching unit intent:</u></b>  <b>Manufacture</b> <ul style="list-style-type: none"> <li>• Product assembly</li> </ul>	
			<b>Rotation Weeks:</b> <b>5 and 6</b> <b>15 and 16</b> <b>24 and 25</b> <b>34 and 35</b>	<b><u>Overarching unit intent:</u></b>  <b>Manufacture</b> <ul style="list-style-type: none"> <li>• Manufacture- Electronic circuits</li> </ul>	<b><u>Overarching unit intent:</u></b>  <b>Manufacture:</b> Students will develop skills and confidence using a range of tools to produce the electronic circuit for their USB lamp. Specific health and safety in relation to the use of soldering irons, wire strippers and pliers.	<b><u>Design Assessment</u></b>  <b><u>Key disciplinary knowledge</u></b> Isometric Final Design Colour rendering Annotation  <b><u>Key Concepts</u></b> Students will be assessed on the presentation of their work, their creativity and innovation, their use of technical drawing skills (isometric), colour rendering and the quality of their annotation.	
	<b>Rotation Weeks:</b> <b>3 and 4</b> <b>13 and 14</b> <b>22 and 23</b> <b>32 and 33</b>	<b>Assessment Point:</b> <b>Summative or AFL</b>	<b><u>Overarching unit intent:</u></b>  <b>Manufacture</b> <ul style="list-style-type: none"> <li>• Manufacture (CAD/CAM)</li> </ul>	<b><u>Overarching unit intent:</u></b>  <b>Manufacture:</b> Students will develop skills and confidence using computer aided design (CAD) and computer aided manufacture (CAM) to manufacture their USB lamp. Specific health and safety in relation to the use of computer aided design (CAD) and computer aided manufacture (CAM)	<b><u>Design Assessment</u></b>  <b><u>Key disciplinary knowledge</u></b> Isometric Final Design Colour rendering Annotation  <b><u>Key Concepts</u></b> Students will be assessed on the presentation of their work, their creativity and innovation, their use of technical drawing skills (isometric), colour rendering and the quality of their annotation.	<b><u>Literacy Assessment</u></b>  <b><u>Key disciplinary knowledge</u></b> Quality Ergonomics Manufacture Construction Technique Specification Electronic Computer Aided Design (CAD) Render Function  <b><u>Key Concepts</u></b> Students will be assessed on the correct spelling and their	
<b>Rotation Weeks:</b> <b>1 and 2</b> <b>11 and 12</b> <b>20 and 21</b> <b>30 and 31</b>	<b><u>Overarching unit intent:</u></b> <b>Drawing and Design Techniques</b> <ul style="list-style-type: none"> <li>• Generate design ideas</li> <li>• Final Design</li> <li>• Annotation</li> </ul>						
<b><u>Overarching unit intent:</u></b>  <b><u>Health and safety in the workshop.</u></b> Students will learn the importance of health and safety in the Resistant Materials workshop including health and safety rules and hazard signs and symbols.	<b>Design:</b> Students will generate a range of ideas for their USB lamp. Students will learn how to draw in isometric as well as how to annotate and colour render. Students will use the CAFÉQUE technique to annotate their designs.						
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<ul style="list-style-type: none"> <li>• Task analysis</li> <li>• Product analysis</li> <li>• Materials research</li> <li>• Specifications</li> </ul> <p><b>Research:</b> Students will develop their literacy skills by writing a design specification for the product they want to make. Students will do this by using the technique CAFEQUE: Construction Aesthetics Function Ergonomics Quality User Environment</p>		<p>understanding of key vocabulary.</p>				<p>discussions around product evolution.</p>	
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