



# YEAR 9 Project

‘An ambitious curriculum that meets the needs of all’

## Medium Term Planning - Topic: USB Light

<b>Curriculum Intent</b>	In addition to working further on objectives from Year __, pupils will be taught, following National Curriculum guidelines, the following this term:
<b>Skills/National Curriculum Links</b>	<p>To be able to gain knowledge and skills in the following areas:</p> <ul style="list-style-type: none"> <li>• Soldering</li> <li>• CAD/CAM – using the laser cutter</li> <li>• CAD – design skills using software such as inkscape</li> <li>• Making skills (measuring and marking out)</li> <li>• Use of hand tools ( coping saw, tenon saw, files, sandpaper)</li> <li>• Use of workshop machines/equipment ( belt sander, line-bending machines)</li> <li>• Graphic design skills (rendering, shading), applying a theme</li> <li>• Research skills</li> <li>• Applying health and safety</li> <li>• Producing a design specification</li> <li>• Communicating design ideas</li> </ul>
<b>Spiritual, moral, social, and cultural development</b>	<p><b>SMSC:</b> Cultural awareness with designs/artefacts; Collective responsibility for H&amp;S; Spiritual development in the creative design process.</p> <p><b>PSHE/British Values:</b> Tolerance- listening to others ideas; Rule of Law – following H&amp;S; Mutual Respect – discussions and supportive comments in evaluations</p>
<b>Numeracy</b>	<ul style="list-style-type: none"> <li>• Measuring components in mm</li> <li>• deciphering resistor colour banding</li> <li>• Angles, geometry</li> </ul>
<b>Literacy</b>	<p><b>Vocabulary Tier 2:</b> design, evaluate,</p> <p><b>Vocabulary Tier 3:</b> Specific subject terminology i.e. resistor, light dependent resistor, light emitting diode, transistor</p> <p><b>Reading:</b> Following written instructions,</p> <p><b>Writing:</b> evaluation of products/design</p> <p><b>Oracy:</b> Q and A, Evaluations</p>
<b>Becoming future ready</b>	<b>Careers/Employability:</b>
<b>Adaptation</b>	Throughout this topic, quality first teaching will provide differentiation:
<b>QFT/SEND Provision</b>	<p><b>By product: differentiation by outcome</b></p> <p><b>By resource:</b> Past examples, writing mats</p> <p><b>By Intervention:</b> by providing different levels of supervision and support, extra demonstration</p> <p><b>By Progressive Questioning:</b> exploring pupils’ understanding through interactive dialogue.</p> <p><b>By Grouping:</b> according to prior attainment, gender, social preference, preferred learning style.</p> <p><b>By Task:</b> Pupils should be involved in the identification of targets which are meaningful to them and in the selection of an appropriate task from the given range.</p> <p><b>By Offering Optional Activities:</b> In class or as homework, to extend learning.</p> <p>This QFT/SEND provision will be explicit within the lesson-by-lesson schemes of work.</p>



<b>Implementation Curriculum Delivery</b>	To be able to:
<b>Learning Outcomes (Knowledge)</b>	<ul style="list-style-type: none"><li>• Design and make a plywood base focussing on materials, properties and joinery techniques</li><li>• To build upon knowledge and understanding of electrical components and how they work in the design process</li><li>• Knowledge of electrical components i.e. resistors, LDRs and variable resistors</li><li>• Advantages of using CAD/CAM</li><li>• Materials – timbers and polymers along with properties</li></ul> <p>Red denotes interleaving; aspects of knowledge covered previously.</p>
<b>Current learning to be developed in the future within:</b>	To be able to apply the skills learnt in this project in KS4 and develop them further
<b>Assessment</b>	Formative: i) Design Ideas using research ii) Making – comb joints and acrylic lid Summative: i) Final Design ii) Final Practical product iii) Timbers – theory booklet
<b>Impact</b>	Pupils have the knowledge and understanding of the materials and processes as stated in the NC at KS3