



ST. CATHERINE'S COLLEGE

A CHURCH OF ENGLAND ACADEMY

Learning overview for (subject): DT

Year group: 9

The Yr. 9 option is for three terms. Some groups will undertake the lamp project and other groups will undertake the pewter pendant project. Once finished they will undertake the project that they have not done.





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Term	Key topics / scheme of work	What most pupils will learn (Prior assessment may alter starting point & content)	Key skills used	How will this learning be assessed?
Lamp project	<i>Design and make a lamp using CAD and a laser cutter</i>	<p>Pupils will follow the design process solving the problem posed by the design context.</p> <p>Pupils will design and create an innovative, unique, and imaginative lamp.</p> <p>Pupils will use the design skills developed in Yr. 7 and 8 and build on these to use the laser cutter, acrylic, and plywood to create their imaginative design.</p> <p>Pupils will develop knowledge, understanding and recall of the properties of hardwoods, softwoods, and manufactured boards. Pupils will also need to understand the environmental principles involved with the selection of materials and understand stock forms, nesting, tessellation and understand production methods such as automation and different production methods such as bespoke product and mass production.</p>	<p>Pupils will use the design process.</p> <p>Pupils will learn how to research properties and stock forms of timber and understand how to choose timbers for selection.</p> <p>Pupils will learn perspective drawing.</p> <p>Pupils will further develop their CAD skills using 2D Design and Trimble SketchUp.</p> <p>Pupils will practise recall of their knowledge of timber products and electrical components.</p> <p>Pupils will understand how to use a laser cutter.</p>	<p>Testing of knowledge and understanding is undertaken by on-going short tests.</p> <p>Homework is assessed using the school marking policy for homework.</p> <p>Feedback on manufacturing and design skills is verbal and ongoing and students are encouraged to take ownership of their progress.</p> <p>Pupils will self-assess using a proforma which helps them consider what they have achieved and what they could do to improve further.</p>





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<p>Pewter casting</p>	<p><i>Pupils will design and make a product using pewter casting methods.</i></p>	<p>Pupils will understand how to design and make a product using metal. Pupils will also create an imaginative storage solution for their product. Pupils will learn;</p> <p>Use CAD to manipulate images to develop a complex design. Learn how to find inspiration from another culture to help create a unique and innovative design. Learn how to sketch using their imagination. Learn how to use hand tools to create a mould. Learn about the process of casting metal and know the names of the tools that are used. Learn how to use tools to create a finish for the product that is of a high standard. Learn about ferrous and nonferrous metals and understand the properties of these as well as the sustainability and moral issues of choosing metals. Understand why designers choose alloys to create designs. Learn about the consequences of using finite materials and consider how any negative consequences can be lessened.</p>	<p>Pupils will design and create mould to allow pewter to be heated and formed. Pupils will use tools to help cut, shape, drill and finish their design using pewter.</p>	<p>Testing of knowledge and understanding is undertaken by on-going short tests.</p> <p>Homework is assessed using the school marking policy for homework.</p> <p>Feedback on manufacturing and design skills is verbal and ongoing and students are encouraged to take ownership of their progress.</p> <p>Pupils will self-assess using a proforma which helps them consider what they have achieved and what they could do to improve further.</p>
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