



ST. CATHERINE'S COLLEGE

A CHURCH OF ENGLAND ACADEMY

Yr. 9 DT

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 using systems and control and electronics.</i>	<p>Pupils will follow the design process to solve the problem posed by the design context.</p> <p>Pupils will 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 birch faced plywood to create their imaginative design.</p> <p>Knowledge understanding and recall of the properties of hardwoods, softwoods, and manufactured boards will be important. 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 just in time (JIT) automation, and</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>Ongoing teacher assessment using fine grading.</p> <p>Short tests.</p> <p>Assessment of homework using the school marking policy.</p> <p>Feedback on manufacturing skills is verbal and ongoing.</p>





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		different production methods such as bespoke product and mass production.		
Pewter casting	<i>Pupils will design and make a product using pewter casting methods.</i>	Pupils will understand how to design and make a product using metals.	Pupils will use the brazing hearth and pewter to create an imaginative and interesting design.	Ongoing teacher assessment using fine grading. Short tests. Assessment of homework using the school marking policy. Feedback on manufacturing skills is verbal and ongoing.
Introduction to 3D Printing	<i>Pupils will understand 3D printing and CNC.</i>	Pupils will learn how to use Tinkercad which is an introduction CAD programme linked to the industry standard software, Autodesk - Fusion 360.	Be able to use Tinkercad to design a desk-tidy. Then learn how to create an STL file. Understand how to use Ultimaker Cura slicer software to make Gcode files and set up for 3D printing on a Creality Ender 3D printer.	CAD drawing will be assessed.

