



# ST CATHERINE'S COLLEGE

A CHURCH OF ENGLAND ACADEMY

Learning overview for (subject): DT			Year group: 10	
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?
1 & 2		<p>Students will learn about industry and enterprise including automation, CAD, CAM, rapid prototyping, product innovation.</p> <p>Students will learn about sustainability and the environment.</p> <p>Students will learn about people, culture and society regarding the design and manufacture of products.</p> <p>Pupils will learn about production techniques and systems.</p>	<p>Pupils will design and manufacture a photo frame using workshop tools. They will also create a photo frame using the laser cutter and CAD.</p>	<p>All homework is assessed.</p> <p>The quality of design and manufacture will be assessed using GCSE standards for quality control.</p> <p>The theoretical work will be assessed with short starter activities at the start of each lesson. It will also be tested with short tests at the appropriate points as the term progresses.</p>





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3		<p>Pupils will learn about planned obsolescence, product lifespan, disposability, design for maintenance, recycling, and end of life disposal.</p> <p>Pupils will learn about energy generation.</p> <p>Pupils will learn about energy storage.</p> <p>Pupils will learn about modern materials, including titanium polymorph, fibre-optics.</p> <p>Pupils will learn about smart materials.</p>	<p>Pupils will create metal rings and the appropriate storage for those metal rings.</p>	<p>All homework is assessed.</p> <p>The quality of design and manufacture will be assessed using GCSE standards for quality control.</p> <p>The theoretical work will be assessed with short starter activities at the start of each lesson. It will also be tested with short tests at the appropriate points as the term progresses.</p> <p>Pupils will undertake a mock exam.</p>
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4		<p>Pupils will learn about composite and technical textiles.</p> <p>Pupils will learn about a systems approach to designing.</p>	<p>Pupils will create game using timber and acrylic and ball bearings.</p> <p>Pupils will model with polymorph.</p>	<p>All homework is assessed.</p> <p>The quality of design and manufacture will be assessed using GCSE standards for quality control.</p> <p>The theoretical work will be assessed with short starter activities at the start of each lesson. It will also be tested with short tests at the appropriate points as the term progresses.</p>
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5		<p>Pupils will learn about mechanical devices.</p> <p>Pupils will understand papers and boards. Pupils will learn about metals including their properties.</p> <p>Pupils will learn about forces and stresses. Pupils will learn about the functionality of products including folding, bending, reinforcing fabric interfacing.</p> <p>Pupils will learn about the ecological and social footprint of products.</p> <p>Student will understand the 6 R's such as replace products and refuse products.</p> <p>Students will understand the sources and origins of timber including product mileage, kiln drying, and laminated boards.</p> <p>Students will understand working with timber and commercial manufacture of timber.</p> <p>To prepare pupils for the NEA project, pupils will use traditional tools to create wood joints.</p>	<p>Pupils will design a make a jig suitable for batch production.</p> <p>Pupils will undertake some electronics practical work using soldering irons and a simple circuit.</p> <p>Pupils will undertake shot skills base focused tasks such as joining materials and using the line bender and vacuum former.</p> <p>Pupils will consider material management and marking out.</p>	<p>All homework is assessed.</p> <p>The quality of design and manufacture will be assessed using GCSE standards for quality control.</p> <p>The theoretical work will be assessed with short starter activities at the start of each lesson. It will also be tested with short tests at the appropriate points as the term progresses.</p>
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		Pupils will learn exam skills and revision techniques to undertake a mock exam.		
6	<i>NEA (course work). Revision of key words</i>	<p>Students will understand design strategies including user-centred design, iterative design, design fixation, market testing and evaluation.</p> <p>Pupils will start creating their NEA (non- exam assessment) design folder.</p> <p>The exam board publish the design context on 1<sup>st</sup> June each year.</p>	Pupils will investigate and uncover a real-life problem and start to investigate this ready for continuation in September of Yr. 11.	Teacher guidance of the NEA is ongoing.
All Terms	<i>Theory</i>			<p>An end of year mock exam.</p> <p>Ongoing tests and teacher assessment.</p> <p>Some questions are set for homework.</p>

