



ST CATHERINE'S COLLEGE

A CHURCH OF ENGLAND ACADEMY

Learning overview for Design & Technology

Year Group: 10

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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?
Term 1	<p><i>Picture frame – traditional as well as laser cut.</i></p> <p><i>Metals project</i></p> <p><i>Energy generation, energy storage.</i></p>	<p>Pupils will create a picture frame using traditional tools as well as the laser cutter.</p> <p>Pupils will use a range of metal work processes to create various products in metal. This could well be the creation of a brass finger ring.</p> <p>Pupils will learn how science principles combine with technology and understand the impact of this science in technology.</p>	<p>Pupils will understand timbers, the source of timbers and how timber is used in industrial practices. Pupil will learn about issues regarding the sustainability of timber.</p> <p>Cutting shaping and forming with metal. Pupils will understand how metals are extracted from the earth, how they are process and the sustainability issues involved in using metals for products.</p>	<p>Ongoing teacher assessment. Short tests.</p> <p>Assessment of homework.</p>
Term 2	<p><i>Materials</i></p>	<p>Pupils will understand paper and board and know how and why these products are used.</p>	<p>Pupils will be able to make informed choices about these materials when manufacturing products and understand how these can have social and environmental consequences.</p>	<p>Ongoing teacher assessment. Short tests.</p>





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		They will also understand the uses of textile materials and the choices designers have based on the properties of these materials.		
Term 3	Automaton project.	Study of mechanisms, levers, cams, and structures.	Pupils will understand the principles by making card models.	Ongoing teacher assessment. Short tests.
Term 4	Electronics module. Material management and marking out.	Understand electronic principles including microprocessors. Pupils will learn how to work with tools and equipment.	Soldering using soldering irons and components. Pupils will understand tolerances and allowances as well as surface treatments and finishes.	Ongoing teacher assessment. Short tests. There is a mock exam at the end of term 4 which will assess pupil progress before starting the NEA.
Term 5	Various short tasks that integrate with theory lessons.	For example, the analysis of different adhesives. Use and analysis of adhesives.	Pupils will combine practical skills with theoretical knowledge so they can make informed choices when working independently on their NEA.	Ongoing teacher assessment of the NEA.





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Term 6	<i>NEA (course work).</i> <i>Revision of key words</i>	Pupils will start creating their NEA (non- exam assessment) folder. This is after the first of June when the exam board publish the design context.	Pupils will investigate and uncover a real-life problem and start to investigate this ready for continuation in September of Yr. 11.	Ongoing teacher assessment of Controlled Assessment.
All terms	<i>Theory</i>	A considerable amount of theory work is integrated with the projects.		An end of year mock exam. Ongoing tests and teacher assessment. Some questions are set for homework.

