



ST CATHERINE'S COLLEGE

A CHURCH OF ENGLAND ACADEMY

Learning overview for (subject): DT

Year group: 8

In year 8, the pupils rotate each term.

One term they will undertake a food module.

In another term they will undertake a DT trophy module, and in the other term, they will undertake a DT clock module.



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Preparing students to stand shoulder to shoulder with their peers: locally, nationally and globally.



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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?
Clock module	<i>Clock module and vacuum forming module</i>	<p>Pupils will learn to respond to a design brief.</p> <p>They will build on the design capabilities they learnt in Yr. 7 to create a high-quality outcome using 2D Design and a laser cutter.</p> <p>Pupils will also learn prototyping methods including card and Styrofoam modelling.</p> <p>Pupils will learn about the work of others, especially the design company Alessi and how and why designers create innovative creative products to fulfil the needs and wants of their customers.</p> <p>Pupils will learn about the properties of polymers and how to manipulate these. Pupils will learn how to create specifications and evaluate against those specifications. If there is time, pupils will learn skills using a 3D drawing package.</p>	<p>Pupils will learn how to research and gather inspiration to create unique and innovative designs.</p> <p>Pupils will also learn to create prototypes using modelling materials such as Styrofoam.</p> <p>They will develop their isometric drawing skills both using computer and hand drawing.</p> <p>They will use acrylic and line benders to create a phone holder.</p> <p>Pupils will understand the properties of polymers such as acrylic and polystyrene and the environmental implications of choosing these products for manufacture. They will understand the difference</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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		Once the phone holder and clock are manufactured, pupils will design chocolate moulds using MDF and a vacuum former machine.	between thermoforming and thermo-set polymers. They will design and make a prototype that is fit for purpose. Pupils will be introduced to three-dimensional CAD skills using Trimble SketchUp.	
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Trophy module	<i>Design and make a trophy</i>	Pupils will learn how to respond to a design brief by creating specifications and creating an imaginative trophy that fulfils a need of on imaginary company that want to batch produce a product.	Pupils will learn the use of workshop tools, to create a mini trophy. This is joined using a dowel joint.	Testing of knowledge and understanding is undertaken by on-going short tests.
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		<p>They will learn how to use CAD to create a background that is suitable for laser cutting.</p> <p>They will learn about timbers including pine or spruce and MDF and how to use these to create a product.</p> <p>They will learn about metals and know how to manipulate and shape these to create products.</p> <p>Pupils will learn about mechanical fixings to create a high-quality outcome.</p>	<p>They will understand how a laser cutter works and send their design to a laser cutter.</p> <p>Pupils will learn how to create pencil sketches in 2D and 3D to bring their designs to life.</p> <p>Pupils will learn about the properties of hardwoods, softwoods, and manufactured boards and how to cut shape and manipulate these to create a product.</p> <p>They will learn about the properties of ferrous and nonferrous metals including low carbon steel, and brass.</p> <p>Pupils will cut and shape aluminium to create a key fob.</p> <p>Using hand tools to shape and manipulate acrylic, timber, low carbon steel and aluminium.</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> <p>Feedback on manufacturing skills is verbal and ongoing.</p>
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			<p>They will learn the use of sketching techniques and formal orthographic drawing to design a trophy.</p> <p>Pupils will further develop their Trimble SketchUp skills.</p>	
Topic	Food	Please see the food scheme of work published on a separate document.		

