



ST CATHERINE'S COLLEGE

A CHURCH OF ENGLAND ACADEMY

Learning overview for Design & Technology

Year Group: 7

| Topic | 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? |
|---------------------|-----------------------------|---|---|---|
| Electronics module. | <i>Topic - Electronics</i> | <p>This module explores the basic principles of voltage, resistance and switches using a circuit and LEDs.</p> <p>Design process including designing for a third party.</p> <p>Use of soldering irons, hand drills, and wood-work skills to create a product.</p> <p>Isometric drawing skills.</p> <p>CAD drawing using 2D Design.</p> <p>How to evaluate a product.</p> <p>How to analyse a product.</p> | <p>Pupils will learn to research and investigate a problem. They will use initiative and problem solving to create a product that will function.</p> <p>Skills and processes in the workshop will be learnt. This includes soldering, use of hand tools and some machines such as a pillar drill.</p> <p>Pupils will use the design process including analysis and evaluation.</p> <p>Pupils will gain computer drawing skills including a vector-based drawing programme called 2D Design.</p> <p>Pupils will learn how to cut out their designs on a laser cutter.</p> <p>Pupils will learn isometric drawing techniques.</p> | <p>Testing of knowledge and understanding is undertaken by several short tests.</p> <p>Homework is assessed using the school marking policy for homework.</p> <p>Class work is assessed using Fine Grading and is ongoing as the project progresses.</p> <p>Feedback on manufacturing skills is verbal and ongoing.</p> |





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| | | <p>Pupils will achieve a basic understanding of automation and the consequences for society.</p> | | |
| Topic | Topic- Jewellery box. | <p>They will understand how to use workshop tools to cut, shape, join and apply a finish to a wooden product.</p> <p>They will acquire knowledge and understanding of the properties of materials including MDF, pine, hardboard and hardwoods.</p> <p>Pupils will understand flat packing production.</p> <p>Understand how to design using 2D Design and how to transfer this design to a laser cutter.</p> | <p>Pupils will learn to create a product from timber.</p> <p>They will use hand tools, adhesives and apply a finish to the product.</p> <p>Pupils will learn how to cut with accuracy using hand tools and assemble their product with glue and pressure.</p> <p>Pupils will learn about quality control and applying a finish to timber to create a high-quality outcome.</p> <p>Pupils will be able to use laser cut designs to give their product a shop quality appearance.</p> | <p>Homework is assessed using the school marking policy for homework.</p> <p>Class work is assessed using Fine Grading and is ongoing as the project progresses.</p> <p>Testing of knowledge and understanding by several short tests.</p> <p>Feedback on manufacturing skills is verbal and ongoing.</p> |





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| | | <p>Understand how to draw in isometric and how to revolve a profile in CAM</p> <p>Understand the sustainability issues and ecological impact of producing products.</p> | | |
| Topic /Term 4 | Food | Please see the food scheme of work published on a separate document. | | |

