

Design and Technology KS3 Curriculum Overview

Year 7	<p>Unit 1: Little Boxes (8 hours) Context: Home / The environment</p> <p>Introduction to the workshop environment. Students manufacture a trinket box from softwood using hand tools and use the laser cutter to engrave a lid. The material focus is using wood as a sustainable material and what this means.</p>	<p>Unit 2: A Greener School (5 hours) Context: School / The environment</p> <p>A Short design 'challenge' in which students respond to a brief outlining environmental issues concerning the school community. Students reformulate the brief to focus on a specific issue and generate a design proposal using modelling and drawing. The proposal will be presented to the HOY or link SLT member</p>	<p>Unit 3: Designers past and present (5 hours) Context: Culture</p> <p>Students investigate the work of past and present designers to create a 'designer inspired' prototype of a chair using 3D CAD software and additive manufacturing (3D printing)</p>
	N/C: DE5, MA1	N/C: DE1, DE2, DE3, DE4, DE5, EV2, EV3, EV4	N/C: DE4, MA1, EV1, EV3,
	Focused Practical D&T / Engineering	Design only D&T	Design and Make D&T / Engineering
Year 8	<p>Unit 1: Scary Monsters (10 hours) Context: Home / engineering</p> <p>Students investigate the use of mechanical systems, specifically levers and linkages in the production of a 'Scary monster' coat hook. Students will use a variety of specialist tools and equipment including thermoforming plastics, cutting and shaping metals, laser cutting, dye sublimation and heat transfer press</p>	<p>Unit 2: Night Light (8 hours) Context: Home / energy</p> <p>The use of electronic components in products including LDR / Phototransistor to produce a dark activated night light. Students will learn about the function of different electronic components on a circuit and use previously learnt CAD and practical skills to produce the housing and diffuser.</p>	
	N/C: DE5, MA1, MA2, TK1, TK2	N/C: DE5, MA1, MA2, TK1, TK3	
	Focused Practical D&T / Engineering	Focused Practical D&T / Engineering	
Year 9	<p>Unit 1: Stand and Deliver (5 hours) Context: Enterprise / manufacturing</p> <p>Students use the iterative design process to produce a promotional 3D phone stand that would be suitable for batch production. Students use previous CAD and thermoforming skills in order to develop a viable solution</p>	<p>Unit 2 Jewellery from Nature (8 hours) Context: Fashion / Environment</p> <p>Students work to a brief to produce a pewter cast item of jewellery and wooden container using biomimicry to inspire their products. Students will use the iterative design process to develop and refine their ideas in order to produce a quality outcome that meets their specification.</p>	<p>Unit 3: Programmable Components (5 hours) Context: Healthcare</p> <p>This unit is designed to introduce students to embedded intelligence and programmable components in a short product development activity, in response to a healthcare brief (Stroke patient rehabilitation / surgeon training).</p>
	N/C: DE3, MA1, MA2, EV3, TK1	N/C: DE1, DE3, DE4, MA1, MA2, EV3, TK1,	N/C: DE3, EV2, EV3, EV4, TK3, TK4
	Design and make D&T / Engineering	Design and make D&T	Design only D&T / Engineering