

## Design and Technology - Key Stage 3

Students produce a wide range of practical projects that enable the knowledge and application of practical skills and introduce tools, equipment, and machinery. Subject knowledge is introduced and developed at differentiated levels that enable students to gain confidence and engage with the more complex aspects.						
<b>Topics</b>	Mini robot keyring.	Wooden BLOCK BOT toy.	Polymorph tag	Storage Box	Phone Stand	Photo Frame – Mixed Materials
<b>Key learning aims including knowledge and skills</b>	Health and safety and introduction to the workshop materials – wood/wood types.  Introduction to basic hand-tools / uses.	Further Health and safety. Using woodwork machinery and equipment to construct a more complex range of products. Developing further use of hand-tools and machines. (Sander/Drill)	Product Analysis Problem solving by design Design ideas and solutions Materials – plastics/thermo plastics Detail cutting (Fret saw) vacuum forming, creating and using a mould and using poly morph to create a tag.	Design- 3d drawing- perspective, isometric. Graphics- shading for design.  Materials – Selecting materials for product based on need/appropriateness.  Simple wood joints. (Butt joint/box joint)	Research and product analysis. Problem solving and improving on existing products. Cutting/finishing 3mm and 5mm acrylic sheet. Using hot strip wire heater to bend/ manipulate acrylic plastics.	Materials – Selecting correct materials for product based on need/ design spec. Tools – Selecting and using correct tools and equipment for the task. Assembly – Working with clear acrylic and wood/ wood products together to create a strong and useable product.
<b>Assessment Pupils will build a portfolio of photographic evidence of their work at</b>	Focus on demonstrating good Health and Safety workshop practices. Identification of hazards and control methods.	Developing safe and effective use of appropriate hand-tools. Demonstrating understanding of workshop routines and procedure.	Update skills focus sheet. Health and Safety using heat and plastic.  Formative (verbal) <i>assessment as work progresses.</i>	Understanding of 3d shapes and 3d drawing techniques. Using isometric paper accurately to illustrate designs. Using tools with greater accuracy.	End product is functional, aesthetically pleasing and meets specification requirements.	Demonstrate...Accurate measuring. Accurate cutting using mitre saw. Cutting and finishing of plastic.

<b>various stages, demonstrating progress and the skills, techniques and processes used.</b>	Formative (verbal) <i>assessment as work progresses.</i> <i>Self</i> assessment/evaluation of end product.	Formative (verbal) <i>assessment as work progresses.</i> <i>Self</i> assessment/evaluation of end product.	<i>Self</i> assessment/evaluation of end product.	Formative (verbal) <i>assessment as work progresses.</i> <i>Self</i> assessment/evaluation of end product.	Demonstrated safe and effective use of equipment. Formative (verbal) <i>assessment as work progresses.</i> <i>Self</i> assessment/evaluation of end product.	Formative (verbal) <i>assessment as work progresses.</i> <i>Self</i> assessment/evaluation of end product.
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**All pupils will have a skills focus document in their design technology folders. This is a tracker to record each new skill that they learn or develop further. The tracker will be signed by a subject teacher as the student demonstrates their knowledge or skill. In addition, students are encouraged to reflect on their own learning and how well they have used the skill/knowledge learned.**