



## DT Progression of Skills

<b>Mechanisms</b>	<p><b>Designing</b> Explore different materials freely, in order to develop their ideas about how to use them, and what to make Articulate their ideas and thoughts in wellformed sentences Use talk to help work out problems and organise thinking</p>	<p><b>Designing</b></p> <ul style="list-style-type: none"> <li>• Generate ideas based on simple design criteria and their own experiences, explaining what they could make.</li> <li>• Develop, model and communicate their ideas through drawings and mockups with card and paper.</li> </ul>	<p><b>Designing</b></p> <ul style="list-style-type: none"> <li>• Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user.</li> <li>• Use annotated sketches and prototypes to develop, model and communicate ideas.</li> </ul>	<p><b>Designing</b></p> <ul style="list-style-type: none"> <li>• Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources.</li> <li>• Develop a simple design specification to guide their thinking.</li> <li>• Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.</li> </ul>
	<p><b>Making</b> Use talk to help work out problems and organise thinking Join different materials and explore different textures Develop their own ideas and then decide which materials to use to express them</p>	<p><b>Making</b></p> <ul style="list-style-type: none"> <li>• Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing.</li> <li>• Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics.</li> </ul>	<p><b>Making</b></p> <ul style="list-style-type: none"> <li>• Order the main stages of making.</li> <li>• Select from and use appropriate tools with some accuracy to cut, shape and join paper and card.</li> <li>• Select from and use finishing techniques suitable for the product they are creating.</li> </ul>	<p><b>Making</b> Produce detailed lists of tools, equipment and materials. Formulate step-bystep plans and, if appropriate, allocate tasks within a team.</p> <ul style="list-style-type: none"> <li>• Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost</li> </ul>
	<p><b>Evaluating</b> Use talk to help work out problems and organise thinking an activities, explain how things work and why they might happen</p>	<p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>• Explore and evaluate a range of products with wheels and axles.</li> <li>• Evaluate their ideas throughout and their products against original criteria.</li> </ul>	<p><b>Evaluating</b> Investigate and analyse books and, where available, other products with lever and linkage mechanisms.</p> <ul style="list-style-type: none"> <li>• Evaluate their own products and ideas against criteria and user needs, as they design and make.</li> </ul>	<p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>• Compare the final product to the original design specification.</li> <li>• Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</li> <li>• Consider the views of others to improve their work.</li> <li>• Investigate famous manufacturing and engineering companies relevant to the project.</li> </ul>

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<b>Structures</b>	<p><b>Designing</b> Develop their own ideas and then decide which materials to use to express them Use talk to help work out problems and organise thinking and activities, explain how things work and why</p>	<p><b>Designing</b> Generate ideas based on simple design criteria and their own experiences, explaining what they could make.</p> <ul style="list-style-type: none"> <li>• Develop, model and communicate their ideas through talking, mock-ups and drawings.</li> </ul>	<p><b>Designing</b> Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product.</p> <ul style="list-style-type: none"> <li>• Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas.</li> </ul>	<p><b>Designing</b></p> <ul style="list-style-type: none"> <li>• Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources.</li> <li>• Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost.</li> <li>• Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches</li> </ul>
	<p><b>Making</b> Articulate their ideas and thoughts in wellformed sentences Use talk to help work out problems and organise thinking Join different materials and explore different textures Develop their own ideas and then decide which materials to use to express them</p>	<p><b>Making</b> Plan by suggesting what to do next.</p> <ul style="list-style-type: none"> <li>• Select and use tools, skills and techniques, explaining their choices.</li> <li>• Select new and reclaimed materials and construction kits to build their structures.</li> <li>• Use simple finishing techniques suitable for the structure they are creating.</li> </ul>	<p><b>Making</b></p> <ul style="list-style-type: none"> <li>• Plan the order of the main stages of making.</li> <li>• Select and use appropriate tools and software to measure, mark out, cut, score, shape and assemble with some accuracy.</li> <li>• Explain their choice of materials according to functional properties and aesthetic qualities.</li> <li>• Use computer generated finishing techniques suitable for the product they are creating.</li> </ul>	<p><b>Making</b></p> <ul style="list-style-type: none"> <li>• Plan the order of the main stages of making.</li> <li>• Select and use appropriate tools and software to measure, mark out, cut, score, shape and assemble with some accuracy.</li> <li>• Explain their choice of materials according to functional properties and aesthetic qualities.</li> <li>• Use computergenerated finishing techniques suitable for the product they are creating.</li> </ul>

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	<p><b>Evaluating</b> Explore different materials freely, in order to develop their ideas about how to use them, and what to make Use talk to help work out problems and organise thinking and activities, to explain how things work and why they might happen</p>	<p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>• Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings.</li> <li>• Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.</li> </ul>	<p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>• Investigate and evaluate a range of shell structures including the materials, components and techniques that have been used.</li> <li>• Test and evaluate their own products against design criteria and the intended use</li> </ul>	<p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>• Investigate and evaluate a range of existing frame structures.</li> <li>• Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.</li> <li>• Research key events and individuals relevant to frame structures.</li> </ul>
Textiles		<p><b>Designing</b></p> <ul style="list-style-type: none"> <li>• Design a functional and appealing product for a chosen user and purpose based on simple design criteria. • Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock -ups and information and communication technology.</li> </ul>	<p><b>Designing</b></p> <ul style="list-style-type: none"> <li>• Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s. • Produce annotated sketches, prototypes, final product sketches and pattern pieces</li> </ul>	<p><b>Designing</b></p> <p>Generate innovative ideas by carrying out research including surveys, interviews and questionnaires.</p> <ul style="list-style-type: none"> <li>• Develop, model and communicate ideas through talking, drawing, templates, mock -ups and prototypes and, where appropriate, computer -aided design.</li> <li>• Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification</li> </ul>
		<p><b>Making</b></p> <ul style="list-style-type: none"> <li>• Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing.</li> <li>• Select from and use textiles according to their characteristics.</li> </ul>	<p><b>Making</b></p> <ul style="list-style-type: none"> <li>• Plan the main stages of making.</li> <li>• Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing.</li> <li>• Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern.</li> </ul>	<p><b>Making</b></p> <ul style="list-style-type: none"> <li>• Produce detailed lists of equipment and fabrics relevant to their tasks.</li> <li>• Formulate step -by - step plans and, if appropriate, allocate tasks within a team.</li> <li>• Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost.</li> </ul>

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		<p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>• Explore and evaluate a range of existing textile products relevant to the project being undertaken.</li> <li>• Evaluate their ideas throughout and their final products against original design criteria.</li> </ul>	<p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>• Investigate a range of 3 -D textile products relevant to the project.</li> <li>• Test their product against the original design criteria and with the intended user.</li> <li>• Take into account others' views.</li> <li>• Understand how a key event/individual has influenced the development of the chosen product and/or fabric.</li> </ul>	<p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>• Investigate and analyse textile products linked to their final product.</li> <li>• Compare the final product to the original design specification.</li> <li>• Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</li> <li>• Consider the views of others to improve their work Evaluating</li> <li>• Investigate and analyse textile products linked to their final product.</li> <li>• Compare the final product to the original design specification.</li> <li>• Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</li> <li>• Consider the views of others to improve their work</li> </ul>
Electrical Systems	N/A	N/A	<p><b>Designing</b></p> <ul style="list-style-type: none"> <li>• Gather information about needs and wants, and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups.</li> <li>• Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams.</li> </ul>	<p><b>Designing</b></p> <ul style="list-style-type: none"> <li>• Use research to develop a design specification for a functional product that responds automatically to changes in the environment. Take account of constraints including time, resources and cost.</li> <li>• Generate and develop innovative ideas and share and clarify these through discussion.</li> <li>• Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams.</li> </ul>

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			<p><b>Making</b></p> <ul style="list-style-type: none"> <li>• Order the main stages of making.</li> <li>• Select from and use tools and equipment to cut, shape, join and finish with some accuracy.</li> <li>• Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities.</li> </ul>	<p><b>Making</b></p> <ul style="list-style-type: none"> <li>• Formulate a step -by - step plan to guide making, listing tools, equipment, materials and components.</li> <li>• Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product.</li> <li>• Create and modify a computer control program to enable an electrical product to work automatically in response to changes in the environment.</li> </ul>
			<p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>• Investigate and analyse a range of existing battery - powered products.</li> <li>• Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.</li> </ul>	<p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>• Continually evaluate and modify the working features of the product to match the initial design specification.</li> <li>• Test the system to demonstrate its effectiveness for the intended user and purpose.</li> <li>• Investigate famous inventors who developed ground - breaking electrical systems and components.</li> </ul>

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