



Design & Technology Curriculum Milestone 3



Continuous Skills				
Design, make, evaluate and improve		Take Inspiration from design throughout history		
<p>Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).</p> <ul style="list-style-type: none"> • Make products through stages of prototypes, making continual refinements. • Ensure products have a high-quality finish, using art skills where appropriate. • Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. 		<ul style="list-style-type: none"> • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience. 		
Mastering techniques				
Year 5				
		Basic	Advanced	Deep
<p style="text-align: center;">Food</p> <p style="text-align: center;">Thankfulness</p> <p style="text-align: center;">Compassion</p>	<ul style="list-style-type: none"> • Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms). • Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. • Demonstrate a range of baking and cooking techniques. • Create and refine recipes, including ingredients, methods, cooking times and temperatures. 	<p>Demonstrate hygienic food preparation and storage.</p> <p>Practise ways to weigh and measure with a level of accuracy.</p>	<p>Apply the rules for basic food hygiene and other safe practices e.g. hazards to the use of ovens.</p> <p>Weigh and measure a variety of elements accurately (time, ingredients, liquids...)</p>	<p>Understand and apply the rules for food hygiene and use of hazardous materials.</p> <p>Weigh, measure and record a variety of elements accurately (time, ingredients, liquids...)</p>



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Computing & mechanics	<ul style="list-style-type: none"> • Write code to control and monitor models or products. • Convert rotary motion to linear using cams. • Use innovative combinations of electronics (or computing) and mechanics in product designs 	Use ICT to communicate ideas in 2D and 3D as appropriate. Explore simple coding systems.	Use ICT to explore and compare ideas and development. Explore using simple programming in systems.	Use ICT to programme, monitor and control their product, applying understanding of systems.
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Mastering techniques Year 6

		Basic	Advanced	Deep
Materials & Construction Respect	<ul style="list-style-type: none"> • Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape). • Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper). • Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding). 	<p>Select a range of appropriate tools and techniques for making their product.</p> <p>Measure, mark out, cut, score, shape and assemble components with accuracy using appropriate tools.</p> <p>Join and combine materials and components with safety and accuracy, using temporary and permanent fixtures. Adapt methods as necessary to improve final product</p>	<p>Select a range of appropriate materials, tools and techniques for making their product, and be able to explain their choice.</p> <p>Demonstrate skill in using different tools and techniques to measure, cut and shape, with safety and accuracy. Demonstrate thinking to improve product assembly and apply changes.</p> <p>Cut and join with accuracy to ensure there is a good-quality finish to the product.</p>	<p>Identify and explore a range of appropriate materials, tools, components and techniques needed to create their product.</p> <p>Assemble components accurately to make working models, demonstrating a range of skills and awareness of safety.</p> <p>Anticipate issues and make modifications as they go along. Record improvements made during creation.</p> <p>Construct products</p>



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		Identify how to improve a range of structures	Demonstrate an understanding of how to improve structures using a range of materials and techniques	using permanent joining techniques and test product resilience Critically evaluate how to improve structures using a range of materials and techniques
Textiles Respect	<ul style="list-style-type: none"> • Create objects (such as a cushion) that employ a seam allowance. • Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration). • Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion). 	<p>Select and use materials – measure, tape or pin, cut and join fabric</p> <p>Apply a range of stitching techniques and embellishing to create pieces</p> <p>Create pieces from instruction</p>	<p>Select and use materials – measure, tape or pin, cut and join fabric with accuracy</p> <p>Accurately establish a range of stitching techniques and embellishing to create pieces</p> <p>Design own piece including all of the above independently</p>	<p>Select, use and evaluate materials – measure, tape or pin, cut and join fabric with accuracy</p> <p>Assess effectiveness of different stitching techniques and embellishing</p> <p>Create a product. Design and critique own piece</p>



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Electricals & electronics	<ul style="list-style-type: none">• Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips).	<p>Explore simple circuits and electrical systems. Recall functions different components in circuits</p> <p>Build circuits using a range of components from a diagram</p> <p>Create a circuit that will be used for an everyday object such as a torch, following a diagram and instruction</p>	<p>Explore simple circuits and electrical systems. Understand the functions of different components in circuits</p> <p>Experiment with varying different components in circuits and assemble accurately</p> <p>Develop a circuit to be used for an everyday object such as a torch</p>	<p>Construct a range of circuits to demonstrate the different functions</p> <p>Investigate varying components in a circuit and assemble accurately, deciding</p> <p>Design and investigate a circuit to be used for an everyday object such as a torch. Critique own work. Provide suggestions of alternative methods of making if the first attempts fail.</p>
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