



Curriculum Map

Design and Technology

Year 1 and 2

Design and Technology

To master practical skills			
Threshold Concept	Milestone 1 Year 1 and 2	Milestone 2 Year 3 and 4	Milestone 3 Year 5 and 6
Food	<ul style="list-style-type: none"> • Cut, peel or grate ingredients safely and hygienically. • Measure or weigh using measuring cups or electronic scales. • Assemble or cook ingredients. 	<ul style="list-style-type: none"> • Prepare ingredients hygienically using appropriate utensils. • Measure ingredients to the nearest gram accurately. • Follow a recipe. • Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking). 	<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.
Materials, Mechanics and Construction	<ul style="list-style-type: none"> • Measure and mark out to the nearest centimetre. • Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling) in a safe manner using the tools provided. • Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). • Create products using levers, sliders and winding mechanisms. • Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products. 	<ul style="list-style-type: none"> • Cut materials accurately and safely by selecting appropriate tools. • Measure and mark out to the nearest millimetre. • Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). • Select appropriate joining techniques. • Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears). • Choose suitable techniques to construct products or to repair items. • Strengthen materials using suitable techniques. 	<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). • Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips). • Convert rotary motion to linear using cams. • Use innovative combinations of electronics (or computing) and mechanics in product designs. • Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding).

Textiles	<ul style="list-style-type: none"> • Shape textiles using templates. • Join textiles using running stitch. • Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing). 	<ul style="list-style-type: none"> • Understand the need for a seam allowance. • Join textiles with appropriate stitching. • Select the most appropriate techniques to decorate textiles. 	<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).
Threshold Concept	Milestone 1 Year 1 and 2	Milestone 2 Year 3 and 4	Milestone 3 Year 5 and 6
To design, make, evaluate and improve	<ul style="list-style-type: none"> • Design products that have a clear purpose and an intended user. • Make products, refining the design as work progresses. • Use software to design. 	<ul style="list-style-type: none"> • Design with purpose by identifying opportunities to design. • Make products by working efficiently (such as by carefully selecting materials). • Refine work and techniques as work progresses, continually evaluating the product design. • Use software to design and represent product designs. 	<ul style="list-style-type: none"> • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • 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.

Threshold Concept	Milestone 1 Year 1 and 2	Milestone 2 Year 3 and 4	Milestone 3 Year 5 and 6
<p>To take inspiration from design throughout history</p>	<ul style="list-style-type: none"> • Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs. • Explore how products have been created. 	<ul style="list-style-type: none"> • Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. • Improve upon existing designs, giving reasons for choices. • Disassemble products to understand how they work. 	<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.

TO MASTER PRACTICAL SKILLS

Milestone:	Cut, peel or grate ingredients safely and hygienically.		
Basic	Advancing	Deep	
<ul style="list-style-type: none"> ➤ To be able to demonstrate a safe technique for cutting soft fruits. ➤ To show good hygiene through washing of hands before handling food and cleaning of food preparation surfaces. 	<ul style="list-style-type: none"> ➤ To be able to cut soft fruits and vegetables more evenly and taking into account their own and others safety. ➤ To have an understanding of the types of food that need peeling or grating and to demonstrate these skills. 	<ul style="list-style-type: none"> ➤ To be able to explain and demonstrate to others how to safely cut, peel and grate various fruits and vegetables including the need to be hygienic. 	
Milestone:	Measure or weigh using measuring cups or electronic scales.		
Basic	Advancing	Deep	
<ul style="list-style-type: none"> ➤ Can use measuring scales to weigh to a pre-determined value. ➤ Can measure an amount accurately using a set of measuring cups, selecting the appropriate size (small, medium, large). ➤ Can apply measuring techniques to both solids and liquids with increasing accuracy. 	<ul style="list-style-type: none"> ➤ Can determine when it is appropriate to measure using cups or scales. ➤ Can recognise when the correct weight has been met when using scales. 	<ul style="list-style-type: none"> ➤ Can explain to someone how to use a set of scales and techniques for ensuring an accurate measurement are made. 	

Milestone:	Assemble or cook ingredients.	
Basic	Advancing	Deep
<ul style="list-style-type: none"> ➤ Selecting appropriate ingredients based on a given recipe. ➤ Follow basic verbal instructions to prepare and cook a simple recipe. 	<ul style="list-style-type: none"> ➤ Determining the correct quantities of ingredients based on a recipe. ➤ Follow a basic recipe to prepare and cook a simple piece of food. 	<ul style="list-style-type: none"> ➤ Devising their own basic recipe, selecting appropriate ingredients and taking into consideration the quantities required.
Milestone:	Measure and mark out to the nearest centimetre.	
Basic	Advancing	Deep
<ul style="list-style-type: none"> ➤ To select the most appropriate measuring tool for the job with some guidance. ➤ To know that they must line the zero up with the start of the item they are measuring. ➤ With assistance be able to measure to the nearest whole centimetre and mark. 	<ul style="list-style-type: none"> ➤ To independently select the most appropriate measuring tool for the job. ➤ With greater independence, be able to measure accurately to the nearest centimetre and mark. 	<ul style="list-style-type: none"> ➤ To be able to assist others in being accurate with their measurements, providing advice or physical support.
Milestone:	Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling) in a safe manner using the tools provided.	
Basic	Advancing	Deep

<ul style="list-style-type: none"> ➤ To be able to demonstrate safe use of a pair of scissors. ➤ With some support, be able to cut out along straight lines. ➤ With some support be able to tear and fold pieces of paper along guidelines. 	<ul style="list-style-type: none"> ➤ To be able to demonstrate an effective cutting technique of various shapes, using a pair of scissors and be handled in a safe manner. ➤ To be able to demonstrate an effective folding technique (corner to corner). ➤ To explain what type of materials would be appropriate for tearing, cutting, folding and curling. 	<ul style="list-style-type: none"> ➤
<p>Milestone: Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen).</p>		
Basic	Advancing	Deep
<ul style="list-style-type: none"> ➤ Following direction, be able to use a glue stick or glue spreader and apply to defined points. ➤ To demonstrate the principles of a hinge and begin to explain how it works. 	<ul style="list-style-type: none"> ➤ Will be able to carefully apply different types of glue using various techniques (inc. glue stick, PVA, tape). ➤ To understand and explain how a hinge works and how they might get a desired movement. 	<ul style="list-style-type: none"> ➤ To apply different techniques including using a hinge (e.g. for a draw bridge) in their work.

Milestone:	Create products using levers, sliders and winding mechanisms.	
Basic	Advancing	Deep
<ul style="list-style-type: none"> ➤ Explore different toys that use levers, sliders and winding mechanisms. ➤ With support, create a product that uses a slider, lever or winding mechanism. 	<ul style="list-style-type: none"> ➤ To create a product, following given instructions, that uses a mechanism such as a lever, slider or winding mechanism. 	<ul style="list-style-type: none"> ➤ Design and make their own greetings card or other product that incorporates a type of mechanism to create a desired movement.
Milestone:	Use materials to practise drilling, saw and gluing materials to make and strengthen products.	
Basic	Advancing	Deep
<ul style="list-style-type: none"> ➤ With close support, use simple tools to achieve a desired outcome such as drilling a hole, sawing etc. ➤ To be able to explore and explain what materials are stronger than others. 	<ul style="list-style-type: none"> ➤ To understand what tool is needed in order to achieve a desired outcome i.e. using a drill for a hole, a nail to join things etc. and use these in a safe manner. ➤ To know and use techniques for strengthening a product and why. 	<ul style="list-style-type: none"> ➤ How could we incorporate a flag on one of our creations and which techniques would I need to achieve this.

Milestone:	Shape textiles using templates.	
Basic	Advancing	Deep
<ul style="list-style-type: none"> ➤ To have an understanding of what a template is and what it is used for. ➤ Use simple shaped templates to draw round, with support where necessary. 	<ul style="list-style-type: none"> ➤ To position templates appropriately to minimise wastage when cutting out. ➤ To draw around a template accurately and with more independence. ➤ To cut out accurately , following the lines drawn. 	<ul style="list-style-type: none"> ➤ To design and make a template of their own to use in a project.
Milestone:	Join textiles using running stitch.	
Basic	Advancing	Deep
<ul style="list-style-type: none"> ➤ To understand what a running stitch is and why it is used. ➤ To follow a printed pattern on the material used (card, paper, fabric) to complete a simple running stitch. 	<ul style="list-style-type: none"> ➤ To be able to thread through a large eyed needle. ➤ To be able to use a running stitch to join two pieces of material together. ➤ To know and be able to close a stitch so that it does not become lose. 	<ul style="list-style-type: none"> ➤ To use their own template to create a project that incorporates a running stitch.

TO DESIGN, MAKE, EVALUATE AND IMPROVE

Milestone:	Design products that have a clear purpose and an intended user.	
Basic	Advancing	Deep
<ul style="list-style-type: none"> ➤ Find out what users prefer. ➤ Create simple designs that meet a specification requirement. ➤ To draw a representation of their design and list the equipment and materials needed. 	<ul style="list-style-type: none"> ➤ Represent opinions as pictograms or bar charts and give simple conclusions. ➤ Create designs that meet a specification, taking into account users opinions. ➤ To draw a recognisable representation of their design with scale and annotations. 	<ul style="list-style-type: none"> ➤ To design a product that anticipates users' needs.
Milestone:	Make products, refining the design as work progresses.	
Basic	Advancing	Deep
<ul style="list-style-type: none"> ➤ Make a product following a pre-determined design specification. ➤ Evaluate when things have worked well and when they haven't. 	<ul style="list-style-type: none"> ➤ Correct flaws in the manufacturing of their product. 	<ul style="list-style-type: none"> ➤ To come up with strategies to overcome flaws in the design and manufacture of a product.

TO TAKE INSPIRATION FROM DESIGN THROUGHOUT HISTORY

Milestone:		Explore objects and designs to identify likes and dislikes of the designs.	
Basic	Advancing	Deep	
<ul style="list-style-type: none"> ➤ Handle objects from different periods and cultures. ➤ Compare historic objects with those used today. 	<ul style="list-style-type: none"> ➤ Give their own opinion on products. ➤ Canvas others' opinion and reasons why. 	<ul style="list-style-type: none"> ➤ To explain how they would improve on a design and why. 	
Milestone:		Explore how products have been created.	
Basic	Advancing	Deep	
<ul style="list-style-type: none"> ➤ Start to explain how they think an object works. ➤ What tools might have been used to create an object. ➤ Talk about the materials used in a product. 	<ul style="list-style-type: none"> ➤ Explain why certain materials might have been chosen over alternatives. 	<ul style="list-style-type: none"> ➤ To explain with greater confidence and using appropriate vocabulary how they think objects have been created. 	

Design and Technology Breadth Map: Years 1 and 2 - EXAMPLE

DT lessons will take place once every two weeks in addition to other opportunities across the curriculum. The timetable allows for a blocked session where required, in addition to the regular curriculum lessons.

YEAR 1	Term 1	Term 2	Term 3
Week 1			
Week 3			
Week 5			
Week 7			
Week 9			

YEAR 2	Term 1	Term 2	Term 3
Week 1			
Week 3			
Week 5			
Week 7			
Week 9			