

Design Technology Progression of Skills

Threshold Concept	Strand	EYFS	Milestone 1 (Years 1 and 2)	Milestone 2 (Years 3 and 4)	Milestone 3 (Years 5 and 6)
To design, make, evaluate and improve		Make simple products based on a model or prototype.	Design products that have a clear purpose and intended user Make products, refining the design as work progresses Use software to design	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.	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.
To Master Practical Skills	Cooking	Children should be able to peel a piece of fruit by hand Children can explore cutting with a butter knife or use a fork or masher Children can combine a range of ingredients with adult support	1. With adult support cut, peel or grate ingredients safely and hygienically. 2. Measure or weigh using measuring cups or electronic scales 3. Assemble or cook ingredients	1. Prepare ingredients hygienically using appropriate utensils 2. Measure ingredients to the nearest gram accurately. 3. Use a vegetable knife with the bridge hold and claw grip to cut with increasing accuracy 4. Follow a recipe	1. Understand the importance of the correct storage and handling of ingredients (using knowledge of micro-organism) 2. Measure accurately using either digital scales or analogue scales to scale up or down from a recipe. 3. Demonstrate a range of baking and cooking techniques. 4. Create and refine recipes including ingredients and methods.

	Nutrition	<p>Make healthy choices.</p> <p>Understand the effect of changing seasons on the natural world around them.</p> <p>Know and talk about the different factors that support their overall health and wellbeing including healthy eating and toothbrushing .</p>	<ol style="list-style-type: none"> 1. Know how to name and sort foods into the five main groups in the Eatwell Plate 2. Know that everyone should eat at least 5 portions of fruit and vegetables every day 3. Awareness of where food comes from 	<ol style="list-style-type: none"> 1. Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in the eatwell plate 2. Know that to be active and healthy, food and drink are needed to provide energy for the body 3. Awareness of how some foods are produced 	<ol style="list-style-type: none"> 1. Know that different food and drink contain different substances - nutrients, water and fibre - that are needed for health 2. Know how food is processed, where it comes from and what affects the availability of certain foods
	Materials	<p>Talk about differences between materials and changes they notice</p> <p>Develop fine motor skills to competently and confidently use tools e.g. pencils for drawing, paintbrushes, forks, spoons and scissors.</p>	<ol style="list-style-type: none"> 1. Cut materials safely using tools provided 2. Measure and mark out to the nearest centimetre. 3. Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). 	<ol style="list-style-type: none"> 1. Cut materials accurately and safely by selecting appropriate tools. 2. Measure and mark out to the nearest millimetre. 3. Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). 	<ol style="list-style-type: none"> 1. Cut materials with precision and refine with appropriate tools (such as sanding wood after cutting and a precise scissor cut after roughly cutting a shape). 3. Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of the fabric may require sharper scissors than would be used to cut paper).

		<p>Begin to show accuracy and care when drawing</p> <p>Safely use and explore a variety of materials, tools and techniques</p> <p>Use a range of small tools including scissors, paintbrushes and cutlery</p> <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function</p>			
	Textiles		<ol style="list-style-type: none"> 1. Shape textiles using templates. 2. Join textiles using running stitch 3. colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing.) 	<ol style="list-style-type: none"> 1. Understand seam allowance. 2. Prototype a product. 3. Sew on buttons and make loops. 4. Join textiles with appropriate stitching. 	N/A
	Electricals and electronics		N/A	<p>Use electrical systems such as switches, bulbs and buzzers</p> <p>Incorporate a circuit into a model using scientific knowledge</p>	<p>Use electrical systems such as motors and switches</p> <p>Use knowledge of mathematics and science in order to make models work</p>

					Know that mechanical and electrical systems have an input, process and output
	Computing	Knowledge of repeating patterns.	Model designs using software	Control and monitor models using software designed for this purpose	Write code to control and monitor models or products Program, monitor and control using ICT
	Construction	Make imaginative, complex 'small worlds' with blocks and construction kits.	Join and decorate materials in a variety of ways Explore how to strengthen products.	Select from a range of tools for cutting, joining and finishing Strengthen frames with diagonal struts/flaps	Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, glueing, filing and sanding). Stiffen and reinforce complex structures Build frameworks to support mechanisms
	Mechanics		Create products using levers, sliders, wheels and winding mechanisms. Attach wheels to a chassis using an axle.	Use linkages to make movement larger or more varied.	convert rotary motion to linear using cams. (Y6) Use mechanical systems such as cams, pulleys and gears (Y5) Use innovative combinations of electronics (or computing) and mechanics in product design.(Y5/6)
To take inspiration from designers throughout history		Not a requirement at EYFS/ KS1		Across KS2 pupils should know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.	
		<i>Be aware of the need to design things that we need in everyday life. Explore this through</i>	<i>Y1 Be aware of the planning and design process needed to build houses. Compare this to making towers. If the roof is too heavy the house will fall down. Y2 - look at cars from the past. Why do they have 4</i>	<i>Be aware of the origins of meals e.g. Sandwiches were a solution to a problem that the Earl of Sandwich had. Why is bread such a staple part of people's diets?</i>	<i>Explore the global impact that designers have had with their designs e.g. James Dyson, Nikola Tesla. Know some examples of well known designers. This can be linked to science lessons where children look at notable inventions</i>

		<i>shared reading.</i>	<i>wheels and not 3? Who invented the car?</i>		<i>in the medical field e.g. the ergonomic stethoscope.</i>