

Oakfield Primary School Progression in Knowledge in Design and Technology

Year group	Textiles	Food	Construction	Mechanics	To design, make, evaluate and improve	To take inspiration from design throughout history
Nursery	<p>To begin to know how to use a range of tools and objects such as hammers, and mark making tools.</p> <p>To begin to know how to hold mark-making tools with thumb and all fingers - whole hand grasp, but not necessarily have good control.</p> <p>To begin to know how to manipulate a range of tools and equipment in one hand, tools include paintbrushes, hairbrushes, toothbrush, scarves or ribbons.</p>	<p>To begin to know how to use simple tools competently and appropriately i.e. safety knives, spoons for mixing.</p> <p>To begin to know how to handle and use tools safely.</p> <p>To begin to know how to wash and dry own hands before cooking/ handling food.</p>	<p>To begin to know how to stack blocks vertically and horizontally.</p> <p>To begin to know how to use and join various construction pieces to build and balance.</p>	<p>To begin to know how to use small motor skills to do things independently, for example pulling up zips after adult support.</p> <p>I am beginning to know how to use manipulation and control when completing fine motor activities, e.g. using tweezers to pick up objects and threading.</p>	<p>To begin to know how to say what they like and dislike about their own and others work simply.</p>	<p>To begin to know how to create something in the style of another by starting to copy.</p>
Reception	<p>To know how to use scissors to cut.</p> <p>To know how to explore and use tools to alter the material i.e. scissors.</p> <p>To know how to manipulate materials to achieve a planned effect e.g. ripping/folding.</p> <p>To know how to experiment with and select tools and techniques needed to</p>	<p>To know how to use simple tools competently and appropriately i.e. safety knives, spoons for mixing.</p> <p>To know how to handle and use tools safely.</p> <p>To know how to wash and dry own hands before cooking/ handling food.</p>	<p>To know how to stack blocks vertically and horizontally.</p> <p>To know how to use and join various construction pieces to build and balance.</p> <p>To know how to experiment with and select tools and techniques needed to shape, assemble and join materials they are using.</p> <p>To know how to manipulate materials to achieve a</p>	<p>To know how to use and explore technological toys with knobs, pulleys or real objects, i.e. cameras/mobile phones.</p> <p>To know how to make toys work by lifting flaps, pressing buttons etc.</p> <p>To know how to use simple age appropriate ICT software, e.g. age appropriate app, drawing on smartboard, pressing</p>	<p>To know how to construct with a purpose in mind.</p> <p>To know how to represent own ideas using different media/materials.</p> <p>To know how to adapt own work where necessary (informally).</p>	<p>To know how to explore different media and materials.</p> <p>To know how to discuss their ideas and why they have chosen certain resources.</p>

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	shape, assemble and join materials they are using.		planned effect e.g. ripping/folding. To know how to use scissors to cut. To know how to explore and use tools to alter the material i.e. scissors.	buttons. To know that information comes from a computer/ other hardware. To know how to explore toys with different mechanical/ ICT hardware e.g. pull back cars, levers, buttons, windup toys.		
Year 1	To know how to use a range of cutting and shaping techniques (such as tearing, cutting, folding and curling) and to demonstrate these. To know what a template is and to use these.	To know how to measure or weigh using measuring cups or electronic scales. To know what hygiene means. To know the terms cut, peel, grate and to use these techniques safely.	To know different techniques to make and strengthen products such as drilling, screwing, gluing and nailing and begin to use these. To know how to use a range of cutting and shaping techniques (such as tearing, cutting, folding and curling) and to demonstrate these.	To know that some devices operate with a battery. To begin to know when there is a fault in a battery operated device, such as water damage, low battery, battery terminal damage. To know that software can be used to model designs and begin to use these. To know the names of some mechanisms such as, levers, wheels and winding mechanisms and to begin to work to creating these.	To know how to design products that have a clear purpose and an intended user.	To know how to explore products that have already been created.
Year 2	To know how to cut materials safely using tools provided. To know how to measure and mark out to the nearest centimetre. To know how to use and demonstrate a range of	To know the term, assemble. To know some simple methods of cooking and follow these with support.	To know how to use and demonstrate a range of joining techniques such as gluing, hinges or combining materials to strengthen. To know different techniques to make and strengthen products such	To know the word, diagnose. To know how to identify when a battery operated device has a low battery, water damage or battery terminal damage. To know how to model	To know that sometimes products may need refining and to do so as the work progresses. To know how to make changes to a product where appropriate.	To know how to explore objects and designs to identify likes and dislikes. To know how to suggest improvement to existing designs.

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	<p>joining techniques such as gluing or combining materials to strengthen. To know what a running stitch is and to use this to join textiles. To know a number of techniques such as dying, adding sequins or printing and to use these to add colour and decoration to textiles.</p>		<p>as drilling, screwing, gluing and nailing and use these.</p>	<p>designs using software. To know how to create products using levers, wheels and winding mechanisms.</p>		
Year 3	<p>To know how to cut materials accurately and safely by selecting appropriate tools. To know how to select appropriate joining techniques. To know how to join textiles with appropriate stitching.</p>	<p>To know how to measure ingredients to the nearest gram accurately. To know how to follow a recipe.</p>	<p>To know how to cut materials accurately and safely by selecting appropriate tools. To know how to select appropriate joining techniques. To know how to choose suitable techniques to construct products or to repair items.</p>	<p>To begin to know about different circuits such as series and parallel circuits and to begin to know how to create these. To begin to make links between science and forces (in particular the transference of forces) and to begin to use this knowledge to choose appropriate mechanisms for a product (such as pulleys, levers, winding mechanisms and gears). To begin to control and monitor models using software designed for this purpose. To know how to design a net using Microsoft Word.</p>	<p>To know how to design with a purpose by identifying opportunities to design.</p>	<p>To know how to improve upon existing designs giving reasons for choices. To know how to disassemble products to know how they work.</p>
Year 4	To know how to measure	To know how to prepare	To know how to measure	To know how to create	To know how to make	To know some of the

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	<p>and mark out to the nearest mm. To know the term perimeter. To know how to apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). To know the term seam and how this links with perimeter and seam allowance. To know how to select the most appropriate techniques to decorate textiles.</p>	<p>ingredients hygienically using appropriate utensils. To know how to assemble or cook ingredients controlling the temperature of the oven or hob in cooking.</p>	<p>and mark out to the nearest mm. To know how to apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). To know how to strengthen materials using suitable techniques.</p>	<p>series and parallel circuits. To know how to control and monitor models using software designed for this purpose. To know how to use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product such as levers, winding mechanisms, pulleys and gears. To use software to design and represent product designs.</p>	<p>products by working efficiently (such as by carefully selecting materials) To know how to refine work and techniques as work progresses continually evaluating the product design. To use software to design and represent product designs.</p>	<p>great designers in all the areas of study including pioneers in horticultural techniques to generate ideas for designs.</p>
Year 5	<p>To know and identify qualities of materials. To know how to use properties of materials to choose appropriate tools to cut and shape (such as the nature of the fabric may require, sharper scissors that what would be used to cut paper). To know the terms tactile and visual. To know how to use the qualities of materials to create suitable, visual and tactile effects in the decoration of textiles</p>	<p>To know a range of baking and cooking techniques and to demonstrate these. To know how to create and refine recipes including ingredients, methods, cooking times and temperatures.</p>	<p>To know and identify qualities of materials. To know how to use properties of materials to choose appropriate tools to cut and shape. To begin know how to develop a range of practical skills to create products (such as cutting, drilling, screwing, nailing, gluing, filing and sanding).</p>	<p>To begin to know the names of components such as LED, resistors, transistors and chips and identify these. To begin to know how to create circuits using electronic kits that employ a number of components. To begin to know how to write code to control and monitor models or products. To know the terms rotary, motion and linear. To know how to convert</p>	<p>To know how to design with the user in mind motivated by a service a product will offer (rather than simply for product). To know how to ensure a high quality finish in products, using art skills where appropriate. To know how to create a questionnaire.</p>	<p>To know how to create innovative designs that improve upon existing products.</p>

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	(such as soft decoration for comfort cushion).			rotary motion to linear using cams. To know how to create a design on Tinker cad.		
Year 6	<p>To know how to cut materials with precision and refine the finish with appropriate tools such as a more precise scissor cut after roughly cutting out a shape.</p> <p>To know how to create objects (such as a cushion) that employ a seam allowance.</p> <p>To know how to join textiles with a combination of stitching techniques (such as back stitch or seams and running stitch to attach decoration).</p>	<p>To know the importance of correct storage and handling of ingredients.</p> <p>To know how to make links between biology and the knowledge of microorganisms.</p> <p>To know how to make links with ratio and proportion in maths.</p> <p>To know how to measure accurately and calculate ratios of ingredients to scale up or down from a recipe.</p>	<p>To know how to 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.</p> <p>To know how to develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding).</p>	<p>To know how to create circuits using electronic kits that employ a number of components (such as LED's, resistors, transistors and chips).</p> <p>To know how to write code to control and monitor models or products.</p> <p>To know how to use innovative combinations of electronics (or computing) and mechanics in product designs.</p>	<p>To know the role of prototypes in production of new designs.</p> <p>To know and identify a cross sectional diagram.</p> <p>To know how to make products through stages of prototypes, making continual refinements to know how to use prototypes, cross sectional diagrams and computer aided designs to represent designs.</p> <p>To know, when designing a product, to prioritise decoration or functionality.</p>	<p>To know how to combine elements of design from a range of inspirational designers throughout history giving reasons for choices.</p> <p>To know how to evaluate the design of products so as to suggest improvement to the user experience.</p>