



Skelton School

Design and Technology - Progression

THRESHOLD CONCEPTS	Master Practical Skills Developing skills needed to make high quality products.	Design, make, evaluate and improve Developing the process of design thinking and seeing as a process. (Evaluate > design > make > evaluate).	Take inspiration from design throughout history Appreciating the design process that has influenced the products we use in everyday life.
EYFS	<p>Food</p> <ul style="list-style-type: none"> Mix, cut and scoop ingredients safely with increasing independence. Measure or weigh using simple equipment. Understand the importance of hygiene when cooking. <p>Materials</p> <ul style="list-style-type: none"> Cut materials safely with the tools provided with increasing independence. Demonstrate a range of different cutting and shaping techniques (e.g. tearing, cutting, folding). Use different methods for joining (e.g. gluing, Sellotape, clips/pegs) <p>Textiles</p> <ul style="list-style-type: none"> Begin to develop skills for sewing (e.g. threading boards using fingers or sewing practise with larger 'pins' and holes). <p>Electricals and Electronics</p> <ul style="list-style-type: none"> Begin to explore how different electronic products are powered (e.g. mains electric, battery, solar). <p>Computing</p> <ul style="list-style-type: none"> Explore how computers can be used for different things. <p>Construction</p> <ul style="list-style-type: none"> Through play and adult led sessions begin to refine fine motor skills and techniques for building, joining and changing. <p>Mechanics</p> <ul style="list-style-type: none"> Explore what levers, wheels and winding mechanisms do. 	<ul style="list-style-type: none"> Consider other people when making or designing things. Collaborate with others to make things. Discuss what they have made (e.g. what it is, why they have made it, what is good about it, how it could be made even better). Overcome challenges and develop perseverance skills when working towards a goal. Follow instructions or advice from teachers when making. 	<ul style="list-style-type: none"> Explain likes and dislikes towards designs/products with increasing independence. Notice similarities and differences between designs/products. Explore how things are made. Explore how things work.
Years 1 and 2	<p>Food</p> <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. <p>Materials</p> <ul style="list-style-type: none"> Cut materials safely using the tools provided. Measure and mark out to the nearest centimetre. Demonstrate a range of cutting and shaping techniques (e.g. tearing, cutting, folding and curling). Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). <p>Textiles</p> <ul style="list-style-type: none"> Shape textiles using templates. Join textiles using a running stitch. Colour and decorate textiles using a number of different techniques (e.g. dyeing, adding sequins or printing). <p>Electrical and electronics</p> <ul style="list-style-type: none"> Diagnose faults in battery operated devices (e.g. low battery, water damage or battery terminal damage). <p>Computing</p> <ul style="list-style-type: none"> Model designs using software. <p>Construction</p> <ul style="list-style-type: none"> Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products. <p>Mechanics</p> <ul style="list-style-type: none"> Create products using levers, wheels and winding mechanisms. 	<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"> Explore objects and designs to identify likes and dislikes of the designs. Suggest improvements to existing designs. Explore how products have been created.

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Years 3 and 4</p>	<p>Food</p> <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). <p>Materials</p> <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 (e.g. slots or cut outs) • Select appropriate joining techniques. <p>Textiles</p> <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. <p>Electricals and electronics</p> <ul style="list-style-type: none"> • Create series and parallel circuits. <p>Computing</p> <ul style="list-style-type: none"> • Control and monitor models using software designed for this purpose. <p>Construction</p> <ul style="list-style-type: none"> • Choose suitable techniques to construct products or to repair items. • Strengthen materials using suitable techniques. <p>Mechanics</p> <ul style="list-style-type: none"> • Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as, levers, winding mechanisms, pulleys and gears) 	<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"> • 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.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Years 5 and 6</p>	<p>Food</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>Materials</p> <ul style="list-style-type: none"> • Cut materials with precision and refine the finish with appropriate tools (e.g. sanding wood after cutting or using 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). <p>Textiles</p> <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 for decoration). • Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as soft decoration for comfort on a cushion). <p>Electricals and electronics</p> <ul style="list-style-type: none"> • Create circuits using electronic kits that employ a number of components (such as LEDs, resistors, transistors and chips). <p>Computing</p> <ul style="list-style-type: none"> • Write code to control and monitor models or products. <p>Construction</p> <ul style="list-style-type: none"> • Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding) <p>Mechanics</p> <ul style="list-style-type: none"> • Convert rotary motion to linear using cams. • Use innovative combinations of electronics (or computing) and mechanics in 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. 	<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.