

Design and Technology Progression of Skills

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
To design, make, evaluate and improve:					
• Design products that have a clear purpose and an 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, evaluating the end product design.	• Design with purpose by identifying opportunities to design. • Make products by working efficiently. • 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. • Make products through stages of prototypes, making continual refinements. • Ensure products have a high quality finish, using art skills where appropriate.	• Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.

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To master practical skills:

Cooking: Cut ingredients safely and hygienically. Assemble or cook ingredients.	Cooking: Cut, peel or grate ingredients safely and hygienically. Measure or weigh using measuring cups or electronic scales.	Cooking: Prepare ingredients hygienically using appropriate utensils. • Measure accurately. • Follow a recipe. • Assemble or cook ingredients	Cooking: Prepare ingredients hygienically using appropriate utensils. • Measure ingredients to the nearest gram. • Assemble and cook ingredients (controlling the temperature of the oven or hob, if cooking).	Cooking: • Understand the importance of correct storage and handling of ingredients (knowledge of micro-organisms). • Demonstrate a range of baking and cooking techniques.	Cooking: • Measure accurately and calculate ratios of ingredients to scale up or down from recipe. • Create and refine recipes, including ingredients, methods, cooking times and temperatures.
Structures: • Cut materials safely using tools provided. • Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). • Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products.	Structures: • Measure and mark out to nearest cm. • Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen).	Structures: • Cut materials accurately and safely by selecting appropriate tools. • Select appropriate joining techniques. • Choose suitable techniques to construct products or to repair items.	Structures: • Measure and mark out to the nearest mm. • Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). • Strengthen materials using suitable techniques.	Structures: • 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). • Develop a range of practical skills to create products (e.g cutting, drilling and screwing, nailing, gluing, filling and sanding).	Structures: • Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (e.g. the nature of fabric may require sharper scissors than would be used to cut paper). • Develop a range of practical skills to create products.

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Textiles: • Shape textiles using templates. • Colour and decorate textiles	Textiles: • Join textiles using running stitch. • Colour and decorate textiles using a number of techniques	Textiles: • Understand the need for a seam allowance. • Join textiles with appropriate stitching.	Textiles: • Select the most appropriate techniques to decorate textiles	Textiles: • Create objects (such as a cushion) that employ a seam allowance. • Join textiles with a combination of stitching techniques (e.g. back stitch for seams and running stitch to attach decoration).	Textiles: • 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).
Electrics: Recognise if a battery operated device works or not.	Electrics: • Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage).	Electrics: Create series circuits.	Electrics: Create parallel circuits.	Electrics: • Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips).	Electrics: • Create circuits using electronics kits that employ a number of components with increasing confidence.
Mechanisms: • Create products using levers and wheels.	Mechanisms: • Create products using winding mechanisms.	Mechanisms: • Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).	Mechanisms: • Use scientific knowledge to choose appropriate mechanisms for a product.	Mechanisms: • Convert rotary motion to linear using cams.	Mechanisms: • Use innovative combinations of electronics (or computing) and mechanics in product designs