



Deighton Gates Primary School – Design Technology Progression of Knowledge and Skills			
Threshold Concepts	Milestone 1 (Years 1 and 2)	Milestone 2 (Year 3 and 4)	Milestone 3 (Years 5 and 6)
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, 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 • Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.
Take inspiration from designs throughout history	• Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs. • Explore how products have been created.	• 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.	• Understand how key events and individuals in design and technology have helped shape the world • Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience.
Master Practical Skills: Food	• Cut, peel or grate ingredients safely and hygienically. • Measure or weigh using measuring cups or electronic scales. • Assemble or cook ingredients.	• 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)	• Select appropriate units of measure of measure ingredients precisely • Demonstrate a range of baking and cooking techniques. • Create and refine recipes, including ingredients, methods, cooking times and temperatures
Master Practical Skills: Materials	• Cut materials safely using tools provided. • Measure and mark out to the nearest centimetre.	• Cut materials accurately and safely by selecting appropriate tools. • Measure and mark out to the nearest millimetre.	• Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more



	• Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). • Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen)	• 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.	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).
Master Practical Skills: Textiles	• 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).	• Understand the need for a seam allowance. • Join textiles with appropriate stitching. • Select the most appropriate techniques to decorate textiles.	• 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).
Master Practical Skills: Electronics and Computing	Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage). • Model designs using software.	• Create series and parallel circuits • Control and monitor models using software designed for this purpose.	• Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips). • Write code to control and monitor models or products.
Master Practical Skills: Mechanics	• Create products using levers, wheels and winding mechanisms.	• Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).	• Convert rotary motion to linear using cams. • Use innovative combinations of electronics and mechanics in product designs.



ELG: Creating with Materials Children at the expected level of development will: - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; - Share their creations, explaining the process they have used; - Make use of props and materials when role playing characters in narratives and stories.

ELG: Fine Motor Skills Children at the expected level of development will: - Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all cases; - Use a range of small tools, including scissors, paint brushes and cutlery; - Begin to show accuracy and care when drawing.