Design and Technology - Curriculum End Points

Concepts	End of Y4 pupils will know and demonstrate	End of Y6 pupils will know and demonstrate
Master practical skills This concept involves developing the skills needed to make high quality products (we have highlighted a range of skills but they may be added to or changed	<u>Food:</u> - Prepare ingredients hygienically using appropriate utensils. - Measure ingredients accurately. - Follow a recipe. - Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking). <u>Materials:</u> - 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 (such as slots or cut outs). <u>Textiles:</u> - Join textiles with appropriate stitching. - Select the most appropriate techniques to decorate textiles.	<u>Food:</u> - Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms). - Measure accurately (to the nearest gram) 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. <u>Materials:</u> - Select appropriate joining techniques. - 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). - 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). <u>Textiles:</u> - Understand the need for a seam allowance. - 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).

	<u>Electricals and Electronics:</u> - Create series circuits <u>Computing:</u> - Design using CAD <u>Construction:</u> - Choose suitable techniques to construct products or to repair items. - Strengthen materials using suitable techniques. <u>Mechanics:</u> - Create products using levers, wheels and winding mechanisms.	- 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). <u>Electricals and Electronics:</u> - Create parallel circuits - Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips). <u>Computing:</u> - Control and monitor models using software designed for this purpose. - Write code to control and monitor models or products. <u>Construction:</u> - Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding). <u>Mechanics:</u> - 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 (or computing) and mechanics in product designs.

Design, make, evaluate and improve	- 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.
Take inspiration from design throughout history	- 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	- 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.