Key Stage 2
YEAR 4 DESIGN AND TECHNOLOGY

National Curriculum KS2 Programme of Study	Chris Quigley Essential Skills Milestone 2	
Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts *for example, the home, school, leisure, culture, enterprise, industry and the wider environment.* When designing and making, pupils should be taught to: **Design** • use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **Make** • select from and use a wider range of tools and equipment to perform practical tasks *[for example, cutting, shaping, joining and finishing],* accurately • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities **Evaluate** • investigate and analyse a range of existing products • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	**1.To master practical skills** **Food**	• 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)*
	1. To master practical skills **Textiles**	• Understand the need for a seam allowance. • Join textiles with appropriate stitching. • Select the most appropriate techniques to decorate textiles.
	1. To master practical skills **Electricals and Electronics**	• Create series and parallel circuits
	1. To master practical skills **Computing**	• Control and monitor models using software designed for this purpose.
	1. To master practical skills **Construction**	• Choose suitable techniques to construct products or to repair items. • Strengthen materials using suitable techniques.
	2. To 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.

• understand how key events and individuals in D+T have helped shape the world **Technical knowledge** • apply their understanding of how to strengthen, stiffen and reinforce more complex structures • understand and use mechanical systems in their products *[for example, gears, pulleys, cams, levers and linkages]* • understand and use electrical systems in their products *[for example, series circuits incorporating switches, bulbs, buzzers and motors]* • apply their understanding of computing to program, monitor and control their products. **Cooking and nutrition** As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life. Pupils should be taught to: • understand and apply the principles of a healthy and varied diet • prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques • understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	**3. To 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.