Design Technology Year 6 Overview

	Autumn	Spring	Summer
Year 6 Design Technology	**Year 6 NC objectives**	**Year 6 NC objectives**	**Year 6 NC objectives**
	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 range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]* • *Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their 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.* • *Understand how key events and individuals in design and technology 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 [gears, pulleys, cams, levers and linkages].* • *Understand and use electrical systems in their products [series circuits, incorporating switches, bulbs, buzzers and motors].* • *Apply their understanding of computing to program, monitor and control their products.* **Cooking and Nutrition:** *Understand and apply principles of a healthy and varied diet, prepare and cook a variety of dishes using a range of techniques and understand seasonality and how a variety of ingredients are grown, reared, caught and processed.*		
	Year 6 Key Learning Textiles: Small bag/ case	**Year 6 Key Learning** Cooking and Nutrition: Seasonal Soup	**Year 6 Key Learning** Electronics: Fairground Rides
	• *Investigate and evaluate existing products, understanding that different fastenings are useful for different purposes.* • *Know that fabrics can be strengthened stiffened and reinforced.* • *Understand and practice a range of stitches.* • *Develop design criteria considering the user and purpose.* • *Create and present a design using CAD annotated sketches and prototypes.* • *Select and use a range of appropriate tools and materials safely.* • *Evaluate and test the finished product against original design criteria.*	• *Understand the variety of ways in which food is prepared.* • *Explore food production and preservation and how this can affect health.* • *Understand food waste and how to manage it.* • *Know the correct way to store food to stay safe.* • *Research and investigate a range of soup products.* • *Carry out and record sensory evaluations.* • *Understand how key chefs have influenced eating habits to promote healthy diets.* • *Explore the term seasonal food and what that means.* • *Design and plan a recipe (whilst understanding a recipe can be adapted).* • *Create a healthy soup using appropriate equipment and utensils corrects to ensure high hygiene and safety standards.* • *Evaluate the final product referencing back to the design brief.*	• *Investigate and evaluate existing products, understand what a motorised product is.* • *Understand what configuration is and how it can be affected.* • *Generate ideas for a design brief, model and communicate details of the design in a variety of ways (CAD, diagrams).* • *Understand what an electric motor does and why they are used.* • *Select construction materials and use appropriate tools and equipment according to their product.* • *Understand what a Micro:bit is and write a program to control and/ or monitor the product.* • *Evaluate and test the finished product against the design criteria and suggest modifications for improvement.*

Vocabulary	Fastenings, designers, functionality, blanket stitch, back stitch, reinforce, CAD, prototype, seam, seam allowance	Additives, preservation, cross contamination, waste, refrigeration, blend, seasoning, simmer	Fairground rides, motor, CAD, configuration, rotational movement, Micro:bit, code, debug, monitor, control, function