

Design Technology Year 5 Overview



	Autumn	Spring	Summer
Year 5 Design Technology	Year 5 NC objectives		
	<p>Design</p> <ul style="list-style-type: none"> 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. <p>Make</p> <ul style="list-style-type: none"> 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. <p>Evaluate</p> <ul style="list-style-type: none"> 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. <p>Technical knowledge</p> <ul style="list-style-type: none"> 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. <p>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.</p>		
	Year 5 Key Learning Cooking and Nutrition: Bread	Year 5 Key Learning Frame Structures: Shelter for a Soldier	Year 5 Key Learning Mechanisms- CAMS: Moving Toys
	<ul style="list-style-type: none"> Know that a healthy diet requires a balance of different nutrients. Understand and describe health benefits of each food group. Know where food comes from and how climate can affect food growth. Investigate and evaluate different bread products. Adapt and plan a recipe for a specific user and purpose. Explain how to be hygienic and safe when preparing food. Make bread by following a recipe and evaluate finished product suggesting improvements. 	<ul style="list-style-type: none"> Investigate and evaluate existing products and understand what a frame structure is. Understand and explain what triangulation is. Explore a variety of ways to join materials together. Generate ideas and design a product through research and discussion. Develop a clear plan communicating materials, equipment and processes. Select from a variety of appropriate materials, tools and equipment and use them safely. Critically evaluate the product against the design specification, intended user and purpose. Identify strengths and indicate ways to improve. 	<ul style="list-style-type: none"> Investigate and evaluate existing automata and understand what the term automata means. Understand that the mechanism in an automate uses a system of cams, axles and followers. Understand that a cam will change rotary motion into linear motion and different shaped cams produce different outputs/ movements. Generate ideas and make a prototype clearly modelling ideas through annotated diagrams. Select from and use appropriate tools safely and effectively to produce a high-quality finish. Test mechanisms and adjust where necessary. Evaluate product against design criteria and indicate any ways of improving it.
	Vocabulary	Nutrients, survey, sustainable, pesticides, fertiliser, knead, prove, bake	Frame structure, shelter, triangulation, overlapping, triangular card fillet, brace, butt joints, exploded diagram, compression, strut, tension, tie