

Design Technology Year 3 Overview



		Autumn	Spring	Summer
Design Technology Year 3		Year 3 NC objectives	Year 3 NC objectives	Year 3 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 3 Key Learning Mechanisms- Levers and Linkages: Creatures	Year 3 Key Learning Cooking and Nutrition: Pizza	Year 3 Key Learning Shell Structures: Food packaging
		<ul style="list-style-type: none"> Investigate and evaluate existing products and learn how they function and produce different types of movement. To use appropriate technical vocabulary relevant to the project. Develop ideas through modelling, drawings and mock-ups. Apply appropriate tools and techniques. To use scientific knowledge about transfer of forces in levers. Develop a clear idea of what has to be done and suggesting what to do next. To evaluate their design against the design criteria and indicate ways to improve by considering others views. 	<ul style="list-style-type: none"> To follow a recipe and understand some abbreviations (tsp, tbsp). To chop, peel and grate vegetables safely using appropriate techniques. To chop using the bridge hold and the claw hold. To grate safely using a grater. To peel safely using a peeler To measure accurately using different tools (measuring jug, electronic scales). To knead dough using the heel, flip, turn method. To roll dough using a rolling pin applying flour to the surface and rolling pin. Bake using a hot oven and safely handle a hot baking tray wearing appropriate safety clothing (oven gloves). 	<ul style="list-style-type: none"> Design a structure using a cube or cuboid shell and explain user and purpose. Plan and develop an annotated shell structure with labels and strengthening solutions. Make a prototype using paper to practice techniques. Select appropriate materials to complete their structure. Name real shell structures [The Shard, the O2 building]. Evaluate and state if their structure is suitable for intended user and purpose. Strengthen a structure using, ribbing, laminating and understand what this means.
	Vocabulary	mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating user, purpose, function prototype, design criteria, innovative, appealing, design brief	Rolling pin, oven gloves, bridge hold, dough, knead, roll, cooling rack, bake, pinch, combine	Shell structure, computer aided design, ribbing, corrugating, laminating, scoring, evaluate