

Can you create.... A dish for children in Y6 to eat to celebrate Brazilian culture?				
Term: Autumn 2				
Aspect of Design and Technology: Food				
Designing		Making		Technical knowledge and understanding
<ul style="list-style-type: none"> Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose. Use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas. 		<ul style="list-style-type: none"> Write a step-by-step recipe, including a list of ingredients, equipment and utensils. Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients. Make, decorate and present the food product appropriately for the intended user and purpose. 		<ul style="list-style-type: none"> Know how to use utensils and equipment including heat sources to prepare and cook food. Understand about seasonality in relation to food products and the source of different food products. Know and use relevant technical and sensory vocabulary.
Key Vocabulary			Knowledge Overview	
ANCHOR WORDS	GOLDILOCKS WORDS	STEP ON WORDS	By the end of this unit, the pupils should know:	
Finishing – how the product is nicely presented to the user. Rubbing in – rubbing the dry ingredients together with the fat; lifting to put air in the mixture so that it resembles fine breadcrumbs.	Knead – pulling and squeezing dough to make it smooth. Bran – the hard, protective shell of a grain of wheat. Seasonality – the times of the year when a given type of food is at its peak, either in terms of harvest or its flavour.	Endosperm – the store of food inside a seed. Germ – a part of the seed where the root and shoots grow from. Yeast – a tiny plant which makes bubble of carbon dioxide when mixed with flour and water.	<ul style="list-style-type: none"> Unleavened bread is a flatbread that has no yeast added. The purpose of kneading bread is to strengthen the gluten which is the protein in grains such as wheat. If bread is over kneaded, you can activate too much gluten which makes the bread become very chewy. Recipes must be followed carefully and accurately to create a successful end product. Foods commonly eaten in Brazil are: pastel, empadao, Pão de queijo, tapioca as well as many others. Certain foods are grown in Brazil in different seasons and many are exported to other countries (see Geography knowledge overview). 	
“Bridging Back” (previous years/cross-curricular content)			“Bridging Forward” (future years/cross curricular content)	
Y4 – “A healthy lunch for children to eat at a Spring picnic”			KS3 <ul style="list-style-type: none"> Understand and apply the principles of nutrition and health. 	

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| <ul style="list-style-type: none">• Some ingredients can be cooked using a heat source to change their texture, appearance or taste, e.g. – boiling an egg or roasting a pepper. (Science link: irreversible change)• Processed and fresh foods can be combined together to create a recipe. | <ul style="list-style-type: none">• Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet.• Become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes]• Understand the source, seasonality and characteristics of a broad range of ingredients |
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Can you create.... An alarm to protect an important Islamic artefact?			
Term: Spring 1			
Aspect of Design and Technology: Electrical Systems			
Designing	Making	Evaluating	Technical knowledge and understanding
<ul style="list-style-type: none"> Use research to develop a design specification for a functional product that responds automatically to changes in the environment. Take account of constraints including time, resources and cost. Generate and develop innovative ideas and share and clarify these through discussion. Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams. 	<ul style="list-style-type: none"> Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product. Create and modify a computer control program to enable an electrical product to work automatically in response to changes in the environment. 	<ul style="list-style-type: none"> Continually evaluate and modify the working features of the product to match the initial design specification. Test the system to demonstrate its effectiveness for the intended user and purpose. Investigate famous inventors who developed ground-breaking electrical systems and components 	<ul style="list-style-type: none"> Understand and use electrical systems in their products. Apply their understanding of computing to program, monitor and control their products. Know and use technical vocabulary relevant to the project.
Key Vocabulary			Knowledge Overview
ANCHOR WORDS	GOLDILOCKS WORDS	STEP ON WORDS	<u>By the end of this unit, the pupils should know:</u> <ul style="list-style-type: none"> That there are different types of switches that are all appropriate for different types of products. Micro-switch, latching switch, push-to-make switch, push-to-break switch, reed switch, tilt switch are all different types of switches that are used in different ways. Flowcharts or 'control language' is used to produce a set of instructions for an electrical circuit during the design stage. Mains electricity has certain dangers associated with it – if used or handled inappropriately it can result in serious harm. Thomas Eddison was a famous inventor who invented the lightbulb.
Output devices – components that produce an outcome, e.g. – bulbs and buzzers. Input devices – components that are used to control an electrical circuit, e.g. – switches.	Open switch – when a switch is positioned so that electricity cannot flow through it. Closed switch – when a switch is positioned so that electricity can flow through it.	Modelling – to realise and manipulate ideas in a tangible form. Computer control input – when a switch, such as a micro-switch, sends a signal to a computer control box to activate a sequence of events such as a buzzer or light being used to attract attention.	
“Bridging Back” (previous years/cross-curricular content)			“Bridging Forward” (future years/cross curricular content)
Y5 – “An automatic nightlight for employees in the workhouse”			KS3

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| <ul style="list-style-type: none">• Different methods can be used to make secure electrical connections, e.g.<ul style="list-style-type: none">– wire strippers, screw connections, crocodile clips and connecting blocks.• LEDs can produce a variety of light outputs, e.g. – steady light or flashing light. | <ul style="list-style-type: none">• Understand how more advanced mechanical systems used in their products enable changes in movement and force.• Understand how more advanced electrical and electronic systems can be powered and used in their products [for example, circuits with heat, light, sound and movement as inputs and outputs] |
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Can you create.... A platform for Emmeline Pankhurst to use when delivering speeches?				
Term: Summer 1				
Aspect of Design and Technology: Structures				
Designing		Making		Technical knowledge and understanding
<ul style="list-style-type: none"> Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches. 		<ul style="list-style-type: none"> Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used. Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. Use finishing and decorative techniques suitable for the product they are designing and making. 		<ul style="list-style-type: none"> Understand how to strengthen, stiffen and reinforce 3-D frameworks. Know and use technical vocabulary relevant to the project.
Key Vocabulary			Knowledge Overview	
ANCHOR WORDS	GOLDBLOCKS WORDS	STEP ON WORDS	By the end of this unit, the pupils should know:	
Shape – the appearance of an object defined by it's outline. Join – to put, bring or fasten together. Frame structure – a structure made from thin components, e.g. – tent frame.	Strut – a part of a structure under compression. Tension – a force pulling on material or structure. Tie – a part of a structure under tension.	Compression – the application of pressure to squeeze an object. Triangulation – the use of triangular shapes to strengthen a structure.	<ul style="list-style-type: none"> That different joins are suitable for different purposes and some are stronger than others. Triangulation of joints increases rigidity. Stephen Sauvestre designed the Eiffel Tower. Thomas Farnolls-Pritchard designed the iron bridge. Accurate tools and equipment must be used to make safe, sturdy structures. Junior hacksaws, G-claps, card triangles and hand drills can be used to construct wooden frames. 	
"Bridging Back" (previous years/cross-curricular content) Y4 – "A railway carriage for teachers at Dane Bank" <ul style="list-style-type: none"> A prototype can be evaluated to allow the initial design to be improved. 			"Bridging Forward" (future years/cross curricular content) KS3	

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| <ul style="list-style-type: none">• It is important to be accurate when cutting and joining nets as this will affect the quality of the product. | <ul style="list-style-type: none">• Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions• Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture. |
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