

## Design Technology — Year 3 — Medium Term Plan Autumn 2, Unit 1: Structures: Constructing a Castle



Lesson	Learning Objective	Success Criteria	National Curriculum Links	Vocabulary	Resources
One: Features of a castle	To recognise how multiple shapes (2D and 3D shapes are combined to form a strong and stable structure.	<ul> <li>I can identify different features of castles.</li> <li>I can design my own castle.</li> <li>I can label the features of my castle.</li> <li>I can explain why a castle needs to be strong and stable.</li> </ul>	<ul> <li>Make</li> <li>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].</li> <li>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients according to their characteristics.</li> </ul>	<ul> <li>2D</li> <li>3D</li> <li>castle</li> <li>key</li> <li>features</li> <li>stable</li> <li>stiff</li> <li>strong</li> </ul>	<ul> <li>Presentation: Features of a castle.</li> <li>Rulers (one per pupil).</li> <li>A4 paper for children making the Activity: Cut and glue castle to assemble and stick their castle pieces onto (Optional).</li> <li>A large selection of 2D shapes for the children to draw around (Optional).</li> <li>Link: Assessment – D&amp;T Y3: Structures: Constructing a castle (optional – see Attention grabber).</li> </ul>
Two: Designing a Castle	To design a castle.	<ul> <li>I can recall the features of a castle.</li> <li>I can add two design points to the design specification to appeal to the person/purpose of my castle.</li> <li>I can draw the design of my castle using 2D shapes and labelling: <ul> <li>the 3D shapes that will create the features;</li> <li>the materials I need;</li> <li>the colours I will use.</li> </ul> </li> </ul>	<ul> <li>Design</li> <li>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.</li> <li>Evaluate</li> <li>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</li> </ul>	- 2D - 3D - castle - shape -	<ul> <li>Presentation: Features of a castle from Lesson <ol> <li>Features of a castle (see Attention grabber).</li> <li>3D Maths shapes.</li> </ol> </li> </ul>
Three: Nets and Structures	To construct 3D nets.	<ul> <li>I know that a net is what a 3D shape would look like if it were opened out flat.</li> <li>I can construct a range of 3D geometric shapes using a net by:         <ul> <li>Cutting along the bold lines.</li> <li>Folding along the dotted lines.</li> </ul> </li> </ul>	<ul> <li>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross- sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</li> </ul>	- castle - net - shape - structure -	<ul> <li>Presentation: 3, 2, 1.</li> <li>Printed nets: cuboid, cube, prism, pyramid, cylinder and cone using <i>Acitivity: 3D shape nets.</i></li> <li>Scissors (one per pupil).</li> <li>Glue sticks (one between two pupils).</li> <li>Blue tac.</li> <li>Tape.</li> <li>Collected toilet/kitchen roll tubes, packaging etc.</li> </ul>

		<ul> <li>Keeping the tabs the correct size.</li> <li>Making crisply folded edges.</li> <li>Constructing the net using glue to make a geometric shape.</li> </ul>	<ul> <li>Make</li> <li>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] accurately.</li> <li>Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic.</li> <li>Technical knowledge</li> <li>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</li> </ul>		<ul> <li>Optional: squared paper for children to make their own nets.</li> <li><i>Extension activity: Constructing a castle net</i> – pre-download the file required for the children to design on the computer, or drop it on the intranet to easily access from a child's login.</li> <li>Laptops or tablets with access to Microsoft Office.</li> </ul>
Four: Building a Castle	To construct and evaluate my final product.	<ul> <li>I can construct my castle to meet the requirements of my brief by:         <ul> <li>Making neat 3D shapes using nets.</li> <li>Stacking shapes and recyclable materials to make the structures of my castle.</li> <li>Creating a castle base to secure my structures to.</li> <li>Adorning my castle with facades and other decorative features.</li> </ul> </li> <li>I can evaluate my work and the work of others.</li> </ul>	<ul> <li>Make</li> <li>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</li> <li>Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic.</li> <li>Evaluate</li> <li>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</li> </ul>	<ul> <li>castle</li> <li>design</li> <li>net</li> <li>Scoring</li> <li>structure</li> <li>tab</li> </ul>	<ul> <li>resentation: Speak like an expert.</li> <li>Scissors (one per pupil).</li> <li>Blue tac.</li> <li>Glue sticks (one per two pupils).</li> <li>Tape.</li> <li>Collected kitchen roll tubes, packaging, etc.</li> <li>Optional: squared paper for children to make their own nets.</li> <li>Squared grid paper.</li> <li>Materials for the structures and castle base: two A3 pieces of card per pupil, one piece cut in half lengthways.</li> <li>Materials for the façades: <ul> <li>A3 coloured card.</li> <li>Material textures printed, e.g. stone tiles, brickwork, etc.</li> </ul> </li> <li>Link: <u>Assessment – D&amp;T Y3: Structures:</u> <u>Constructing a castle</u> (optional – see Wrapping up).</li> </ul>

- An object can be
  - \_\_\_\_ to become something new. To make an indent in card you need to \_\_\_\_\_\_ it.

A castle years ago was originally a...

\_\_\_\_ cut paper nets out so they fit together with no gaps. suld you improve the look and stability of this castle?



## Design Technology — Year 3 — Medium Term Plan Spring 2, Unit 2: Electrical Systems: Electrical Poster

Lesson	Learning Objective	Success Criteria	National Curriculum Links	Vocabulary	Resources
One: Information Design	To understand the purpose of information design.	<ul> <li>I can name examples of information design.</li> <li>I can explain the purpose of information design.</li> <li>I can describe or explain the importance of information design.</li> </ul>	<ul> <li>Design</li> <li>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.</li> <li>Evaluate</li> <li>Investigate and analyse a range of existing products.</li> </ul>	<ul> <li>design</li> <li>information</li> <li>information design</li> <li>public</li> </ul>	<ul> <li>Presentation: Information design.</li> <li>Link: 'Living Walks: Virtual tour of the British Museum' on VideoLink (46:54 minutes so select only a few minutes to show) – this is an external website and we do not have control over its content – please check before showing it to the children.</li> </ul>
Two: Topic Research	To research a set topic to develop a range of initial ideas.	<ul> <li>I can research and select a topic to inform my design ideas.</li> <li>I can write a paragraph about my chosen topic.</li> <li>I can sketch initial ideas for my electric poster that meet my design criteria.</li> </ul>	<ul> <li>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.</li> </ul>	<ul> <li>bulb</li> <li>design criteria</li> <li>information design</li> <li>initial ideas</li> <li>research</li> <li>sketch</li> </ul>	<ul> <li>Presentation: Gimme five!</li> <li>Presentation: Information design.</li> <li>Presentation: Museum displays.</li> <li>Books and resources about Ancient Romans (a selection per table, see Main event).</li> <li>The children's Activity: Electric poster task booklets from Lesson 1 (see '<u>Lesson 1:</u> <u>Information design</u>').</li> </ul>
Three: Design Development	To develop an initial idea into a final design.	<ul> <li>I can review my initial ideas against the design criteria.</li> <li>I can provide and respond to peer feedback.</li> <li>I can develop an initial idea into a final design.</li> <li>I can evaluate my final design against the design criteria.</li> </ul>	<ul> <li>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross- sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</li> </ul>	<ul> <li>develop</li> <li>feedback</li> <li>final design</li> <li>initial ideas</li> <li>peer- assessment</li> <li>self- assessment</li> </ul>	<ul> <li>Presentation: Speak like an expert.</li> <li>Presentation: Electric poster.</li> <li>Presentation: Design development.</li> <li>Presentation: Design cycle.</li> <li>The children's Activity: Electric poster task booklets from Lesson 1 (see 'Lesson 1: <u>Information design</u>').</li> <li>A selection of drawing and colouring equipment e.g. pencils, rulers, erasers, colouring pencils or felt tip pens (a selection per table).</li> </ul>

			Evaluate		-
			- Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.		
Four: Electric Poster Assembly	To assemble my final product and incorporate a simple circuit.	<ul> <li>I can mount the final design to make it stiffer and stronger.</li> <li>I can build a simple circuit that includes a bulb.</li> <li>I can test and evaluate my electric display board.</li> <li>I can name and identify simple circuit components (bulb, battery and wires).</li> </ul>	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.         Technical knowledge         -       Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].	<ul> <li>battery</li> <li>bulb</li> <li>circuit</li> <li>circuit</li> <li>component</li> <li>crocodile wire</li> <li>electric product</li> <li>electrical system</li> </ul>	<ul> <li>Presentation: Range of answers.</li> <li>Presentation: Electric poster assembly.</li> <li>The children's electric poster task booklets from Lesson 1 (see '<u>Lesson 1: Information</u> <u>design</u>').</li> <li>The children's completed poster design templates from Lesson 3 (see '<u>Lesson 3:</u> <u>Design development</u>').</li> <li>A4 paper (one each).</li> <li>Corrugated card (enough to cover the back of each child's poster).</li> <li>Strips of coloured card (optional – enough to frame each poster).</li> <li>Scissors, ruler, pencil and eraser (one each).</li> <li>Glue stick (one between two).</li> <li>Masking tape (one between two).</li> <li>MES bulbs and bulb holders (one each).</li> <li>Crocodile wires (two each).</li> <li>MES science AA single battery holders and AA batteries (one each).</li> </ul>
<ul> <li>What is a li.</li> <li>Why is it im</li> <li>What is an is</li> <li>What is an is</li> <li>Why do we</li> <li>Why do we</li> <li>Which circu</li> <li>Which circu</li> <li>Which circu</li> </ul>	it component is a batte it component is a bulb' it component is a croce	of design criteria? ard to mount the poster? cry holder? ?	lain what its purpose		



## Design Technology — Year 3 — Medium Term Plan Summer 2, Unit 3: Cooking and Nutrition: Eating Seasonally

Lesson	Learning Objective	Success Criteria	National Curriculum Links	Vocabulary	Resources
One: Food Around the World	To explain why food comes from different places around the world.	<ul> <li>I can identify some fruits and vegetables that cannot be grown in the UK.</li> <li>I can label countries where different fruits and vegetables grow.</li> </ul>	Cooking and nutrition Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	<ul> <li>arid</li> <li>climate</li> <li>country</li> <li>Mediterranean</li> <li>mountain</li> <li>polar</li> <li>temperate</li> <li>tropical</li> <li>weather</li> <li>-</li> </ul>	<ul> <li>Presentation: Climate zones.</li> <li>Presentation: Where in the world?</li> <li>Atlases (one between two – see Main event).</li> <li>Link: Assessment: Design and technology Y3: Cooking and nutrition: Eating seasonally (optional – see Attention grabber).</li> </ul>
Two: Seasonal Food	To explain the benefits of seasonal foods.	<ul> <li>I know that importing food has an impact on the environment.</li> <li>I can match fruits and vegetables with the season in which they grow in the UK.</li> <li>I can find recipes containing seasonal foods.</li> </ul>	<ul> <li>Cooking and nutrition</li> <li>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</li> </ul>	<ul> <li>climate</li> <li>export</li> <li>import</li> <li>seasonal</li> <li>seasons</li> </ul>	<ul> <li>Presentation: Anagrams.</li> <li>Presentation: Seasonal eating.</li> <li>Whiteboards and pens (one between two).</li> <li>Tablets or devices with internet access (one between two – see Wrapping up).</li> <li>Link: <u>BBC Teach - Where does our food come from?</u> on Videolink – <i>this is an external website and we do not have control over its content – please check before showing it to the children.</i></li> </ul>
Three: Cutting and Peeling	To develop cutting and peeling skills.	<ul> <li>I can identify equipment used for preparing food.</li> <li>I can explain why food would or would not need to be prepared.</li> <li>I can describe the safety rules for preparation techniques</li> </ul>	<ul> <li>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</li> </ul>	- cut - grate - peel - snip -	<ul> <li>Presentation: Range of answers.</li> <li>Presentation: Sorting foods.</li> </ul> Equipment for practising food preparation. <ul> <li>An extra adult to supervise the skills table (see Main event).</li> </ul>

			Cooking and nutrition		Equipment to practise cutting skills (see
			<ul> <li>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.</li> <li>-</li> </ul>		<ul> <li>Main event):         <ul> <li>2 vegetable knives;</li> <li>1 green chopping board;</li> <li>1 brown chopping board;</li> <li>foods to cut, such as asparagus, pickled beetroot, radishes and peppers.</li> </ul> </li> <li>Equipment to practise peeling skills (see Main event):         <ul> <li>3 peelers;</li> <li>2 green chopping boards;</li> <li>1 brown chopping boards;</li> <li>2 brown chopping boards;</li> <li>1 brown chopping board;</li> <li>foods to peel, such as new potatoes and cucumber.</li> </ul> </li> <li>2 large bowls (one for each skill's waste).</li> </ul>
					<ul> <li>Equipment for other activities.</li> <li>Plastic knives (two or three per table – see Main event).</li> <li>Foods to discuss such as potatoes, avocados, cucumbers, grapes, bananas, apples, radishes and asparagus.</li> </ul>
Four: Tasting Seasonal Ingredients	To evaluate seasonal ingredients.	<ul> <li>I can identify current seasonal foods.</li> <li>I can taste various fruits and vegetables and describe their flavours.</li> <li>I can contribute to a class taste wheel.</li> </ul>	<ul> <li>Make</li> <li>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.</li> <li>Cooking and nutrition</li> <li>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.</li> </ul>	<ul> <li>fruit</li> <li>ingredients</li> <li>seasonal</li> <li>taste</li> <li>texture</li> <li>vegetable</li> </ul>	<ul> <li>Presentation: Odd one out.</li> <li>Presentation: Design brief.</li> <li>Presentation: Taste testing.</li> <li>Flipchart (see Attention grabber).</li> <li>Sticky notes (approximately eight each).</li> <li>Plates of seasonal foods (one or two pieces per child – see Main event): <ul> <li>cabbage;</li> <li>spinach;</li> <li>spinach;</li> <li>cauliflower;</li> <li>new potatoes;</li> <li>cucumbers;</li> <li>radishes;</li> <li>asparagus.</li> </ul> </li> <li>Additional ingredients to taste (see Main event): <ul> <li>Cheese (a piece per child);</li> <li>Tomato puree (1/4 teaspoon per child);</li> <li>Pesto (1/4 teaspoon per child).</li> </ul> </li> </ul>

					-
Five: Making a Mock-up	Tσ design a mock- up using criteria.	<ul> <li>I can design a puff pastry tart using seasonal vegetables and fruits.</li> <li>I can use colours to identify nutritional benefits.</li> <li>I can describe my puff pastry tart and the benefits of its ingredients.</li> </ul>	<ul> <li>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.</li> </ul>	<ul> <li>complementary</li> <li>design</li> <li>mock-up</li> </ul>	<ul> <li>Presentation: Brain dump.</li> <li>Presentation: Rainbow food.</li> <li>Presentation: Seasonal tarts.</li> <li>Whiteboards and pens (one each).</li> <li>Class taste wheel from Lesson 4: Tasting seasonal ingredients.</li> <li>Coloured paper (a selection of red, orange, yellow, green, blue and purple – see Main event).</li> <li>Coloured pens (a selection on each table – see Main event).</li> <li>Scissors (one between two – see Main event).</li> <li>Glue sticks or PVA glue and spreaders (one between two – see Main event).</li> <li>Paper plates or an A5 rectangle of cardboard (one each – see Main event).</li> </ul>
Six: Evaluating Seasonal Tarts	To evaluate a dish.	<ul> <li>I can taste tarts and provide feedback.</li> <li>I can consider taste, texture, appearance and use of seasonal ingredients.</li> <li>I can receive feedback on my tart and identify strengths.</li> </ul>	<ul> <li>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.</li> </ul>	<ul> <li>appearance</li> <li>evaluate</li> <li>taste</li> <li>texture</li> </ul>	<ul> <li>Presentation: Explain the answer.</li> <li>Presentation: Design brief.</li> <li>Presentation: Evaluating.</li> <li>Equipment for preparing the tarts (this should be completed ahead of the lesson – see Teacher knowledge).</li> <li>An extra adult to supervise the preparation (see Teacher knowledge).</li> <li>Equipment for cutting (see Teacher knowledge):         <ul> <li>2 vegetable knives;</li> <li>1 green chopping board;</li> <li>foods to cut, such as asparagus, potato, radishes and cucumbers.</li> </ul> </li> <li>Equipment for peeling (see Teacher knowledge):         <ul> <li>3 peelers;</li> <li>2 green chopping boards;</li> <li>1 brown chopping boards;</li> <li>foods to peel, such as new potatoes and cucumber.</li> </ul> </li> </ul>

	<ul> <li>Equipment for additional non-focus skills (see Teacher knowledge):         <ul> <li>1 box grater;</li> <li>scissors.</li> </ul> </li> <li>Additional ingredients (see Teacher knowledge):         <ul> <li>Additional ingredients (see Teacher knowledge):</li> <li>Ready-rolled puff pastry;</li> <li>Cheese;</li> <li>Olive oil;</li> </ul> </li> </ul>
	<ul> <li>Tomato puree or pesto;</li> <li>Basil leaves.</li> <li>Baking paper (see Teacher knowledge).</li> <li>Baking trays (see Teacher knowledge).</li> <li>Each child's tart mock-up from Lesson 5: Making a mock-up (see Teacher knowledge).</li> <li>Equipment for evaluating the seasonal tarts (to be used during the lesson).</li> </ul>
	<ul> <li>Each child's completed seasonal tart.</li> <li>Flipchart (see Main event).</li> <li>A device to record evaluations (see Adaptive teaching).</li> <li>Link: Assessment – Design and technology Y3: Cooking and nutrition: Eating seasonally (optional – see Wrapping up).</li> </ul>
Assessment:         • Which of these foods is available in June in the UK?         • Which climate zone is the UK in?         • Which of these best describes the flavour of potato?         • The appearance of a dish is         • The affects which fruit and vegetables can grow.         • What is seasonal food?         • You can tell the vitamins and minerals in a fruit and vegetable if         • When a food is brought into a country, it has been         • Which of these foods cannot be peeled with a peeler?         • Why should you try to buy seasonal foods?	y