



# Brooklands Primary School Curriculum Overview

## Design and Technology

*'Design is thinking made visual' – Saul Bass*

Year		Vocabulary	Progression	Skills
	Nursery	Cut, join, fold, model, build, construct, tools, scissors, hole punch, cellotape, push, pull, stick, shape, draw, recipe, cook, ingredients, stir, measure, healthy, fruit and vegetable names	<p><b>This builds on birth to 3 by:</b>            Building independently with a range of appropriate resources.            Developing manipulation and control. Exploring different materials and tools.            Using their imagination as they consider what they can do with different materials.            Make simple models which express their ideas.</p>	<p><b>Expressive arts and design</b>            I can explore different materials freely, to develop my ideas about how to use them and what to make.            I can develop my own ideas and then decide which materials to use to express them.            I can join different materials and explore different textures.            I can make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park.</p> <p><b>Physical development</b>            I can use one-handed tools and equipment, for example, making snips in paper with scissors.</p> <p><b>Understanding the world</b>            I can explore how things work.</p>
	Reception	Scissors, hole punch, card, paper, box, tube, cone, cut, join, form, shape, symmetry, slot, fold, hinge, tabs, flexible, hard, soft, tie, plan, experiment, change, tools, materials, use, idea, improve, food, meal, snack, healthy, diet	<p><b>This builds on nursery by:</b>            Exploring materials, develop ideas about how to use them.            Using imagination to build small words – developing complexity            Use of one handed tools.</p> <p><b>This leads to Year 1 by...</b>            Assembled vehicles with moving wheels using construction kits.            Explore moving vehicles through play.            Gained some experience of designing, making and evaluating products for a specified user and purpose. Developed some cutting, joining and finishing skills with card.</p> <p>Experience of using construction kits to build walls, towers and frameworks.            Experience of using of basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card.            Experience of different methods of joining card and paper</p>	<p><b>Skills</b></p> <p><b>Physical development</b>            I can develop my small motor skills so that I can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons.            I can use a range of small tools, including scissors, paintbrushes and cutlery.</p> <p><b>Expressive art and design</b>            I can create collaboratively sharing ideas, resources and skills.            I can return to and build on my previous learning, refining ideas and developing my ability to represent them.            I can safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.            I can share my creations, explaining the process I have used.</p> <p><b>PSED</b>            I can manage my own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.</p>

Year	Units of Work (Projects on a page)	Key Knowledge	Vocabulary	Progression	Skills
				Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. Experience of cutting soft fruit and vegetables using appropriate utensils.	
Y1	<p>Planes, Trains and Automobiles Wheels and axles</p> <p>Castles Free Standing Structures Making castles</p> <p>Safari so good! (Kenya) Preparing fruit and vegetables</p>	<ul style="list-style-type: none"> <li>Explore and use wheels, axles and axle holders.</li> <li>Distinguish between fixed and freely moving axles.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul> <ul style="list-style-type: none"> <li>Know how to make freestanding structures stronger, stiffer and more stable.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul> <ul style="list-style-type: none"> <li>Understand where a range of fruit and vegetables come from e.g. farmed or grown at home.</li> <li>Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of The eatwell plate.</li> <li>Know and use technical and sensory vocabulary relevant to the project.</li> </ul>	<p>vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism names of tools, equipment and materials used design, make, evaluate, purpose, user, criteria, function</p> <p>cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved metal, wood, plastic, circle, triangle, square, rectangle, cuboid, cube, cylinder, design, make, evaluate, user, purpose, ideas, design criteria, product, function</p> <p>Fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria</p>	<p><b>Builds on EYFS by:</b> Assembled vehicles with moving wheels using construction kits. Explore moving vehicles through play. Gained some experience of designing, making and evaluating products for a specified user and purpose. Developed some cutting, joining and finishing skills with card.</p> <p>Experience of using construction kits to build walls, towers and frameworks. Experience of using of basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. Experience of different methods of joining card and paper</p> <p>Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. Experience of cutting soft fruit and vegetables using appropriate utensils.</p> <p><b>This leads to Year 2 by:</b> Experience of movement using wheels and axels Understanding how to generate a simple design Experience of selecting and choosing appropriate tools for a task Some knowledge of how to evaluate products</p> <p>Experience of making a 3D free standing structure</p>	<p><b>Designing</b></p> <ul style="list-style-type: none"> <li>I can generate initial ideas and simple design criteria through talking and using own experiences.</li> <li>I can develop and communicate ideas through drawings and mock-ups.</li> </ul> <p><b>Making</b></p> <ul style="list-style-type: none"> <li>I can select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing.</li> <li>I can select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics.</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>I can explore and evaluate a range of products with wheels and axles.</li> <li>I can evaluate my ideas throughout and my products against original criteria.</li> </ul> <p><b>Designing</b></p> <ul style="list-style-type: none"> <li>I can generate ideas based on simple design criteria and my own experiences, explaining what I could make.</li> <li>I can develop, model and communicate my idea through talking, mock-ups and drawings.</li> </ul> <p><b>Making</b></p> <ul style="list-style-type: none"> <li>I can plan by suggesting what to do next.</li> <li>I can select and use tools, skills and techniques, explaining my choices.</li> <li>I can select new and reclaimed materials and construction kits to build my structures.</li> <li>I can use simple finishing techniques suitable for the structure I am creating.</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>I can explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings.</li> <li>I can evaluate my product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.</li> </ul> <p><b>Designing</b></p> <ul style="list-style-type: none"> <li>I can design appealing products for a particular user based on simple design criteria.</li> <li>I can generate initial ideas and design criteria through investigating a variety of fruit and vegetables.</li> <li>I can communicate these ideas through talk and drawings.</li> </ul> <p><b>Making</b></p> <ul style="list-style-type: none"> <li>I can use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely.</li> <li>I can select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>I can taste and evaluate a range of fruit and vegetables to determine the intended user's preferences.</li> <li>I can evaluate ideas and finished products against design criteria, including intended user and purpose.</li> </ul>

Year	Units of Work (Projects on a page)	Key Knowledge	Vocabulary	Progression	Skills
Y2	<p>Fetch the engine ... and a bucket! Mechanisms Sliders and levers</p> <p>What a wonderful world! (Looking after the world) Textiles - Templates and joining (link to study of Australia/animals)</p> <p>Oh I do like to be beside the seaside Food – Preparing fruit and vegetables (Sandwiches/smoothies)</p>	<ul style="list-style-type: none"> <li>Explore and use sliders and levers.</li> <li>Understand that different mechanisms produce different types of movement.</li> <li>Know and use technical vocabulary relevant to the project.</li> <li>Understand how simple 3-D textile products are made, using a template to create two identical shapes.</li> <li>Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.</li> <li>Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons.</li> <li>Know and use technical vocabulary relevant to the project.</li> <li>Understand where a range of fruit and vegetables come from e.g. farmed or grown at home.</li> <li>Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of The eatwell plate.</li> <li>Know and use technical and sensory vocabulary relevant to the project.</li> </ul>	<p>slider, lever, pivot, slot, bridge/guide card, masking tape, paper fastener, join</p> <p>pull, push, up, down, straight, curve, forwards, backwards</p> <p>design, make, evaluate, user, purpose, ideas, design criteria, product, function</p> <p>names of existing products, joining and finishing techniques, tools, fabrics and components</p> <p>template, pattern pieces, mark out, join, decorate, finish</p> <p>features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function</p> <p>fruit and vegetable names, names of equipment and utensils</p> <p>sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard</p> <p>flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria</p>	<p><b>Selecting and using a range of materials appropriate for the task</b> A basic knowledge of where fruit and veg come from Experience of knowing what a healthy and varied diet looks like Experience of food preparation using a variety of utensils</p> <p><b>Builds on Year 1 by:</b></p> <ul style="list-style-type: none"> <li>Early experiences of working with paper and card to make simple flaps and hinges.</li> <li>Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape.</li> </ul> <p><b>Builds on Year 1:</b></p> <ul style="list-style-type: none"> <li>Explored and used different fabrics.</li> <li>Cut and joined fabrics with simple techniques.</li> <li>Thought about the user and purpose of products.</li> </ul> <p><b>Builds on Year: 1</b></p> <ul style="list-style-type: none"> <li>Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell.</li> <li>Experience of cutting soft fruit and vegetables using appropriate utensils.</li> </ul> <p><b>This leads to Year 3 by:</b> Explored and used mechanisms such as flaps, sliders and levers.</p> <p>Gained experience of basic cutting, joining and finishing techniques with paper and card.</p> <p>Experience of using different joining, cutting and finishing techniques with paper and card.</p> <p>A basic understanding of 2-D and 3-D shapes in mathematics and the</p>	<p><b>Designing</b></p> <ul style="list-style-type: none"> <li>Generate ideas based on simple design criteria and their own experiences, explaining what they could make.</li> <li>Develop, model and communicate their ideas through drawings and mock-ups with card and paper.</li> </ul> <p><b>Making</b></p> <ul style="list-style-type: none"> <li>Plan by suggesting what to do next.</li> <li>Select and use tools, explaining their choices, to cut, shape and join paper and card.</li> <li>Use simple finishing techniques suitable for the product they are creating.</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>Explore a range of existing books and everyday products that use simple sliders and levers.</li> <li>Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria.</li> </ul> <p><b>Designing</b></p> <ul style="list-style-type: none"> <li>Design a functional and appealing product for a chosen user and purpose based on simple design criteria.</li> <li>Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology.</li> </ul> <p><b>Making</b></p> <ul style="list-style-type: none"> <li>Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing.</li> <li>Select from and use textiles according to their characteristics.</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>Explore and evaluate a range of existing textile products relevant to the project being undertaken.</li> <li>Evaluate their ideas throughout and their final products against original design criteria.</li> </ul> <p><b>Designing</b></p> <ul style="list-style-type: none"> <li>Design appealing products for a particular user based on simple design criteria.</li> <li>Generate initial ideas and design criteria through investigating a variety of fruit and vegetables.</li> <li>Communicate these ideas through talk and drawings.</li> </ul> <p><b>Making</b></p> <ul style="list-style-type: none"> <li>Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely.</li> <li>Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences.</li> <li>Evaluate ideas and finished products against design criteria, including intended user and purpose.</li> </ul>

Year	Units of Work (Projects on a page)	Key Knowledge	Vocabulary	Progression	Skills
Y3	<p><b>Brilliant Britain</b> Mechanisms, levers and linkages - Making a moving Woolly Mammoth</p>	<ul style="list-style-type: none"> <li>Understand and use lever and linkage mechanisms.</li> <li>Distinguish between fixed and loose pivots.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<p>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</p>	<p><b>Builds on Year 2 by:</b> Explored and used mechanisms such as flaps, sliders and levers.</p> <p>Gained experience of basic cutting, joining and finishing techniques with paper and card.</p>	<p><b>Designing</b></p> <ul style="list-style-type: none"> <li>I can generate realistic ideas and my own design criteria through discussion, focusing on the needs of the user.</li> <li>I can use annotated sketches and prototypes to develop, model and communicate ideas.</li> </ul> <p><b>Making</b></p> <ul style="list-style-type: none"> <li>I can order the main stages of making.</li> <li>I can select from and use appropriate tools with some accuracy to cut, shape and join paper and card.</li> <li>I can select from and use finishing techniques suitable for the product I am creating.</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>I can investigate and analyse books and, where available, other products with lever and linkage mechanisms.</li> <li>I can evaluate their own products and ideas against criteria and user needs, as I design and make.</li> </ul>
	<p><b>The Empire Strikes</b> Shell Structures - Design a Gift Box</p>	<ul style="list-style-type: none"> <li>Develop and use knowledge of how to construct strong, stiff shell structures.</li> <li>Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<p>shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating font, lettering, text, graphics, decision, evaluating, design brief design criteria, innovative, prototype</p>	<p><b>Builds on Year 2 by:</b> Experience of using different joining, cutting and finishing techniques with paper and card.</p> <p>A basic understanding of 2-D and 3-D shapes in mathematics and the physical properties and everyday uses of materials in science.</p>	<p><b>Designing</b></p> <ul style="list-style-type: none"> <li>I can generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product.</li> <li>I can develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas.</li> </ul> <p><b>Making</b></p> <ul style="list-style-type: none"> <li>I can order the main stages of making.</li> <li>I can select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy.</li> <li>I can explain my choice of materials according to functional properties and aesthetic qualities.</li> <li>I can use finishing techniques suitable for the product I am creating.</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>I can investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used.</li> <li>I can test and evaluate my own products against design criteria and the intended user and purpose.</li> </ul>
	<p><b>Rainforests</b> Healthy and varied diet Fruity flapjacks</p>	<ul style="list-style-type: none"> <li>Know how to use appropriate equipment and utensils to prepare and combine food.</li> <li>Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</li> <li>Know and use relevant technical and sensory vocabulary appropriately.</li> </ul>	<p>name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet planning, design criteria, purpose, user, annotated sketch, sensory evaluations</p>	<p><b>Builds on Year 2 by:</b> Know some ways to prepare ingredients safely and hygienically.</p> <p>Have some basic knowledge and understanding about healthy eating and the eatwell plate.</p> <p>Have used some equipment and utensils and prepared and combined ingredients to make a product.</p> <p><b>This leads to Year 4 by:</b> An understanding of where food comes from and whether it is fresh or processed Some experience of carrying out sensory evaluations on a food-based product Experience of combining and preparing food</p> <p>Some experience of ordering the stages of making a product</p>	<p><b>Designing</b></p> <ul style="list-style-type: none"> <li>I can generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose.</li> <li>I can use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.</li> </ul> <p><b>Making</b></p> <ul style="list-style-type: none"> <li>I can plan the main stages of a recipe, listing ingredients, utensils and equipment.</li> <li>I can select and use appropriate utensils and equipment to prepare and combine ingredients.</li> <li>I can select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>I can carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs.</li> <li>I can evaluate the ongoing work and the final product with reference to the design criteria and the views of others.</li> </ul>

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				<p>Some experience of selecting tools and materials based on their functionality and aesthetic qualities Experience of using tools with a degree of accuracy</p> <p>Experience of designing a product with the user in mind Some knowledge of how to generate sketches and use ICT to inform to develop ideas</p>	
Y4	<p><b>A European Adventure</b> Food Technology – healthy &amp; varied diet French salad and dressing</p> <p><b>Invaders and Settlers</b> 2D shape to 3D product Making a purse from woven textiles/sewing</p> <p><b>Tomb Raiders</b> Electrical systems and circuits Making an alarm to guard Egyptian treasures</p>	<p>Know how to use appropriate equipment and utensils to prepare and combine food.</p> <ul style="list-style-type: none"> <li>Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</li> <li>Know and use relevant technical and sensory vocabulary appropriately.</li> </ul> <p>Know how to strengthen, stiffen and reinforce existing fabrics.</p> <ul style="list-style-type: none"> <li>Understand how to securely join two pieces of fabric together.</li> <li>Understand the need for patterns and seam allowances.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul> <p>Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers.</p> <ul style="list-style-type: none"> <li>Apply their understanding of computing to program and control their products.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>	<p>name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet planning, design criteria, purpose, user, annotated sketch, sensory evaluations fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern pieces series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip control, program, system, input device, output device user, purpose, function, prototype, design criteria, innovative, appealing, design brief</p>	<p><b>Builds on Year 3 by:</b></p> <ul style="list-style-type: none"> <li>Know some ways to prepare ingredients safely and hygienically.</li> <li>Have some basic knowledge and understanding about healthy eating and The eatwell plate.</li> <li>Have used some equipment and utensils and prepared and combined ingredients to make a product.</li> </ul> <p><b>Builds on Y3 by:</b></p> <ul style="list-style-type: none"> <li>Have joined fabric in simple ways by gluing and stitching.</li> <li>Have used simple patterns and templates for marking out.</li> <li>Have evaluated a range of textile products.</li> </ul> <p><b>Builds on Y3 by:</b></p> <ul style="list-style-type: none"> <li>Constructed a simple series electrical circuit in science, using bulbs, switches and buzzers.</li> <li>Cut and joined a variety of construction materials, such as wood, card, plastic, reclaimed materials and glue.</li> </ul> <p>This leads to Y5 by... Have knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet.</p> <p>Be able to use appropriate equipment and utensils and apply a range of techniques for measuring</p>	<p><b>Designing</b></p> <ul style="list-style-type: none"> <li>Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose.</li> <li>Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.</li> </ul> <p><b>Making</b></p> <ul style="list-style-type: none"> <li>Plan the main stages of a recipe, listing ingredients, utensils and equipment.</li> <li>Select and use appropriate utensils and equipment to prepare and combine ingredients.</li> <li>Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs.</li> <li>Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.</li> </ul> <p><b>Designing</b></p> <ul style="list-style-type: none"> <li>Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s.</li> <li>Produce annotated sketches, prototypes, final product sketches and pattern pieces.</li> </ul> <p><b>Making</b></p> <ul style="list-style-type: none"> <li>Plan the main stages of making.</li> <li>Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing.</li> <li>Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern.</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>Investigate a range of 3-D textile products relevant to the project.</li> <li>Test their product against the original design criteria and with the intended user.</li> <li>Take into account others' views.</li> <li>Understand how a key event/individual has influenced the development of the chosen product and/or fabric.</li> </ul> <p><b>Designing</b></p> <ul style="list-style-type: none"> <li>Gather information about needs and wants, and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups.</li> </ul>

				<p>out, preparing and combining ingredients.</p> <p>Experience of axles, axle holders and wheels that are fixed or free moving.</p> <p>Basic understanding of electrical circuits, simple switches and components.</p> <p>Experience of cutting and joining techniques with a range of materials including card, plastic and wood.</p> <p>An understanding of how to strengthen and stiffen structures.</p> <p>Experience of using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials.</p> <p>Basic understanding of what structures are and how they can be made stronger, stiffer and more stable.</p>	<ul style="list-style-type: none"> <li>• Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams.</li> </ul> <p><b>Making</b></p> <ul style="list-style-type: none"> <li>• Order the main stages of making.</li> <li>• Select from and use tools and equipment to cut, shape, join and finish with some accuracy.</li> <li>• Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities.</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>• Investigate and analyse a range of existing battery-powered products.</li> <li>• Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.</li> </ul>
Year	Units of Work (Projects on a page)	Key Knowledge	Vocabulary	Progression	Skills
Y5	<p><b>What a Wonderful World</b> Food Technology – culture &amp; seasonality Bread</p> <p><b>Time Travellers</b> Mechanisms: Pulleys and Gears Water Wheels</p>	<ul style="list-style-type: none"> <li>• Know how to use utensils and equipment including heat sources to prepare and cook food.</li> <li>• Understand about seasonality in relation to food products and the source of different food products.</li> <li>• Know and use relevant technical and sensory vocabulary.</li> </ul> <ul style="list-style-type: none"> <li>• Understand that mechanical and electrical systems have an input, process and an output.</li> <li>• Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.</li> </ul>	<p>Ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble design specification, innovative, research, evaluate, design brief</p> <p>Pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor circuit, switch, circuit diagram annotated drawings, exploded diagrams mechanical system, electrical system, input, process, output design decisions, functionality, innovation, authentic,</p>	<p><b>Builds on Year 4 by:</b> Have knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet.</p> <p>Be able to use appropriate equipment and utensils and apply a range of techniques for measuring out, preparing and combining ingredients.</p> <p><b>Builds on Year 4 by:</b> Experience of axles, axle holders and wheels that are fixed or free moving.</p> <p>Basic understanding of electrical circuits, simple switches and components.</p>	<p><b>Designing</b></p> <ul style="list-style-type: none"> <li>• I can generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification.</li> <li>• I can explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose.</li> <li>• I can use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas.</li> </ul> <p><b>Making</b></p> <ul style="list-style-type: none"> <li>• I can write a step-by-step recipe, including a list of ingredients, equipment and utensils</li> <li>• I can select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients.</li> <li>• I can make, decorate and present the food product appropriately for the intended user and purpose.</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>• I can carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams.</li> <li>• I can evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements.</li> <li>• I can understand how key chefs have influenced eating habits to promote varied and healthy diets.</li> </ul> <p><b>Designing</b></p>

	<p>Kings and Queens Frame Structures Bird houses linked to Science</p>	<ul style="list-style-type: none"> <li>• Know and use technical vocabulary relevant to the project.</li> <li>• Understand how to strengthen, stiffen and reinforce 3-D frameworks.</li> <li>• Know and use technical vocabulary relevant to the project.</li> </ul>	<p>user, purpose, design specification, design brief</p> <p>Frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional</p>	<p>Experience of cutting and joining techniques with a range of materials including card, plastic and wood.</p> <p>An understanding of how to strengthen and stiffen structures.</p> <p><b>Builds on Year 4 by:</b> Experience of using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials.</p> <p>Basic understanding of what structures are and how they can be made stronger, stiffer and more stable.</p> <p><b>This leads to Year 6 by:</b> An understanding of seasonality in relation food Experience of using utensils and heating food An understanding of how key chefs have influenced eating habits Experience of developing a design brief</p> <p>Some understanding and experience of electrical systems Knowing and using technical vocabulary relevant to the project</p>	<ul style="list-style-type: none"> <li>• I can generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources.</li> <li>• I can develop a simple design specification to guide their thinking.</li> <li>• I can develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.</li> </ul> <p><b>Making</b></p> <ul style="list-style-type: none"> <li>• I can produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team.</li> <li>• I can select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost.</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>• I can compare the final product to the original design specification.</li> <li>• I can test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</li> <li>• I can consider the views of others to improve my work.</li> <li>• I can investigate famous manufacturing and engineering companies relevant to the project.</li> </ul> <p><b>Designing</b></p> <ul style="list-style-type: none"> <li>• I can carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources.</li> <li>• I can develop a simple design specification to guide the development of my ideas and products, taking account of constraints including time, resources and cost.</li> <li>• I can generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches.</li> </ul> <p><b>Making</b></p> <ul style="list-style-type: none"> <li>• I can formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used.</li> <li>• I can competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.</li> <li>• I can use finishing and decorative techniques suitable for the product they are designing and making.</li> </ul> <p><b>Evaluating</b></p> <ul style="list-style-type: none"> <li>• I can investigate and evaluate a range of existing frame structures.</li> <li>• I can critically evaluate my products against my design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.</li> <li>• I can research key events and individuals relevant to frame structures.</li> </ul>
<b>Year</b>	<b>Units of Work (Projects on a page)</b>	<b>Key Knowledge</b>	<b>Vocabulary</b>	<b>Progression</b>	<b>Skills</b>

Y6

**The Americas**  
Food Technology –  
Celebrating culture  
and seasonality  
Make guacamole

**Cottonopolis**  
Electricity: More  
complex circuits  
Morse code  
messages

**Water, Water,  
Everywhere**  
Combining  
different fabric  
shapes – make a  
sea creature

- 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.

- 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.

ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality  
utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble  
design specification, innovative, research, evaluate, design brief

series circuit, parallel circuit, names of switches and components, input device, output device, system, monitor, control, program, flowchart  
function, innovative, design specification, design brief, user, purpose

- Builds on Year 5 by:**
- Have knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet.
  - Be able to use appropriate equipment and utensils, and apply a range of techniques for measuring out, preparing and combining ingredients.

- Builds on Year 5 by:**
- Understanding of the essential characteristics of a series circuit and experience of creating a battery-powered, functional, electrical product.
  - Initial experience of using computer control software and an interface box or a standalone box, e.g. writing and modifying a program to make a light flash on and off.

- Designing**
- 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.

- Making**
- 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.

- Evaluating**
- Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams.
  - Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements.
  - Understand how key chefs have influenced eating habits to promote varied and healthy diets.

- Designing**
- 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.

- Making**
- 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.

- Evaluating**
- 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.