

**Banks Road Primary School**  
**Design and Technology Long Term Curriculum Plan 2022 – 2023**  
**Key Stage One & Key Stage Two**



**Design and Technology**  
**Long Term Plan KS1 and KS2**



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<p>Building on the EYFS</p> <p>Expressive Art and Design ELGs</p>	<p><b><u>ELG: Creating with Materials</u></b>  Children at the expected level of development will:</p> <ul style="list-style-type: none"> <li>• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function;</li> <li>• Share their creations, explaining the process they have used;</li> <li>• Make use of props and materials when role playing characters in narratives and stories.</li> </ul> <p><b><u>ELG: Being Imaginative and Expressive</u></b>  Children at the expected level of development will:</p> <ul style="list-style-type: none"> <li>• Invent, adapt and recount narratives and stories with peers and their teacher;</li> <li>• Sing a range of well-known nursery rhymes and songs.</li> <li>• Perform songs, rhymes, poems and stories with others, and — when appropriate — try to move in time with music.</li> </ul>
<p>Year 1</p> <p>Curriculum Objectives</p>	<p style="text-align: center;"><b><u>Design</u></b></p> <ul style="list-style-type: none"> <li>• design purposeful, functional, appealing products for themselves and other users based on design criteria</li> <li>• generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</li> </ul> <p style="text-align: center;"><b><u>Make</u></b></p> <ul style="list-style-type: none"> <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> <p style="text-align: center;"><b><u>Evaluate</u></b></p> <ul style="list-style-type: none"> <li>• explore and evaluate a range of existing products</li> </ul>

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- evaluate their ideas and products against design criteria.

**Technical knowledge**

- build structures, exploring how they can be made stronger, stiffer and more stable.
- explore and use mechanisms (for example, levers, sliders, wheels and axles) in their products.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1		<p>Sliders and Levers (Create a poster with moving parts)</p> <p>Potential Activities:</p> <p><u>Cross-Curricular Link: Read to Write:</u> 'Where the Wild Things Are' Design, make and evaluate a greetings card, using sliders/levers, for the children to send to Max to congratulate him on becoming king.</p> <p><u>Cross-Curricular Link: Read to Write:</u> 'Rapunzel' Design, make and evaluate a WANTED poster, using sliders or levers, for Rapunzel to capture the other witches.</p>		<p>Freestanding Structures (Make an animal enclosure)</p> <p>Potential Activities:</p> <p><u>Cross-Curricular Link: Read to Write:</u> 'A River Counts' Design, make and evaluate a bridge for the people to cross the river and reach the factory.</p> <p><u>Cross-Curricular Link: Read to Write:</u> 'The Night Gardener' Design, make and evaluate a garden bench for a family to sit on while admiring the topiary.</p> <p><u>Cross-Curricular Link: Science: Living things and their habitats.</u></p>		<p>Preparing Fruit and Vegetables (Create a fruit salad)</p> <p>Potential Activities:</p> <p><u>Cross-Curricular Link: Read to Write:</u> 'The Last Wolf' Design, make and evaluate a fruit based snack for Red to share with her new friends.</p> <p><u>Cross-Curricular Link: Read to Write:</u> 'Paper Planes' Design, make and evaluate a healthy fruit salad snack for Mia to take with her on her journey.</p> <p><u>Cross-Curricular Link: History:</u></p>

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				Design, make and evaluate your own habitat structure.		<i>How has food changed over time?</i> Investigate the principles of a healthy and varied diet to prepare dishes.
Vocabulary		slider, lever, pivot, slot, bridge/guide card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards		cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved		soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, squeezing, healthy diet, choosing, ingredients, planning
Year 2 Curriculum Objectives	<p style="text-align: center;"><b><u>Design</u></b></p> <ul style="list-style-type: none"> <li>design purposeful, functional, appealing products for themselves and other users based on design criteria <input type="checkbox"/></li> <li>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</li> </ul> <p style="text-align: center;"><b><u>Make</u></b></p> <ul style="list-style-type: none"> <li>select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] <input type="checkbox"/> <ul style="list-style-type: none"> <li>select from and use a wide range of materials and components, including construction <input type="checkbox"/> <ul style="list-style-type: none"> <li>materials, textiles and ingredients, according to their characteristics</li> </ul> </li> </ul> </li> </ul>					

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	<p style="text-align: center;"><b><u>Evaluate</u></b> <input type="checkbox"/></p> <ul style="list-style-type: none"> <li>explore and evaluate a range of existing products</li> <li>evaluate their ideas and products against design criteria</li> </ul> <p style="text-align: center;"><b><u>Technical Knowledge</u></b> <input type="checkbox"/></p> <ul style="list-style-type: none"> <li>build structures, exploring how they can be made stronger, stiffer and more stable</li> <li>explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</li> </ul>					
	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
Year 2		<p>Wheels and Axles  <b>(To design and make a moving vehicle)</b></p> <p>Potential Activities:</p> <p><u>Cross-Curricular Link: Read to Write:</u>  <i>'The Secret of Black Rock'</i>            Design, make and evaluate a wheeled trolley for the villagers to transport their supplies to the harbour.</p> <p><u>Cross-Curricular Link: Read to Write:</u>  <i>'Hermelin'</i>            Design, make and evaluate a wheeled trolley for</p>		<p>Templates and Joining Techniques  <b>(Make a traditional tale hand puppet)</b></p> <p>Potential Activities:</p> <p><u>Cross-Curricular Link: Read to Write:</u>  <i>'The Bog Baby'</i>            Design, make and evaluate a blanket/cover for the baby to keep warm whilst he sleeps in the shed.</p> <p><u>Cross-Curricular Link: Read to Write:</u>  <i>'Grandad's Island'</i>            Design, make and evaluate a simple backpack for Syd</p>		<p>Preparing Fruit and Vegetables  <b>(Make a healthy smoothie)</b></p> <p>Potential Activities:</p> <p><u>Cross-Curricular Link: Read to Write:</u>  <i>'Rosie Revere, Engineer'</i>            Design, make and evaluate a fruit kebab for Rosie and her aunt to eat to celebrate her achievement.</p> <p><u>Cross-Curricular Link: Read to Write:</u>  <i>'Jack and the Baked Beanstalk'</i></p>

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		<p>Hermelin to return all of the missing items to their owners.</p> <p><b><u>Cross-Curricular Link:</u></b>  <u>Geography:</u>  <i>Where do animals live?</i>            Investigate and evaluate existing models, then design, make and evaluate their own animal enclosure.</p>		<p>to use when he travels to the island.</p> <p><b><u>Cross-Curricular Link:</u></b>  <u>Geography:</u>  <i>What will we see on our Journey around the world?</i>            Design, make and evaluate a simple backpack for you to use when you travel around the world.</p>		<p>Design, make and evaluate a healthy fruit or vegetable snack for the Giant to feed to Jack when he comes to visit.</p> <p><b><u>Cross-Curricular Link:</u></b>  <u>Geography:</u>  <i>Where does our food come from?</i>            Investigate and understand where food comes from and the basic principles of a healthy and varied diet to prepare dishes.</p>
Vocabulary		vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism		template, pattern pieces, mark out, join, decorate, finish		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
Year 3	<p style="text-align: center;"><b><u>Design</u></b></p>					
Curriculum Objectives						

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	<p style="text-align: center;"><b><u>Make</u></b></p> <ul style="list-style-type: none"> <li>• select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>• select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their characteristics and aesthetic qualities</li> </ul> <p style="text-align: center;"><b><u>Evaluate</u></b></p> <ul style="list-style-type: none"> <li>• investigate and analyse a range of existing products,</li> <li>• evaluate their ideas and products against their own design criteria and consider the views of others to improve their work, <ul style="list-style-type: none"> <li>• understand how key events and individuals in design and technology have helped shape the world</li> </ul> </li> </ul> <p style="text-align: center;"><b><u>Technical Knowledge</u></b></p> <ul style="list-style-type: none"> <li>• apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>• understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li> <li>• understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</li> <li>• apply their understanding of computing to program, monitor and control their products.</li> </ul>					
	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
		Lever and Linkages (Create an information poster on the stone age)		Shell Structures (Make a chocolate box)  Potential Activities:		Healthy and Varied Diet (Create pizza pitta snacks)  Potential Activities:

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		<p style="text-align: center;"><b>Potential Activities:</b></p> <p><u>Cross-Curricular Link: Read to Write:</u> <i>'Jemmy Button'</i> Design, make and evaluate a greetings card with moving parts for Jemmy to send to his parents to let them know he has arrived safely in his new home.</p> <p><u>Cross-Curricular Link: Read to Write:</u> <i>'Into The Forest'</i> Design, make and evaluate a moving storyboard for you to retell a fairy tale to the rest of your class.</p> <p><u>Cross-Curricular Link: Science: Plants</u> Design, make and evaluate a moving plant, using levers and linkages to show how a plant grows.</p>		<p><u>Cross-Curricular Link: Read to Write:</u> <i>'The Whale'</i> Design, make and evaluate a storage box for the girl to keep her camera in.</p> <p><u>Cross-Curricular Link: Read to Write:</u> <i>'The Journey'</i> Design, make and evaluate a lunch box for the children to carry their food in.</p> <p><u>Cross-Curricular Link: Science: Living things and their habitats.</u> Design, make and evaluate your own habitat using a shell structure.</p>		<p><u>Cross-Curricular Link: Read to Write:</u> <i>'Leaf'</i> Design, make and evaluate a bread roll with a filling for Leaf to eat on his long journey home.</p> <p><u>Cross-Curricular Link: Read to Write:</u> <i>'Manfish'</i> Design, make and evaluate a toastie with a plant-based filling for Jacques to eat before he goes exploring.</p> <p><u>Cross-Curricular Link: Read to Write:</u> <i>'Manfish'</i> Design, make and evaluate a variety of sandwiches for Jacques to eat before his journey exploring.</p>
Vocabulary		Lever, linkage, loose pivot, fixed pivot, system, system, input, output		Cuboid, Edge, Face, Font, Net, Prism, Scoring, Shell structure		Texture, taste, sweet, greasy, savoury, hygienic, harvested, tinned, frozen
Year 4	<u>Design</u>					



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	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
Year 4		<p>2D Shape to 3D product            (Make a tote bag with handle)</p> <p>Potential Activities:</p> <p><u>Cross-Curricular Link: Read to Write: 'Return'</u>            Design, make and evaluate a desk tidy for the father to keep his stationery in.</p>		<p>Healthy and Varied Diet            (Create a bread based prout)</p> <p>Potential Activities:</p> <p><u>Cross-Curricular Link: Read to Write: 'Fox'</u>            Design, make and evaluate a sandwich with a filling for Dog, Magpie and Fox to eat on a picnic.</p>		<p>Simple Circuits and switches            (To design and make a nightlight)</p> <p>Potential Activities:</p> <p><u>Cross-Curricular Link: Read to Write and Science: 'Arthur and the Golden Rope' and Electricity</u>            Design, make and evaluate a head torch for Arthur to wear to light his way during his voyage across the great sea.</p>

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		<p><u><b>Cross-Curricular Link: Read to Write:</b></u>  '<i>Seen and Not Heard</i>'  Design, make and evaluate a lunchbox for the children to keep their midnight snacks in.</p> <p><u><b>Cross-Curricular Link: Science:</b></u>  '<i>Living things and their habitats.</i>'  Design, make and evaluate your own habitat using 2D to 3D shapes.</p>		<p><u><b>Cross-Curricular Link: Read to Write:</b></u>  '<i>The Iron Man</i>'  Design, make and evaluate a bread roll with a filling for the families to take on their picnic.</p> <p><u><b>Cross-Curricular Link: Geography:</b></u>  '<i>Where does our food come from?</i>'  Investigate and understand where food comes from and the basic principles of a healthy and varied diet to prepare dishes.</p>		<p><u><b>Cross-Curricular Link: Read to Write and Science:</b></u>  '<i>The Lost Happy Endings</i>' and <i>Electricity</i>  Design, make and evaluate a torch for Jub to guide herself through the woods.</p> <p><u><b>Cross-Curricular Link: Science:</b></u>  '<i>Electricity and Sound.</i>'  Design, make and evaluate a siren for a Toy Vehicle.</p>
Vocabulary		Pattern, template, Seam, Seam allowance, Aesthetics, stitch, sew		Sensory, texture, appearance, fresh, slice, peel, garnish, chop, grate, processed		Circuit, conductor, Insulator, System, Output device, Input device
Year 5 Curriculum Objectives	<p style="text-align: center;"><u><b>Design</b></u></p> <ul style="list-style-type: none"> <li>• use research and develop design criteria to inform the design of innovative, functional</li> <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> <p style="text-align: center;"><u><b>Make</b></u></p> <ul style="list-style-type: none"> <li>• select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>• select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their characteristics and aesthetic qualities</li> </ul> <p style="text-align: center;"><u><b>Evaluate</b></u></p> <ul style="list-style-type: none"> <li>• investigate and analyse a range of existing products</li> <li>• evaluate their ideas and products against their own design criteria and consider the views of others to improve their work <ul style="list-style-type: none"> <li>• understand how key events and individuals in design and technology have helped shape the world</li> </ul> </li> </ul> <p style="text-align: center;"><u><b>Technical Knowledge</b></u></p> <ul style="list-style-type: none"> <li>• apply their understanding of how to strengthen, stiffen and reinforce more complex structures <ul style="list-style-type: none"> <li>• understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li> </ul> </li> <li>• understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] <ul style="list-style-type: none"> <li>• apply their understanding of computing to program, monitor and control their products.</li> </ul> </li> </ul>					

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Year 5		<p>Pulleys and Gears. (Make a working ride)</p> <p>Potential Activities:</p> <p><u>Cross-Curricular Link: Read to Write:</u> 'The Promise' Design, make and evaluate a small vehicle for the girl to transport her planting materials in.</p> <p><u>Cross-Curricular Link: Read to Write:</u> 'The Errand' Design, make and evaluate a controllable toy vehicle for the Errand Boy to use in the woods.</p>		<p>Frame Structures (Build a small scale shelter)</p> <p>Potential Activities:</p> <p><u>Cross-Curricular Link: Read to Write:</u> 'Henry's Freedom Box' Design, make and evaluate a market stall for the slave owner to use to sell his slaves.</p> <p><u>Cross-Curricular Link: Read to Write:</u> 'FARTHER' Design, make and evaluate a shelter for the father to protect his flying machine from the elements.</p> <p><u>Cross-Curricular Link: Science: Forces</u> Design, make and evaluate your own kite.</p>		<p>Celebrating Culture and Seasonality (Create a Greek inspired dish)</p> <p>Potential Activities:</p> <p><u>Cross-Curricular Link: Read to Write:</u> 'King Kong' Design, make and evaluate a celebratory Vegetable Kebab for Ann and Jack to share once they get back home.</p> <p><u>Cross-Curricular Link: Read to Write:</u> 'The Lost Book of Adventure' Design, make and evaluate a samosa for yourself to eat on your adventure.</p>
Vocabulary		Pulley, gear, drive belt, driver, follower, mesh, motor spindle, input device, output device, cogs		Frame structure, stiffen, reinforce, triangulation, stability, shape, join, prototype, function, Strut, diagonal, vertical, horizontal		Yeast, dough, spice, fat, sugar, varied, fold, beat, knead, shape, roll, sprinkle
Year 6	<p style="text-align: center;"><b>Design</b></p> <ul style="list-style-type: none"> <li>use research and develop design criteria to inform the design of innovative, functional,</li> </ul>					

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Curriculum Objectives	<ul style="list-style-type: none"> <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> <p style="text-align: center;"><b><u>Make</u></b></p> <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their characteristics and aesthetic qualities</li> </ul> <p style="text-align: center;"><b><u>Evaluate</u></b></p> <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products,</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work, <ul style="list-style-type: none"> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul> </li> </ul> <p style="text-align: center;"><b><u>Technical Knowledge</u></b></p> <ul style="list-style-type: none"> <li>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li> <li>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] <ul style="list-style-type: none"> <li>apply their understanding of computing to program, monitor and control their products.</li> </ul> </li> </ul>					
	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
Year 6		Combining different fabric shapes (Make a pencil case with Zip fastener)  Potential Activities:  <i><b>Cross-Curricular Link:</b> Read to Write: 'A Story Like the Wind'</i> Design, make and evaluate a pencil case for Nor.		Celebrating Culture and Seasonality (Create a seasonal afternoon tea party for parents)  Potential Activities:  <i><b>Cross-Curricular Link:</b> Read to Write: 'Rose Blanche'</i> Design, make and evaluate a loaf of bread for Rosie to give to the children.		Complex switches and circuits. (Make an interactive board game)  Potential Activities:  <i><b>Cross-Curricular Link:</b> Read to Write and Science: 'The Ways of the Wolf' and Light</i> Design, make and evaluate an electric board game for a child

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		<u>Cross-Curricular Link: Read to</u> <u>Write:</u> <i>'Hansel and Gretel'</i> Design, make and evaluate a pencil case for Gretel to carry the coins, jewellery and precious stones in.		<u>Cross-Curricular Link: Read to</u> <u>Write:</u> <i>'Dreams of Freedom'</i> Freedom of expression Design, make and evaluate a pizza for your family to celebrate different cultures.		to teach him/her all about wolves.
Vocabulary		Mock-up, pattern, seam allowance, tacking, hem, pattern pieces, wrong side, right side, pinking shears		Ingredients, vitamins, spice, innovate, harvest, whisk, beat, crumble, utensils		Circuit, conductor, Insulator, System, Output device, Input device, drive belt, driver, follower, mesh, motor spindle, input device, output device, cogs