

**Primary DT Curriculum  
Long Term Plan  
For St James' CE Primary  
School**



### Design Technology Long Term Plan

	Unit 1	Unit 2
<b>Year 1</b>	<b>Food Day:</b> Fruit and Vegetables Salad <b>Textiles:</b> Christmas Stocking (gluing)	<b>Structures Day:</b> Chairs for the Three Bears <b>Mechanisms:</b> Vehicles
<b>Year 2</b>	<b>Food Day:</b> Christmas cakes <b>Textiles:</b> Christmas decorations (sewing)	<b>Structures Day:</b> House for the Three Little Bears <b>Mechanisms:</b> Wishing Wells
<b>Year 3</b>	<b>Food Day:</b> Pizza <b>Textiles:</b> Christmas Hat	<b>Structures Day:</b> Bridges (Three Billy Goats Gruff) <b>Mechanisms:</b> Playgrounds
<b>Year 4</b>	<b>Food Day:</b> Mince/Fruit Pies <b>Textiles:</b> Sampler	<b>Structures Day:</b> Bird Box for the Owl who was Afraid of the Dark <b>Mechanisms:</b> Bikes through the ages
<b>Year 5</b>	<b>Food Day:</b> Bread <b>Textiles:</b> Cushion cover	<b>Structures Day:</b> Tower of Babel <b>Mechanisms:</b> Fairgrounds
<b>Year 6</b>	<b>Food Day:</b> <b>Textiles:</b> <b>*St Helens Chamber Enterprise project</b>	<b>Structures Day:</b> Shelters (Robinson Crusoe) <b>Mechanisms:</b>

#### Year 1

Unit 1			Unit 2		
Food Day			Structure Day		
Key Skills	Key Knowledge	Outcomes	Key Skills	Key Knowledge	Outcomes

<p>Use pictures and words to convey what they want to design/make.</p> <p>Use pictures and words to convey what they want to design/make.</p> <p>Decide how existing products do/do not achieve their purpose</p>	<p>Develop a food vocabulary using taste, smell, texture and feel.</p> <p>Group familiar food products e.g. fruit and vegetables.</p> <p>Explain where food comes from.</p> <p>Cut, peel, grate, chop a range of ingredients</p> <p>Work safely and hygienically.</p> <p>Understand the need for a variety of foods in a diet.</p> <p>Measure and weigh food items, non-statutory measures e.g. spoons, cups.</p>	<p>Fruit and Vegetable Salads.</p>	<p>Explore how to make structures stronger.</p> <p>Investigate different techniques for stiffening a variety of materials.</p> <p>Test different methods of enabling structures to remain stable.</p> <p>Join appropriately for different materials and situations e.g. glue, tape.</p> <p>Mark out materials to be cut using a template.</p> <p>Use a glue gun with close supervision.</p>	<p>Add notes to drawings to help explanations.</p> <p>Explain what they are making.</p> <p>Note changes made during the making process as annotation to plans/drawings.</p>	<p>Chairs for a story character.</p>
<b>Unit 1</b>			<b>Unit 2</b>		
<b>Textiles</b>			<b>Mechanisms</b>		
<b>Key Skills</b>	<b>Key Knowledge</b>	<b>Outcomes</b>	<b>Key Skills</b>	<b>Key Knowledge</b>	<b>Outcomes</b>
Cut out shapes which have been created by drawing round a	Explore ideas by rearranging materials.	Christmas Stockings (glue)	Join appropriately for different materials and	Propose more than one idea for their product.	Vehicles

<p>template onto the fabric.</p> <p>Join fabrics by using e.g. running stitch, glue, staples, over sewing, tape.</p> <p>Decorate fabrics with attached items e.g. buttons, beads, sequins, braids, ribbons.</p> <p>Colour fabrics using a range of techniques e.g. fabric paints, printing, painting.</p>	<p>Select and name the tools needed to work the materials.</p> <p>Talk about their design as they develop and identify good and bad points.</p>		<p>situations e.g. glue, tape.</p> <p>Try out different axle fixings and their strengths and weaknesses.</p> <p>Use a range of materials to create models with wheels and axles e.g. tubes, dowel, cotton reels.</p> <p>Roll paper to create tubes.</p> <p>Attach wheels to a chassis using an axle.</p> <p>Mark out materials to be cut using a template.</p> <p>Fold, tear and cut paper and card.</p> <p>Cut along lines, straight and curved.</p> <p>Use a hole punch.</p> <p>Insert paper fasteners for card.</p>	<p>Explain which materials they are using and why.</p> <p>Discuss how closely their finished product meets their design criteria and how well it meets the needs of the user.</p>	
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			Experiment with levers and sliders to find different ways of making things move in a 2D plane.		
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## Year 2

Unit 1 Food Day			Unit 2 Structure Day		
Key Skills	Key Knowledge	Outcomes	Key Skills	Key Knowledge	Outcomes
<p>Develop a food vocabulary using taste, smell, texture and feel.</p> <p>Group familiar food products e.g. fruit and vegetables.</p> <p>Explain where food comes from. Cut, peel, grate, chop a range of ingredients</p> <p>Work safely and hygienically.</p>	<p>Use pictures and words to convey what they want to design/make.</p> <p>Use pictures and words to convey what they want to design/make. Decide how existing products do/do not achieve their purpose.</p>	<p>Christmas Cakes</p>	<p>Explore how to make structures stronger.</p> <p>Investigate different techniques for stiffening a variety of materials.</p> <p>Test different methods of enabling structures to remain stable.</p> <p>Join appropriately for different materials and situations e.g. glue, tape.</p>	<p>uild structures, exploring how they can be made stronger, stiffer and more stable</p>	<p>A house for the Three Little Pigs</p>

Understand the need for a variety of foods in a diet.			Mark out materials to be cut using a template.		
Measure and weigh food items, non-statutory measures e.g. spoons, cups.			Use a glue gun with close supervision.		
<b>Unit 1</b>			<b>Unit 2</b>		
<b>Textiles</b>			<b>Mechanisms</b>		
<b>Key Skills</b>	<b>Key Knowledge</b>	<b>Outcomes</b>	<b>Key Skills</b>	<b>Key Knowledge</b>	<b>Outcomes</b>
<p>Cut out shapes which have been created by drawing round a template onto the fabric.</p> <p>Join fabrics by using e.g. running stitch, glue, staples, over sewing, tape.</p> <p>Decorate fabrics with attached items e.g. buttons, beads, sequins, braids, ribbons.</p>	<p>Explore ideas by rearranging materials.</p> <p>Select and name the tools needed to work the materials.</p> <p>Talk about their design as they develop and identify good and bad points</p>	<p>Christmas Stocking (sewing)</p>	<p>Join appropriately for different materials and situations e.g. glue, tape.</p> <p>Try out different axle fixings and their strengths and weaknesses.</p> <p>Use a range of materials to create models with wheels and axles e.g. tubes, dowel, cotton reels.</p> <p>Roll paper to create tubes.</p>	<p>Build structures, exploring how they can be made stronger, stiffer and more stable explore and use mechanisms</p>	<p>Wishing Wells</p>

<p>Colour fabrics using a range of techniques e.g. fabric paints, printing, painting.</p> <p>Template, pattern, fabric, material, stitch, needle, thread.</p>			<p>Attach wheels to a chassis using an axle.</p> <p>Mark out materials to be cut using a template.</p> <p>Fold, tear and cut paper and card.</p> <p>Cut along lines, straight and curved.</p> <p>Use a hole punch.</p> <p>Insert paper fasteners for card.</p> <p>Experiment with levers and sliders to find different ways of making things move in a 2D plane.</p>		
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### Year 3

<p><b>Unit 1</b></p> <p><b>Food Day</b></p>	<p><b>Unit 2</b></p> <p><b>Structure Day</b></p>
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Key Skills	Key Knowledge	Outcomes	Key Skills	Key Knowledge	Outcomes
<p>Develop sensory vocabulary/knowledge using, smell, taste, texture and feel.</p> <p>Analyse the taste, texture, smell and appearance of a range of foods (predominantly savoury).</p> <p>Follow instructions/recipes.</p> <p>Make healthy eating choices – use the Eatwell plate.</p> <p>Join and combine a range of ingredients.</p> <p>Explore seasonality of vegetables and fruit.</p> <p>Find out which fruit and vegetables are grown in countries/continents studied in Geography.</p>	<p>Record the plan by drawing using annotated sketches.</p> <p>Plan the stages of the making process.</p> <p>Consider and explain how the finished product could be improved.</p>	<p>Pizza</p>	<p>Develop vocabulary related to the project.</p> <p>Create shell or frame structures.</p> <p>Strengthen frames with diagonal struts. Make structures more stable by giving them a wide base.</p> <p>Measure and mark square section, strip and dowel accurately to 1cm.</p>	<p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>Consider aesthetic qualities of materials chosen.</p> <p>Select from a range of tools for cutting shaping joining and finishing.</p> <p>Use tools with accuracy.</p> <p>Discuss how well the finished product meets the design criteria of the user.</p>	<p>Bridges for the Three Billy Goat Gruff</p>



Develop understanding of how meat/fish are reared/caught.					
<b>Unit 1</b>			<b>Unit 2</b>		
<b>Textiles</b>			<b>Mechanisms</b>		
<b>Key Skills</b>	<b>Key Knowledge</b>	<b>Outcomes</b>	<b>Key Skills</b>	<b>Key Knowledge</b>	<b>Outcomes</b>
<p>Develop vocabulary for tools materials and their properties. Understand seam allowance.</p> <p>Join fabrics using running stitch, over sewing, blanket stitch.</p> <p>Prototype a product using J cloths.</p> <p>Use prototype to make pattern.</p> <p>Explore strengthening and stiffening of fabrics.</p> <p>Explore fastenings (inventors?) and recreate some.</p>	<p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>Consider aesthetic qualities of materials chosen.</p> <p>Select from a range of tools for cutting shaping joining and finishing.</p> <p>Use tools with accuracy.</p> <p>Discuss how well the finished product meets the design criteria of the user.</p>	<p>Christmas Hat</p>	<p>Develop vocabulary related to the project.</p> <p>Use mechanical systems such as gears, pulleys, levers and linkages.</p> <p>Incorporate a circuit into a model.</p> <p>Use electrical systems such as switches bulbs and buzzers.</p> <p>Use ICT to control products.</p> <p>Use lolly sticks/card to make levers and linkages.</p> <p>Use linkages to make movement larger or more varied.</p>	<p>Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p> <p>Record the plan by drawing using annotated sketches.</p> <p>Select from materials according to their functional properties.</p>	<p>Playgrounds</p>

Sew on buttons and make loops.					
Use appropriate decoration techniques.					

## Year 4

Unit 1 Food Day			Unit 2 Structure Day		
Key Skills	Key Knowledge	Outcomes	Key Skills	Key Knowledge	Outcomes
<p>Develop sensory vocabulary/knowledge using, smell, taste, texture and feel.</p> <p>Analyse the taste, texture, smell and appearance of a range of foods (predominantly savoury).</p> <p>Follow instructions/recipes.</p> <p>Make healthy eating choices – use the Eatwell plate.</p>	<p>Record the plan by drawing using annotated sketches.</p> <p>Plan the stages of the making process.</p> <p>Investigate similar products to the one to be made to give starting points for a design.</p> <p>Consider and explain how the finished product could be improved.</p>	<p>Mince/fruit pie</p>	<p>Develop vocabulary related to the project.</p> <p>Create shell or frame structures.</p> <p>Strengthen frames with diagonal struts.</p> <p>Make structures more stable by giving them a wide base.</p> <p>Measure and mark square section, strip and dowel accurately to 1cm.</p>	<p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>Consider aesthetic qualities of materials chosen.</p> <p>Select from a range of tools for cutting shaping joining and finishing.</p> <p>Use tools with accuracy.</p>	<p>Bird Box for the Owl who was Afraid of the Dark</p>

<p>Join and combine a range of ingredients.</p> <p>Explore seasonality of vegetables and fruit.</p> <p>Find out which fruit and vegetables are grown in countries/continents studied in Geography.</p> <p>Develop understanding of how meat/fish are reared/caught.</p>				<p>Discuss how well the finished product meets the design criteria of the user.</p>	
<b>Unit 1</b>			<b>Unit 2</b>		
<b>Textiles</b>			<b>Mechanisms</b>		
<b>Key Skills</b>	<b>Key Knowledge</b>	<b>Outcomes</b>	<b>Key Skills</b>	<b>Key Knowledge</b>	<b>Outcomes</b>
<p>Develop vocabulary for tools materials and their properties.</p> <p>Understand seam allowance.</p> <p>Join fabrics using running stitch, over sewing, blanket stitch.</p>	<p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>Consider aesthetic qualities of materials chosen.</p> <p>Select from a range of tools for cutting</p>	<p>Sampler</p>	<p>Develop vocabulary related to the project.</p> <p>Use mechanical systems such as gears, pulleys, levers and linkages.</p> <p>Incorporate a circuit into a model.</p>	<p>Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p> <p>Record the plan by drawing using annotated sketches.</p>	<p>Model bikes</p>

<p>Prototype a product using J cloths.</p> <p>Use prototype to make pattern.</p> <p>Explore strengthening and stiffening of fabrics. Explore fastenings (inventors?) and recreate some.</p> <p>Sew on buttons and make loops.</p> <p>Use appropriate decoration techniques.</p>	<p>shaping joining and finishing.</p> <p>Use tools with accuracy.</p> <p>Discuss how well the finished product meets the design criteria of the user.</p>		<p>Use electrical systems such as switches bulbs and buzzers.</p> <p>Use ICT to control products.</p> <p>Use lolly sticks/card to make levers and linkages.</p> <p>Use linkages to make movement larger or more varied.</p>	<p>Select from materials according to their functional properties.</p>	
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## Year 5

Unit 1 Food Day			Unit 2 Structure Day		
Key Skills	Key Knowledge	Outcomes	Key Skills	Key Knowledge	Outcomes
Prepare food products taking into account the properties of ingredients and sensory characteristics.	Record ideas using annotated diagrams.	Bread	Use the correct terminology for tools materials and processes.	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures	Tower of Babel

<p>Weigh and measure using scales.</p> <p>Select and prepare foods for a particular purpose.</p> <p>Work safely and hygienically.</p> <p>Show awareness of a healthy diet (using the eatwell plate).</p> <p>Use a range of cooking techniques.</p> <p>Know where and how ingredients are grown and processed. Consider influence of chefs e.g. Jamie Oliver and school meals, Hugh Fearnley-Whittingstall and sustainable fishing etc.</p>	<p>Use researched information to inform decisions.</p> <p>Consider and explain how the finished product could be improved related to design criteria.</p>		<p>Use bradawl to mark hole positions.</p> <p>Use hand drill to drill tight and loose fit holes.</p> <p>Cut strip wood, dowel, square section wood accurately to 1mm.</p> <p>Join materials using appropriate methods.</p> <p>Build frameworks to support mechanisms.</p> <p>Stiffen and reinforce complex structures</p>	<p>Sketch and model alternative ideas.</p> <p>Refine their product – review and rework/improve.</p>	
<b>Unit 1</b> <b>Textiles</b>			<b>Unit 2</b> <b>Mechanisms</b>		
<b>Key Skills</b>	<b>Key Knowledge</b>	<b>Outcomes</b>	<b>Key Skills</b>	<b>Key Knowledge</b>	<b>Outcomes</b>

<p>Use the correct vocabulary appropriate to the project.</p> <p>Create 3D products using patterns pieces and seam allowance.</p> <p>Understand pattern layout.</p> <p>Decorate textiles appropriately (often before joining components).</p> <p>Pin and tack fabric pieces together.</p> <p>☒ Join fabrics using over sewing, back stitch, blanket stitch or machine stitching (closer supervision).</p> <p>Combine fabrics to create more useful properties.</p> <p>Make quality products.</p>	<p>Devise step by step plans which can be read / followed by someone else.</p> <p>Select from and use a wide range of materials.</p> <p>Discuss how well the finished product meets the design criteria of the user. Test on the user!</p>	<p>Cushion cover</p>	<p>Develop a technical vocabulary appropriate to the project.</p> <p>Use mechanical systems such as cams, pulleys and gears.</p> <p>Use electrical systems such as motors.</p> <p>Program, monitor and control using ICT.</p>	<p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>Understand and use mechanical systems in their products, such as gears, pulleys, cams, levers and linkages</p>	<p>Fairground Rides</p>
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**Year 6 \*Chamber Enterprise project Autumn1/2**

Unit 1 Food Day			Unit 2 Structure Day		
Key Skills	Key Knowledge	Outcomes	Key Skills	Key Knowledge	Outcomes
<p>Prepare food products taking into account the properties of ingredients and sensory characteristics.</p> <p>Weigh and measure using scales.</p> <p>Select and prepare foods for a particular purpose.</p> <p>Work safely and hygienically.</p> <p>Show awareness of a healthy diet (using the eatwell plate).</p> <p>Use a range of cooking techniques.</p> <p>Know where and how ingredients are grown and processed.</p> <p>Consider influence of chefs e.g. Jamie Oliver</p>	<p>Record ideas using annotated diagrams.</p> <p>Use researched information to inform decisions.</p> <p>Consider and explain how the finished product could be improved related to design criteria.</p>		<p>Use the correct terminology for tools materials and processes.</p> <p>Use bradawl to mark hole positions.</p> <p>Use hand drill to drill tight and loose fit holes.</p> <p>Cut strip wood, dowel, square section wood accurately to 1mm.</p> <p>Join materials using appropriate methods.</p> <p>Build frameworks to support mechanisms.</p> <p>Stiffen and reinforce complex structures</p>	<p>Understand and use mechanical systems in their products, such as gears, pulleys, cams, levers and linkages</p> <p>Apply their understanding of computing to programme, monitor and control their products.</p>	Shelter for Robinson Crusoe

and school meals, Hugh Fearnley-Whittingstall and sustainable fishing etc.					
<b>Unit 1 Textiles</b>			<b>Unit 2 Mechanisms</b>		
<b>Key Skills</b>	<b>Key Knowledge</b>	<b>Outcomes</b>	<b>Key Skills</b>	<b>Key Knowledge</b>	<b>Outcomes</b>
<p>Use the correct vocabulary appropriate to the project.</p> <p>Create 3D products using patterns pieces and seam allowance.</p> <p>Understand pattern layout.</p> <p>Decorate textiles appropriately (often before joining components).</p> <p>Pin and tack fabric pieces together.</p> <p>Join fabrics using over sewing, back stitch, blanket stitch or</p>	<p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>Understand and use mechanical systems in their products, such as gears, pulleys, cams, levers and linkages</p>		<p>Develop a technical vocabulary appropriate to the project.</p> <p>Use mechanical systems such as cams, pulleys and gears.</p> <p>Use electrical systems such as motors.</p> <p>Program, monitor and control using ICT.</p>	<p>Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs, buzzers and motors</p>	



<p>machine stitching (closer supervision).</p> <p>Combine fabrics to create more useful properties.</p> <p>Make quality products.</p>					
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