

### **Our Design and Technology Intent**

Our Design and Technology curriculum is based on the National Curriculum and will allow children to develop a range of necessary life skills. We aim to encourage children to become autonomous and creative problem solvers, both as individuals and as part of a team. The specific skills of design, make and evaluate, and improve alongside technical knowledge and cooking and nutrition all underpin our curriculum design and priorities. Our pupils will develop their subject knowledge alongside learning life-long practical skills. Children will learn to be ambitious in their designs whilst also being resilient in the making and creating process. Design and Technology at Christ Church prepares children to take part in the development of today's rapidly changing world.

### **Our Design and Technology Implementation**

Christ Church uses a variety of teaching and learning styles in Design and Technology lessons. The principal aim is to develop children's knowledge, skills and understanding in the subject. Teachers are consistent in ensuring that children apply their knowledge and understanding when developing ideas, planning, and making products and then evaluating them for further improvement. This is completed through a mixture of whole class teaching and individual/group activities. Within lessons, we give children the opportunity to work both on their own and to collaborate with others, listening to other children's ideas. Children have the opportunity to use a wide range of materials and resources, including ICT to support them with their learning. The skills of Design and Technology are planned and taught through the current topic. We plan activities to build upon the prior learning of children and ensure that children of all abilities are given the opportunity to develop their skills, knowledge and understanding.

### **Christ Church Designers will ...**

Talk of a love of Design and Technology.

Be ambitious and creative in their design process.

Be brave and resilient when faced with challenge.

Know how design and technology can be used in everyday life.

Talk about their design and be excited to improve this following feedback.

Develop the creative, technical, and practical expertise needed to design, make, and evaluate their product.

Understand and apply the principles of nutrition and learn how to cook.

Talk of a love of cooking.

Nursery – Design and Technology				
Term	Physical Development	Understanding of the World	Expressive Art and Design	Vocabulary
Autumn Spring Summer	<p>Use large-muscle movements to wave flags and streamers, paint and make marks.</p> <p>Choose the right resources to carry out their own plan.</p> <p>Use one-handed tools and equipment, for example, making snips in paper with scissors.</p> <p>Use a comfortable grip with good control when holding pens and pencils.</p>	<p>Explore how things work.</p>	<p>Explore different materials freely, in order to develop their ideas about how to use them and what to make.</p> <p>Develop their own ideas and then decide which materials to use to express them.</p> <p>Join different materials and explore different textures.</p> <p>Create closed shapes with continuous lines and begin to use these shapes to represent objects.</p> <p>Draw with increasing complexity and detail, such as representing a face with a circle and including details.</p> <p>Use drawing to represent ideas like movement or loud noises.</p> <p>Show different emotions in their drawings and paintings, like happiness, sadness, fear, etc.</p> <p>Explore colour and colour mixing.</p> <p>Make imaginative and complex ‘small worlds’ with blocks and construction kits, such as a city with different buildings and a park.</p> <p>Explore different materials freely, in order to develop their ideas about how to use them and what to make.</p> <p>Develop their own ideas and then decide which materials to use to express them.</p> <p>Create closed shapes with continuous lines and begin to use these shapes to represent objects.</p>	<p>pencil, crayon, paint, ink, chalk, paintbrush, pastel, roll, rub, press, dots, lines, shapes, paper, straw, card, clay, repeat, overlap, cut, tear, glue, sort, materials</p> <p>portrait, landscape, background, foreground, (straight / wavy / sharp / thick / thin etc)</p>

## Reception – Design and Technology

Term	Physical Development	Expressive Art and Design	Vocabulary
Autumn Spring	<p>Develop their small motor skills so that they can use a range of tools competently, safely, and confidently.</p> <p>Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.</p> <p>Develop overall body-strength, balance, coordination, and agility.</p> <p>Progress towards a more fluent style of moving, with developing control and grace.</p> <p>Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.</p>	<p>Explore, use, and refine a variety of artistic effects to express their ideas and feelings.</p> <p>Return to and build on their previous learning, refining ideas and developing their ability to represent them.</p> <p>Create collaboratively, sharing ideas, resources, and skills.</p>	<p>pencil, crayon, paint, ink, chalk, paintbrush, pastel, roll, rub, press, dots, lines, shapes, paper, straw, card, clay, repeat, overlap, cut, tear, glue, sort, materials portrait, landscape, background, foreground, (straight / wavy / sharp / thick / thin etc)</p>
Summer ELG	<p>Hold a pencil effectively in preparation for fluent writing - using the tripod grip in almost all cases.</p> <p>Use a range of small tools, including scissors, paintbrushes, and cutlery.</p> <p>Begin to show accuracy and care when drawing</p>	<p>Safely use and explore a variety of materials, tools, and techniques, experimenting with colour, design, texture, form, and functions.</p> <p>Share their creations, explaining the process they have used.</p>	

### By the end of year EYFS pupils in Design and Technology...

- Can ch use one handed tools?
- Can ch make a sculpture from junk modelling resources?
- Can children use their skills and explore concepts and ideas through their representations?
- With support can children think about what they want to make, the process that might be involved and the materials they would need?
- Can children talk about what their work means to them.
- Can children share their creations, explaining the process they have used?

### Year 1 (1<sup>st</sup> Year Cycle) – Autumn 1 – Design and Technology: Cooking and Nutrition

Knowledge	Skills	Vocabulary	Resources
<ul style="list-style-type: none"> <li>• To use the basic principles of a healthy and varied diet to prepare dishes</li> </ul>	Understand where food comes from.	fruit and vegetable names, names of equipment and	Fruit – strawberries, grapes, banana

<ul style="list-style-type: none"> <li>To understand where food comes from.</li> </ul>	<p>Group familiar food products e.g., fruit and vegetables. Cut ingredients safely. Prepare simple dishes-safely and hygienically-without using a heat source.</p> <p><b>Make a fruit salad</b></p>	<p>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</p>	<p>Knives Chopping boards</p>
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### Year 1 (1<sup>st</sup> Year Cycle) – Spring 2 – Design and Technology: Technical Knowledge

Knowledge	Skills	Vocabulary	Resources
<p>To build structures, exploring how they can be made stronger, stiffer, and more stable</p> <p>To explore and use mechanisms [for example, levers, sliders, wheels, and axles], in their products.</p>	<p>Mark out materials to be cut using a template. Attach wheels to chassis using an axle. With support cut strip wood/dowel using a hacksaw. Make vehicles with construction kits which contain free running wheels.</p> <p><b>Megastructure of London Bridge</b></p>	<p>slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards</p>	<p>Cardboard Paper Cello tape Scissors Levers</p>

### Year 1 (1<sup>st</sup> Year Cycle) – Summer 2 – Design and Technology: Design, Make, and Evaluate

Knowledge	Skills	Vocabulary	Resources
<ul style="list-style-type: none"> <li>To design purposeful, functional, appealing products for themselves and other users based on design criteria</li> <li>To generate, develop, model, and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</li> <li>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining, and finishing]</li> </ul>	<p>Explain what they are making and which materials they are using. Design products that have a clear purpose and an intended user. Use pictures and words to convey what they want to make. Make products, using a range of tools to cut, shape, join and finish. Say what they like and do not like about their product and explain why.</p>	<p>planning, investigating design, evaluate, make, user, purpose, ideas, product</p>	<p>Glue Cello tape Card Cardboard Boxes Paper Paint Felt tips</p>

<ul style="list-style-type: none"> <li>Select from and use a wide range of materials and components, including construction materials, textiles, and ingredients, according to their characteristics</li> <li>To explore and evaluate a range of existing products</li> <li>To evaluate their ideas and products against design criteria</li> </ul>	<p>Talk about how closely their finished product meets their design criteria. Begin to use software to represent 2D designs.</p> <p><b>Design and make a toy</b></p>		
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### Year 1 (2<sup>nd</sup> Year Cycle) – Autumn 2 – Design and Technology: Technical Knowledge

Knowledge	Skills	Vocabulary	Resources
<p>To build structures, exploring how they can be made stronger, stiffer, and more stable</p> <p>To explore and use mechanisms [for example, levers, sliders, wheels, and axles], in their products.</p>	<p>Mark out materials to be cut using a template. Attach wheels to chassis using an axle. With support cut strip wood/dowel using a hacksaw. Make vehicles with construction kits which contain free running wheels.</p> <p><b>Moon Buggies</b></p>	<p>slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards</p>	<p>Cardboard Paper Cello tape Scissors Split pins</p>

### Year 1 (2<sup>nd</sup> Year Cycle) – Summer 1 – Design and Technology: Cooking and Nutrition

Knowledge	Skills	Vocabulary	Resources
<p>To use the basic principles of a healthy and varied diet to prepare dishes</p> <p>To understand where food comes from.</p>	<p>Understand where food comes from. Group familiar food products e.g., fruit and vegetables. Cut ingredients safely. Prepare simple dishes-safely and hygienically-without using a heat source.</p> <p><b>Make Eccles cakes</b></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</p>	<p>Mixing bowls Scales Flour Raisins Butter Sugar</p>

### Year 1 (2<sup>nd</sup> Year Cycle) – Summer 2 – Design and Technology: Design, Make, and Evaluate

Knowledge	Skills	Vocabulary	Resources
<ul style="list-style-type: none"> <li>To design purposeful, functional, appealing products for themselves and other users based on design criteria</li> </ul>	<p>Explain what they are making and which materials they are using.</p>	<p>planning, investigating design, evaluate, make, user, purpose, ideas, product</p>	<p>Felt Thread</p>

<ul style="list-style-type: none"> <li>• To generate, develop, model, and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</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> <li>• To explore and evaluate a range of existing products</li> <li>• To evaluate their ideas and products against design criteria</li> </ul>	<p>Design products that have a clear purpose and an intended user. Use pictures and words to convey what they want to make. Make products, using a range of tools to cut, shape, join and finish. Say what they like and do not like about their product and explain why. Talk about how closely their finished product meets their design criteria. Begin to use software to represent 2D designs</p> <p><b>Textile fish</b></p>		
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## By the end of year 1 pupils in Design and Technology ...

### Design, Make and Evaluate

- Are able to design a product with a clear purpose.
- Are able to make their product using their design and a range of tools.
- Are able to evaluate their product to say what they like and do not like.

### Technical knowledge

- Are able to build a structure and explain how to make it stronger and more stable.
- Are able to explore and use mechanisms in their products.

### Cooking and Nutrition

- Know where food comes from.
- Group familiar food products.
- Cut ingredients safely and prepare simple dishes without a heat source.

## Year 2

### Year 2 (1<sup>st</sup> Year Cycle) – Autumn 1 – Design and Technology: Cooking and Nutrition

Knowledge	Skills	Vocabulary	Resources
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<p>To use the basic principles of a healthy and varied diet to prepare dishes To understand where food comes from.</p>	<p>Group foods into the five groups in The Eatwell Plate. Cut, grate or peel ingredients safely. Prepare simple dishes-safely and hygienically-without using a heat source. Measure or weigh using cups or electronic scales.</p> <p><b>Make a fruit salad</b></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</p>	<p>Scales Fruit – strawberries, grapes, banana Knives Chopping boards</p>
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### Year 2 (1<sup>st</sup> Year Cycle) - Spring 2- Design and Technology: Technical Knowledge

Knowledge	Skills	Vocabulary	Resources
<p>To build structures, exploring how they can be made stronger, stiffer, and more stable To explore and use mechanisms [for example, levers, sliders, wheels, and axles], in their products.</p>	<p>Use a range of materials to create models with wheels and axles e.g., tubes, dowel, and cotton reels.</p> <p>Use materials to practice drilling, screwing, nailing, and gluing to strengthen products.</p> <p><b>Megastructure of London Bridge</b></p>	<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</p>	<p>Cardboard Paper Cello tape Scissors Split pins</p>

### Year 2 (1<sup>st</sup> Year Cycle) Summer 2 - Design and Technology: Design, Make and Evaluate

Knowledge	Skills	Vocabulary	Resources
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<p>To design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>To generate, develop, model, and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining, and finishing]</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles, and ingredients, according to their characteristics</p> <p>To explore and evaluate a range of existing products</p> <p>To evaluate their ideas and products against design criteria</p>	<p>Explain what they are making and which materials they are using.</p> <p>-Design products that have a clear purpose and an intended user.</p> <p>-Use pictures and words to convey what they want to make.</p> <p>-Make products, using a range of tools to cut, shape, join and finish.</p> <p>-Say what they like and do not like about their product and explain why.</p> <p>-Talk about how closely their finished product meets their design criteria.</p> <p>-Begin to use software to represent 2D designs.</p> <p><b>Design and make a toy</b></p>	<p>investigating, planning, design, make, evaluate, user, purpose, ideas, design criteria, product, function</p>	<p>Glue Cello tape Card Cardboard Boxes Paper Paint Felt tips</p>
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Year 2 (2 <sup>nd</sup> Year Cycle) – Autumn 2 – Design and Technology: Technical Knowledge			
Knowledge	Skills	Vocabulary	Resources
<p>To build structures, exploring how they can be made stronger, stiffer, and more stable</p> <p>To explore and use mechanisms [for example, levers, sliders, wheels, and axles], in their products.</p>	<p>Use a range of materials to create models with wheels and axles e.g., tubes, dowel, and cotton reels.</p> <p>Use materials to practice drilling, screwing, nailing, and gluing to strengthen products.</p> <p><b>Moon Buggies</b></p>	<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</p>	<p>Cardboard Paper Cello tape Scissors Split pins</p>

Year 2 (2 <sup>nd</sup> Year Cycle) – Summer 1 – Design and Technology: Cooking and Nutrition			
Knowledge	Skills	Vocabulary	Resources
<p>To use the basic principles of a healthy and varied diet to prepare dishes</p> <p>To understand where food comes from.</p>	<p>Group foods into the five groups in The Eatwell Plate.</p> <p>Cut, grate or peel ingredients safely.</p> <p>Prepare simple dishes-safely and hygienically-without using a heat source.</p> <p>Measure or weigh using cups or electronic scales.</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,</p>	<p>Mixing bowls Scales Flour Raisins Butter Sugar</p>

	<b>Make Eccles cakes</b>	cutting, squeezing, healthy diet, choosing, ingredients	
<b>Year 2 (2<sup>nd</sup> Year Cycle) – Summer 2 – Design and Technology: Design, Make, and Evaluate</b>			
<b>Knowledge</b>	<b>Skills</b>	<b>Vocabulary</b>	<b>Resources</b>
<p>To design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>To generate, develop, model, and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining, and finishing]</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles, and ingredients, according to their characteristics</p> <p>To explore and evaluate a range of existing products</p> <p>To evaluate their ideas and products against design criteria</p>	<p>Explain what they are making and which materials they are using.</p> <p>-Design products that have a clear purpose and an intended user.</p> <p>-Use pictures and words to convey what they want to make.</p> <p>-Make products, using a range of tools to cut, shape, join and finish.</p> <p>-Say what they like and do not like about their product and explain why.</p> <p>-Talk about how closely their finished product meets their design criteria.</p> <p>-Begin to use software to represent 2D designs.</p> <p><b>Textile fish</b></p>	<p>investigating, planning, design, make, evaluate, user, purpose, ideas, design criteria, product, function</p>	<p>Felt Thread</p>

## By the end of year 2 pupils in Design and Technology...

### Design, Make, and Evaluate

- Are able to design a purposeful and functional product based on design criteria.
- Can make products using a range of tools to cut, shape, join and finish.
- Can talk closely about how their finished product meets their design criteria.

### Technical Knowledge

- Can use a range of materials to create models with wheels and axles.
- Can use materials to practise drilling, screwing, nailing, and gluing to strengthen products.

### Cooking and Nutrition

- Can measure or weigh their ingredients.

- Can group foods into the five groups in the Eatwell Plate.
- Can prepare simple dishes safely.

## Year 3

### Year 3 – Autumn 2 - Design and Technology: Technical Knowledge

Knowledge	Skills	Vocabulary	Resources
<p>To build structures, exploring how they can be made stronger, stiffer, and more stable</p> <p>To explore and use mechanisms [for example, levers, sliders, wheels, and axles], in their products.</p>	<p>Create series circuits.</p> <p>Strengthen frames using diagonal struts.</p> <p>Begin to use mechanical systems in their products e.g., gears, pulleys, and levers.</p> <p><b>Catapult</b></p>	<p>mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating</p>	<p>Cardboard</p> <p>Glue</p> <p>Split pins</p> <p>Draw strings</p> <p>Cello tape</p> <p>Card</p> <p>Paper</p> <p>Scissors</p>

### Year 3 – Spring 2 - Design and Technology: Design, Make, Evaluate, and Improve

Knowledge	Skills	Vocabulary	Resources
<p>To design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>To generate, develop, model, and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Select from and use a range of tools and equipment to perform practical tasks [for</p>	<p>Investigate existing products, including drawing them to analyse and understand how they are made.</p> <p>Plan a sequence of actions to make a product.</p> <p>Develop more than one design.</p> <p>Develop prototypes.</p> <p>Generate designs with annotated sketches and computer-aided design (CAD) where appropriate.</p>	<p>user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, function, planning, design criteria, annotated sketch, appealing</p>	<p>Paint</p> <p>Cardboard</p> <p>Glue</p> <p>Paper</p> <p>Pencils</p> <p>Scissors</p> <p>Split pins</p>

<p>example, cutting, shaping, joining, and finishing] Select from and use a wide range of materials and components, including construction materials, textiles, and ingredients, according to their characteristics To explore and evaluate a range of existing products To evaluate their ideas and products against design criteria</p>	<p>Refine work and techniques as work progresses, continually evaluating the product design. Identify strengths and weaknesses of their design ideas. Talk about how closely their finished product meets their design criteria and meets the need of the user.</p> <p><b>Roman Shields</b></p>		
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## Year 3 – Summer 2 - Design and Technology: Cooking and Nutrition

Knowledge	Skills	Vocabulary	Resources
<p>To use the basic principles of a healthy and varied diet to prepare dishes To understand where food comes from.</p>	<p>Cut materials accurately and safely by selecting appropriate tools. Know that a healthy diet is made up from a variety of different food and drink, as depicted in The Eatwell Plate. Measure and weigh ingredients appropriately. Follow a recipe.</p> <p><b>Scones</b></p>	<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</p>	<p>Scales Oven Flour Butter Sugar Eggs Raisins</p>

## By the end of year 3 pupils in Design and Technology...

<p>Design, Make and Evaluate</p> <ul style="list-style-type: none"> <li>• Can investigate existing products and understand how they are made.</li> <li>• Can develop their design skills further by developing prototypes.</li> <li>• Can confidently identify strengths and weaknesses in their design ideas.</li> </ul> <p>Technical Knowledge</p>
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- Are able to create series circuits.
- Are beginning to use mechanical systems in their products.

### Cooking and Nutrition

- Can follow a recipe.
- Can measure and weigh ingredients appropriately.

## Year 4

### Year 4 – Spring 1 - Design and Technology: Design, Make, Evaluate, and Improve

Knowledge	Skills	Vocabulary	Resources
<p>To 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</p> <p>To generate, develop, model, and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>To select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining, and finishing], accurately</p> <p>To 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</p> <p>To investigate and analyse a range of existing products</p>	<p>Investigate existing products, including drawing them to analyse and understand how they are made.</p> <p>Plan a sequence of actions to make a product.</p> <p>Develop more than one design.</p> <p>Develop prototypes.</p> <p>Generate designs with annotated sketches and computer-aided design (CAD) where appropriate.</p> <p>Refine work and techniques as work progresses, continually evaluating the product design.</p> <p>Identify strengths and weaknesses of their design ideas.</p> <p>Talk about how closely their finished product meets their design criteria and meets the need of the user.</p> <p><b>Make a long boat</b></p>	<p>evaluating, design brief design criteria, innovative, prototype, user, purpose, function, prototype, design criteria, innovative, appealing, design brief, planning, annotated sketch, sensory evaluations</p>	<p>Cardboard</p> <p>Paint</p> <p>Cello tape</p> <p>Split pins</p> <p>Card</p> <p>Paper</p> <p>Glue</p> <p>Scissors</p> <p>Art straws</p> <p>Lollypop sticks</p>

<p>To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work To understand how key events and individuals in design and technology have helped shape the world.</p>			
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<b>Year 4 – Spring 2 - Design and Technology: Cooking and Nutrition</b>			
<b>Knowledge</b>	<b>Skills</b>	<b>Vocabulary</b>	<b>Resources</b>
<p>To understand and apply the principles of a healthy and varied diet To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques To understand seasonality and know where and how a variety of ingredients are grown, reared, caught, and processed.</p>	<p>Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). Measure ingredients using scales. Prepare ingredients hygienically and using the appropriate utensils by following a recipe.</p> <p><b>Make biscuits</b></p>	<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</p>	<p>Flour Milk Butter Sugar Eggs Icing Water Measuring equipment</p>

<b>Year 4 – Summer 1 - Design and Technology: Technical Knowledge</b>			
<b>Knowledge</b>	<b>Skills</b>	<b>Vocabulary</b>	<b>Resources</b>
<p>To apply their understanding of how to strengthen, stiffen and reinforce more complex structures To understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers, and linkages] To understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers, and motors] To apply their understanding of computing to program, monitor and control their products</p>	<p>Create series and parallel circuits. Investigate how to make structures more stable e.g., by widening the base. Understand and use mechanical structures in their products e.g., gears, pulleys, levers, and gears.</p> <p><b>Construct a bridge</b></p>	<p>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</p>	<p>Card Cardboard Cello tape Split pins String Pulleys Tubes Craft straws Paint</p>

## By the end of year 4 pupils in Design and Technology...

### Design, Make and Evaluate

- Are able to use research to inform their design.
- Design a product using annotated sketches, prototypes, and computer-aided design (CAD) where appropriate.
- Can refine work and techniques as work progresses, continually evaluating the product design.

### Technical Knowledge

- Can create series and parallel circuits.
- Are able to investigate how to make structures more stable.
- Understand and use mechanical structures in their products.

### Cooking and Nutrition

- Prepare ingredients hygienically and using appropriate utensils.
- Can apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material.

## Year 5

### Year 5 – Autumn 2 - Design and Technology: Design, Make, Evaluate, and Improve

Knowledge	Skills	Vocabulary	Resources
<p>To 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</p> <p>To generate, develop, model, and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p>	<p>Undertake research to inform design process. This may include surveys and interviews.</p> <p>Use prototypes, cross-sectional diagrams, exploded diagrams and CAD software to represent designs.</p> <p>Consider the views of others when evaluating their own work.</p> <p>Ensure products have a high-quality finish, using art skills where appropriate.</p>	<p>design decisions, functionality, authentic, user, purpose, design specification, design brief, innovative, research, evaluate, design criteria, annotate, evaluate, mock-up, prototype</p>	<p>Cardboard</p> <p>Paint</p> <p>Scissors</p> <p>Pencils</p> <p>Paper</p> <p>Card</p> <p>Glue</p> <p>Cello tape</p> <p>Straws</p> <p>Plastic cartons</p>

<p>To select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining, and finishing], accurately</p> <p>To 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</p> <p>To investigate and analyse a range of existing products</p> <p>To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>To understand how key events and individuals in design and technology have helped shape the world.</p>	<p>Justify their decisions about materials and methods of construction.</p> <p>Make suggestions on how their design/product could be improved.</p> <p><b>The Great Exhibition</b></p>		
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<b>Year 5 – Summer 1 - Design and Technology: Technical Knowledge</b>			
<b>Knowledge</b>	<b>Skills</b>	<b>Vocabulary</b>	<b>Resources</b>
<p>To apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>To understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers, and linkages]</p> <p>To understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers, and motors]</p> <p>To apply their understanding of computing to program, monitor and control their products.</p>	<p>Assemble or cook ingredients, controlling the temperature of the oven or hob if cooking.</p> <p>Measure accurately using different equipment.</p> <p>Create recipes, including ingredients, methods, cooking times and temperatures.</p> <p>Understand the importance of correct storage and handling of ingredients.</p> <p><b>Invention inspired by the Revolution</b></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</p>	<p>Cardboard</p> <p>Pencils</p> <p>Pencil crayons</p> <p>Felt tips</p> <p>Cello tape</p> <p>Glue</p> <p>Scissors</p> <p>Card</p> <p>Paper</p> <p>Paint</p> <p>Split pins</p>

Year 5 – Summer 2 - Design and Technology: Cooking and Nutrition			
Knowledge	Skills	Vocabulary	Resources
<p>To understand and apply the principles of a healthy and varied diet</p> <p>To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>To understand seasonality and know where and how a variety of ingredients are grown, reared, caught, and processed.</p>	<p>Assemble or cook ingredients, controlling the temperature of the oven or hob if cooking.</p> <p>Measure accurately using different equipment.</p> <p>Create recipes, including ingredients, methods, cooking times and temperatures.</p> <p>Understand the importance of correct storage and handling of ingredients.</p> <p><b>Manchester Tart</b></p>	<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</p>	<p>Flour</p> <p>Butter</p> <p>Custard powder</p> <p>Sugar</p> <p>Raspberry jam</p> <p>Milk</p> <p>Desiccated coconut</p> <p>Shortcrust pastry</p> <p>Vanilla extract</p>

By the end of year 5 pupils in Design and Technology...
<p>Design, Make and Evaluate</p> <ul style="list-style-type: none"> <li>• Will consider the views of others when evaluating their own work.</li> <li>• Will ensure products have a high-quality finish, using art skills where appropriate.</li> <li>• Can justify their decisions about materials and methods of construction.</li> </ul> <p>Technical Knowledge</p> <ul style="list-style-type: none"> <li>• Can use a glue gun safely.</li> <li>• Can join materials using appropriate methods.</li> </ul> <p>Cooking and Nutrition</p> <ul style="list-style-type: none"> <li>• Can use a heat source safely, assembling and cooking ingredients and controlling the temperature of the oven or hob.</li> <li>• Can create their own recipes including ingredients, methods, cooking times and temperatures.</li> <li>• Understand the importance of correct storage.</li> </ul>

## Year 6

### Year 6 – Autumn 1 - Design and Technology: Cooking and Nutrition

Knowledge	Skills	Vocabulary	Resources
<p>To understand and apply the principles of a healthy and varied diet</p> <p>To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>To understand seasonality and know where and how a variety of ingredients are grown, reared, caught, and processed.</p>	<p>Combine ingredients appropriately e.g., beating or rubbing.</p> <p>Measure ingredients to the nearest gram and millilitre and calculate ratios of ingredients to scale up or down from a recipe.</p> <p>Understand seasonality and know where and how a variety of ingredients are grown, reared, caught, and processed.</p> <p>Create and refine recipes, including ingredients, methods, cooking times and temperatures.</p> <p><b>Outdoor cooking – apple crumble</b></p>	<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</p>	<p>Outdoor cooking resources</p> <p>Coal</p> <p>Fire lighter</p> <p>Utensils</p> <p>Flour</p> <p>Butter</p> <p>Sugar</p> <p>Cooking apples</p> <p>Blackberries</p> <p>Golden syrup</p> <p>Cinnamon</p> <p>Water</p>

### Year 6 – Autumn 2 - Design and Technology: Design, Make, Evaluate, Improve

Knowledge	Skills	Vocabulary	Resources
<p>To 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</p> <p>To generate, develop, model, and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>To select from and use a wider range of tools and equipment to perform practical</p>	<p>Undertake research to inform design process. This may include surveys and interviews.</p> <p>Use prototypes, cross-sectional diagrams, exploded diagrams and CAD software to represent designs.</p> <p>Consider the views of others when evaluating their own work.</p> <p>Ensure products have a high-quality finish, using art skills where appropriate.</p> <p>Justify their decisions about materials and methods of construction.</p>	<p>function, innovative, design specification, design brief, user, purpose design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, prototype</p>	<p>Cardboard</p> <p>PVA glue</p> <p>Paint</p> <p>Scissors</p> <p>Modelling equipment</p>

<p>tasks [for example, cutting, shaping, joining, and finishing], accurately</p> <p>To 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</p> <p>To investigate and analyse a range of existing products</p> <p>To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>To understand how key events and individuals in design and technology have helped shape the world.</p>	<p>Make suggestions on how their design/product could be improved.</p> <p><b>Anderson Shelters</b></p>		
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<b>Year 6 – Summer 2 - Design and Technology: Technical Knowledge</b>			
<b>Knowledge</b>	<b>Skills</b>	<b>Vocabulary</b>	<b>Resources</b>
<p>To apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>To understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers, and linkages]</p> <p>To understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers, and motors]</p> <p>To apply their understanding of computing to program, monitor and control their products.</p>	<p>Create circuits that employ a number of components (such as LEDs (Light Emitting Diode), resistors and transistors).</p> <p>Cut wood accurately to 1mm. Build frameworks using a range of materials e.g., wood, card, and corrugated plastic.</p> <p>Use a cam to make an up and down mechanism.</p> <p><b>V Shaped Valley</b></p>	<p>reed switch, toggle switch, push-to-make switch, push-to-break switch, light dependent resistor (LDR), tilt switch, light emitting diode (LED), bulb, bulb holder, battery, battery holder, USB cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, series circuit, parallel circuit</p>	<p>Cardboard</p> <p>Split pins</p> <p>String</p> <p>Pulleys</p> <p>Glue</p> <p>Cello tape</p> <p>Card</p> <p>Paper</p> <p>Paint</p> <p>Pencils</p>

By the end of year 6 pupils in Design and Technology...

### Design, Make and Evaluate

- Can use research such as surveys and interviews to inform design process.
- Can use art skills where appropriate to ensure products have a high-quality finish.
- Can justify their decisions about materials and methods of construction.

### Technical Knowledge

- Can create circuits that employ a number of components.
- Can accurately cut wood to 1mm.
- Can use a cam to make an up and down mechanism.

### Cooking and Nutrition

- Use skills such as beating or rubbing to combine ingredients.
- Can measure ingredients accurately to the nearest gram or millilitre.
- Can create and refine recipes.