

## Primary Design & Technology Progression Map

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>National Curriculum</b></p> <p><i>Pupils should be taught to:</i></p>	<p><b><u>Children at the expected level of development will:</u></b></p> <p><b><u>Textiles</u></b></p> <ul style="list-style-type: none"> <li>Develop small motor skills so that they can use a range of tools competently, safely and confidently.</li> <li>-ELG: Fine Motor Skills&gt; Use a range of small tools, including scissors, paint brushes and cutlery.</li> <li>Explore, use and refine a variety of artistic effects to express ideas and feelings.</li> <li>Return to and build on their previous learning, refining ideas and developing their ability to represent them.</li> <li>ELG: Creating with materials&gt; Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</li> </ul>	<p><b><u>Cooking and nutrition: Fruit and vegetables Smoothie</u></b></p> <ul style="list-style-type: none"> <li>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>Evaluate their ideas and products against design criteria.</li> <li>Understand where food comes from.</li> </ul> <p><b><u>Structures: Windmills</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,</li> </ul>	<p><b><u>Mechanisms: Moving monsters and Ferris wheels</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> <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</li> </ul>	<p><b><u>Cooking and nutrition: Eating seasonally</u></b></p> <ul style="list-style-type: none"> <li>Understand and apply principles of a healthy and varied diet.</li> <li>Prepare and cook variety of predominantly savoury dishes using a range of cooking techniques.</li> <li>Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.</li> </ul> <p><b><u>Structures: Castles</u></b></p> <ul style="list-style-type: none"> <li>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</li> <li>Generate, develop, model and communicate their ideas through discussion, annotated</li> </ul>	<p><b><u>Structures: Pavilions</u></b></p> <ul style="list-style-type: none"> <li>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</li> <li>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer aided design.</li> <li>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</li> <li>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</li> </ul>	<p><b><u>Electrical Systems: Doodlers</u></b></p> <ul style="list-style-type: none"> <li>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</li> <li>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</li> <li>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.</li> <li>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</li> <li>Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].</li> </ul> <p><b><u>Mechanical Systems: Making a Pop-Up Book</u></b></p> <ul style="list-style-type: none"> <li>Use research and develop design criteria to inform the</li> </ul>	<p><b><u>Textiles: Waistcoats</u></b></p> <ul style="list-style-type: none"> <li>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</li> <li>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design.</li> <li>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</li> <li>Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.</li> </ul>

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	<ul style="list-style-type: none"> <li>• ELG: Creating with materials&gt; Share their creations, explaining the process they have used.</li> </ul> <p><b>Structures</b></p> <ul style="list-style-type: none"> <li>• Develop small motor skills so that they can use a range of tools competently, safely and confidently.</li> <li>• ELG: Fine Motor Skills&gt; Use a range of small tools, including scissors, paint brushes and cutlery.</li> <li>• Explore, use and refine a variety of artistic effects to express ideas and feelings.</li> <li>• Return to and build on their previous learning, refining ideas and developing their ability to represent them.</li> <li>• Create collaboratively, sharing ideas, resources and skills.</li> <li>• ELG: Creating with</li> </ul>	<p>templates, mock-ups and, where appropriate, information and communication technology.</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> <li>• Explore and evaluate a range of existing products.</li> <li>• Evaluate their ideas and products against design criteria.</li> <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> <p><b>Textiles: Puppets</b></p> <ul style="list-style-type: none"> <li>• Design purposeful, functional, appealing products</li> </ul>	<p>their characteristics.</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> <li>• Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</li> <li>• Build structures, exploring how they can be made stronger, stiffer and more stable (Ferris Wheel).</li> </ul> <p><b>Structures: Baby Bear's Chair</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</li> </ul>	<p>sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</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], accurately.</li> <li>• Select and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</li> <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.</li> </ul>	<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.</li> <li>• Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</li> </ul> <p><b>Mechanical Systems: Making a slingshot Car</b></p> <ul style="list-style-type: none"> <li>• Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</li> <li>• 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>design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</p> <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> <li>• Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</li> <li>• Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.</li> <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.</li> <li>• Understand and use mechanical systems in their products [for</li> </ul>	<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.</li> </ul> <p><b>Structure: Playgrounds</b></p> <ul style="list-style-type: none"> <li>• Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</li> <li>• Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</li> <li>• Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</li> <li>• Select from and use a wider range of materials and</li> </ul>
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# Primary Design & Technology Progression Map

	<p>materials&gt; Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <ul style="list-style-type: none"> <li>• ELG: Creating with materials&gt; Share their creations, explaining the process they have used.</li> </ul> <p><b>Food</b></p> <ul style="list-style-type: none"> <li>• Learn new vocabulary.</li> <li>• Use new vocabulary throughout the day.</li> <li>• ELG: Speaking&gt; Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary.</li> <li>• Know and talk about the different factors that support their overall health and wellbeing: healthy eating.</li> </ul>	<p>for themselves and other user based on design criteria.</p> <ul style="list-style-type: none"> <li>• 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>• Evaluate their ideas and products against design criteria.</li> <li>• Evaluate their ideas and products against design criteria.</li> </ul>	<p>appropriate, information and communication technology.</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> <li>• Evaluate their ideas and products against design criteria.</li> <li>• Build structures, exploring how they can be made stronger, stiffer and more stable.</li> </ul>	<ul style="list-style-type: none"> <li>• Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</li> </ul> <p><b>Digital World: Electronic Charm</b></p> <ul style="list-style-type: none"> <li>• Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</li> <li>• Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</li> <li>• Investigate and analyse a range of existing products.</li> <li>• Evaluate their ideas and products</li> </ul>	<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], accurately.</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>• 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.</li> <li>• Understand how key events and individuals in design and technology have helped shape the world.</li> <li>• Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].</li> </ul>	<p>example, gears, pulleys, cams, levers and linkages).</p> <p><b>Cooking and nutrition: What could be healthier?</b></p> <ul style="list-style-type: none"> <li>• Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</li> <li>• Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</li> <li>• Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</li> <li>• 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.</li> <li>• Understand how key events and individuals in design and technology have helped shape the world.</li> </ul>	<p>components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.</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.</li> <li>• Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</li> </ul> <p><b>Digital World: Navigating the World</b></p> <ul style="list-style-type: none"> <li>• Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</li> <li>• Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern</li> </ul>
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# Primary Design & Technology Progression Map

	<ul style="list-style-type: none"> <li>• ELG: Managing self&gt; Manage their own basic hygiene and personal needs, including... understanding the importance of healthy food choices.</li> <li>• Develop small motor skills so that they can use a range of tools competently, safely and confidently.</li> <li>• ELG: Use a range of small tools, including scissors, paint brushes and cutlery.</li> <li>• Explore, use and refine a variety of artistic effects to express ideas and feelings.</li> <li>• ELG: Creating with materials&gt; Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</li> <li>• Explore the natural world around them.</li> <li>• ELG: The Natural</li> </ul>			<p>against their own design criteria and consider the views of others to improve their work.</p> <ul style="list-style-type: none"> <li>• Understand how key events and individuals in design and technology have helped shape the world.</li> <li>• Apply their understanding of computing to program, monitor and control their products.</li> </ul>	<p><b><u>Electrical Systems: Torches</u></b></p> <ul style="list-style-type: none"> <li>• Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</li> <li>• Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer aided design.</li> <li>• Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</li> <li>• Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</li> </ul>	<ul style="list-style-type: none"> <li>• Apply their understanding of computing to program, monitor and control their products.</li> <li>• Understand and apply principles of a healthy and varied diet.</li> <li>• Prepare and cook variety of predominantly savoury dishes using a range of cooking techniques.</li> <li>• Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</li> </ul>	<p>pieces and computer- aided design.</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], accurately.</li> <li>• Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</li> <li>• Apply their understanding of computing to program, monitor and control their products.</li> </ul>
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# Primary Design & Technology Progression Map

	World>Explore the natural world around them, making observations and drawing pictures of animals and plants.				<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.</li> <li>Understand how key events and individuals in design and technology have helped shape the world.</li> <li>Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].</li> </ul>	
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By the end of the year, children should be able to...

## Cooking and nutrition

<b>Vocabulary</b>	Fruit Vegetables Safety Knife Blade Tool Edge Handle Chop Slice Cut Saucepan	fruit vegetable seed leaf root stem smoothie healthy carton design flavour peel slice		Climate Dry climate Exported Imported Mediterranean climate Nationality Nutrients Polar climate Recipe Seasonal food Seasons Temperate climate Tropical climate		Beef Cross-contamination Diet Ethical issues Farm Healthy Ingredients Method Nutrients Packaging Reared Recipe Research Substitute Supermarket Vegan Vegetarian Welfare	
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# Primary Design & Technology Progression Map

## Mechanisms

<b>Vocabulary</b>			design design criteria wheel Ferris wheel pods axle axle holder frame mechanism				
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## Structures

<b>Vocabulary</b>	Join Stick Cut Bend Slot Scissors Measure Materials Fix	axle bridge design design criteria model net packaging structure template unstable stable strong weak	design criteria man-made natural properties structure stable shape model test	2D shapes 3D shapes Castle Design criteria Evaluate Facade Feature Flag Net Recyclable Scoring Stable Strong Structure Tab Weak	Aesthetic Cladding Design criteria Evaluation Frame structure Function Inspiration Pavilion Reinforce Stable Structure Target audience Target customer Texture Theme		Adapt Apparatus Bench hook Cladding Coping saw Design Dowel Evaluation Feedback Idea Jelutong Landscape Mark out Measure Modify Natural materials Plan view Playground Prototype Reinforce Sketch Strong Structure Tenon saw Texture User Vice Weak
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## Textiles

<b>Vocabulary</b>	Thread Weave Pattern Design Evaluate	decorate design fabric glue model hand puppet safety pin staple stencil template					Accurate Adapt Annotate Design Design criteria Detail Fabric Fastening Knot Properties Running-stitch Seam Sew
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# Primary Design & Technology Progression Map

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## Digital World Vocabulary

### Year 3

- smart wearables
- product design
- digital revolution
- technology
- analogue
- digital
- feature
- function
- digital world
- Micro:bit
- electronic products
- program
- loops
- initiate
- simulator
- control
- monitor
- sense
- template
- develop
- fasten
- test
- user
- CAD (computer-aided design)
- point of sale
- display
- badge
- stand
- Show all

## Primary Design & Technology Progression Map

	<p><u>Year 6</u> 3D CAD Application (apps) Biodegradable Boolean Cardinal compass Client Compass Concept Convince Corrode Duplicate Environmentally friendly Equipment Feature Finite Function Functional GPS tracker If statement Infinite</p>
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Mechanical Systems – Vocabulary	<p><u>Year 4</u> Aesthetic Air resistance Chassis Design Design criteria Function Graphics Kinetic energy Mechanism Net Structure</p> <p><u>Year 5</u> Aesthetic Computer-aided design (CAD) Caption Design</p>
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## Primary Design & Technology Progression Map

	<p>Design brief Design criteria Exploded diagram Function Input Linkage Mechanism Motion Output Pivot Prototype Slider Structure Template</p>
Electrical Systems Vocabulary	<p><u>Year 4</u> Battery Bulb Buzzer Cell Component Conductor Copper Design criteria Electrical item Electricity Electronic item Function Insulator Series circuit Switch Test Torch Wire</p> <p><u>Year 5</u> Circuit component Configuration Current Develop</p>

**Primary Design & Technology Progression Map**

	DIY Investigate Motor Motorised Problem solve Product analysis Series circuit Stable Target user
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