

# Long Term Design and Technology Curriculum Plan with National Curriculum links

## 2024/25

| Nursery and Reception   |   |
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| <ul style="list-style-type: none"> <li>-Explore us &amp; refine a variety of artistic effects to express their ideas &amp; feelings</li> <li>-Return to &amp; build on their previous learning, refining ideas &amp; developing their ability to represent them</li> <li>-Create collaboratively, sharing ideas, resources</li> </ul> | <ul style="list-style-type: none"> <li>-Safely use &amp; explore a variety of materials, tools &amp; techniques, experimenting with colour, design, texture, form &amp; function.</li> <li>-Share their creations, explaining the process they used</li> <li>-Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary.</li> <li>- Offer explanations for why things might happen.</li> <li>-Managing Self.</li> <li>-Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.</li> <li>-Building Relationships.</li> <li>-Work and play cooperatively and take turns with others.</li> <li>-Use a range of small tools, including scissors, paint brushes and cutlery.</li> <li>-Begin to show accuracy and care when drawing.</li> <li>-Understand some important processes and changes in the natural world around them.</li> </ul> |

| Year Group | Autumn 1  | Autumn 2 | Spring 1   | Spring 2 | Summer 1   | Summer 2 |
|------------|---|----------|--|----------|--|----------|
| 1          | <b>Mechanisms – Wheels and axels</b><br><br>- Design purposeful, functional, appealing products for themselves and other users based on design criteria.<br>- Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. |          | <b>Cooking and nutrition - Smoothies</b><br><br>- Generate, develop, model and communicate their ideas through talking, drawing, templates, mock- ups and, where appropriate, information and communication technology.<br>- Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. |          | <b>Textiles - puppets</b><br><br>- Design purposeful, functional, appealing products for themselves and other users based on design criteria.<br>- Generate, develop, model and communicate their ideas through talking, drawing, templates, mock- ups and, where appropriate, information and communication technology. |          |

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|   | - Explore and evaluate a range of existing products.  |  | - Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.<br>-Evaluate their ideas and products against design criteria.  |  | - Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].<br>-Evaluate their ideas and products against design criteria.   |  |
| 2 | <b>Structures – Baby Bear’s Chair</b>   |  | <b>Textiles - Pouches</b>   |  | <b>Cooking and nutrition – Balanced Diet</b>   |  |
|   | - Design purposeful, functional, appealing products for themselves and other users based on design criteria.<br>- Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].<br>-Build structures, exploring how they can be made stronger, stiffer and more stable. |  | - Design purposeful, functional, appealing products for themselves and other users based on design criteria.<br>- Generate, develop, model and communicate their ideas through talking, drawing, templates, mock- ups and, where appropriate, information and communication technology.<br>- Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].<br>- Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.<br>- Explore and evaluate a range of existing products. |  | - Design purposeful, functional, appealing products for themselves and other users based on design criteria.<br>- Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].<br>- Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.<br>- Explore and evaluate a range of existing products. |  |

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| 3 |  | <p style="text-align: center;"><b>Structures - Castles</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>-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>-Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</li> </ul> |  | <p style="text-align: center;"><b>Mechanical – Pneumatic toys</b></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 wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</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 style="text-align: center;"><b>Cooking and nutrition – Eating seasonally</b></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>-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> |
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| 4 | <b>Structures – Pavillions</b>  |  | <b>Electrical -Torches</b>  |  | <b>Textiles - Fastenings</b>   |  |
|   | <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 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>-Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</li> </ul> |  | <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>-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> |  | <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> </ul> |  |
| 5 |   | <b>Structures - Bridges</b>  |   | <b>Mechanical – Pop Up book</b>  |  | <b>Cooking and nutrition – Developing a recipe</b>   |
|   |   | <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</li> </ul> |   | <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>-Investigate and analyse a range of existing products.</li> </ul> |  | <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> |

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|   |  | <p>ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design.</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> |   | <ul style="list-style-type: none"> <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 example, gears, pulleys, cams, levers and linkages].</li> </ul> |   | <p>sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design.</p> <ul style="list-style-type: none"> <li>-Investigate and analyse a range of existing 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> |
| 6 | <p><b>Mechanisms – Automata toys</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], 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> <li>-Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].</li> </ul> |  | <p><b>Textiles - Waistcoats</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 against their own design criteria and consider the views of others to improve their work.</li> </ul> |   | <p><b>Electrical Systems – Steady hand game</b></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.</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> |  |