

Design and Technology Long Term Plan

	Autumn 2	<u>Small Steps</u>	Spring 2	<u>Small Steps</u>	Summer 2	<u>Small Steps</u>
Year 1	<p><u>Vehicles</u></p> <p>Materials and components</p> <p>Lesson 1 and 2 – DESIGN</p> <ul style="list-style-type: none"> design purposeful, functional, appealing products for themselves and other users based on design criteria <p>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Lesson 3 and 4 - MAKE</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>Lesson 5 and 6 – EVALUATE</p> <p>explore and evaluate a range of existing products</p> <p>evaluate their ideas and products against design criteria</p> <p>TECHNICAL KNOWLEDGE throughout.</p> <p>build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p>	<p>Use own ideas to make something.</p> <p>Describe how something works</p> <p>Make a product that moves</p> <p>Explain to someone else how I want to make my product</p> <p>Choose appropriate resources and tools</p> <p>Make a simple plan before making</p>	<p><u>Moving pictures</u></p> <p>Sliders</p> <p>Lesson 1 and 2 – DESIGN</p> <ul style="list-style-type: none"> design purposeful, functional, appealing products for themselves and other users based on design criteria <p>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Lesson 3 and 4 - MAKE</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>Lesson 5 and 6 – EVALUATE</p> <p>explore and evaluate a range of existing products</p> <p>evaluate their ideas and products against design criteria</p> <p>TECHNICAL KNOWLEDGE throughout.</p> <p>build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p>	<p>Use own ideas to make something.</p> <p>Describe how something works</p> <p>Make a product that moves</p> <p>Explain to someone else how I want to make my product</p> <p>Choose appropriate resources and tools</p> <p>Make a simple plan before making</p>	<p><u>Cooking and Nutrition</u></p> <p>Healthy diet and where food comes from</p> <p>Lesson 1 and 2 – DESIGN</p> <ul style="list-style-type: none"> design purposeful, functional, appealing products for themselves and other users based on design criteria <p>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Lesson 3 and 4 - MAKE</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>Lesson 5 and 6 – EVALUATE</p> <p>explore and evaluate a range of existing products</p> <p>evaluate their ideas and products against design criteria</p> <p>TECHNICAL KNOWLEDGE throughout.</p> <p>build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p>	<p>Cut food safely</p> <p>Choose appropriate resources and tools</p> <p>Make a simple plan before making</p>

<p>Year 2</p>	<p style="text-align: center;"><u>Homes</u></p> <p style="text-align: center;">Materials according to characteristics</p> <p>Lesson 1 and 2 – DESIGN</p> <ul style="list-style-type: none"> design purposeful, functional, appealing products for themselves and other users based on design criteria <p>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Lesson 3 and 4 - MAKE</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>Lesson 5 and 6 – EVALUATE</p> <p>explore and evaluate a range of existing products</p> <p>evaluate their ideas and products against design criteria</p> <p>TECHNICAL KNOWLEDGE throughout.</p> <p>build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p>	<p>Think of a plan and what to do next</p> <p>Choose tools and materials and explain why they have been chosen</p> <p>Join materials and components in different ways</p> <p>Explain what went well with my work</p> <p>Explain why I have chosen specific textiles</p> <p>Measure materials in a model or structure</p>	<p style="text-align: center;"><u>Flight structures</u></p> <p style="text-align: center;">Explore strength and structure</p> <p>Lesson 1 and 2 – DESIGN</p> <ul style="list-style-type: none"> design purposeful, functional, appealing products for themselves and other users based on design criteria <p>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Lesson 3 and 4 - MAKE</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>Lesson 5 and 6 – EVALUATE</p> <p>explore and evaluate a range of existing products</p> <p>evaluate their ideas and products against design criteria</p> <p>TECHNICAL KNOWLEDGE throughout.</p> <p>build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p>	<p>Think of a plan and what to do next</p> <p>Choose tools and materials and explain why they have been chosen</p> <p>Join materials and components in different ways</p> <p>Explain what went well with my work</p> <p>Measure materials in a model or structure</p>	<p style="text-align: center;"><u>Cooking and Nutrition</u></p> <p style="text-align: center;">Healthy diet and where food comes from</p> <p>Lesson 1 and 2 – DESIGN</p> <ul style="list-style-type: none"> design purposeful, functional, appealing products for themselves and other users based on design criteria <p>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Lesson 3 and 4 - MAKE</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>Lesson 5 and 6 – EVALUATE</p> <p>explore and evaluate a range of existing products</p> <p>evaluate their ideas and products against design criteria</p> <p>TECHNICAL KNOWLEDGE throughout.</p> <p>build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p>	<p>Describe the ingredients being used</p>
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<p>Year 3</p>	<p><u>Mini Greenhouses</u></p> <p>Stiffen and reinforce more complex structures</p> <p>Lesson 1 and 2 – DESIGN</p> <p>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>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>Lesson 3 and 4 – MAKE</p> <p>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>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>Lesson 5 and 6 – EVALUATE</p> <p>investigate and analyse a range of existing products</p> <p>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>understand how key events and individuals in design and technology have helped shape the world</p> <p>TECHNICAL KNOWLEDGE throughout.</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 [for example, gears, pulleys, cams, levers and linkages]</p> <p>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>apply their understanding of computing to program, monitor and control their products.</p>	<p>Prove that own design meets some set criteria</p> <p>Follow step by step plan choosing the right equipment and materials</p> <p>Design a product and make sure that it looks attractive</p> <p>Choose a material for both its suitability and its appearance</p> <p>Select the most appropriate tools and techniques for a given task</p> <p>Accurately measure, make cuts and make holes</p>	<p><u>Alarms</u></p> <p>Switches, bulbs, buzzers and motors</p> <p>Lesson 1 and 2 – DESIGN</p> <p>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>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>Lesson 3 and 4 – MAKE</p> <p>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>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>Lesson 5 and 6 – EVALUATE</p> 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<p>Select the most appropriate tools and techniques for a given task</p> <p>Accurately measure, make cuts and make holes</p>	<p><u>Cooking and Nutrition</u></p> <p>Prepare and cook – understand seasonality</p> <p>Lesson 1 and 2 – DESIGN</p> <p>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>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>Lesson 3 and 4 – MAKE</p> <p>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>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> 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<p>Year 4</p>	<p><u>Moving animals</u></p> <p>Computing – Monitor and control product</p> <p><u>Lesson 1 and 2 – DESIGN</u></p> <p>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>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><u>Lesson 3 and 4 – MAKE</u></p> <p>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>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><u>Lesson 5 and 6 – EVALUATE</u></p> <p>investigate and analyse a range of existing products</p> 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<p>Present a product in an interesting way</p> <p>Measure accurately</p> <p>Persevere and adapt my work when my original ideas do not work</p> <p>Know how to be both hygienic and safe when using food</p>	<p><u>Jewellery making</u></p> <p>Strengthen, stiffen and reinforce</p> <p><u>Lesson 1 and 2 – DESIGN</u></p> <p>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>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><u>Lesson 3 and 4 – MAKE</u></p> <p>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>select from and use a wider range of materials and components, including construction materials, textiles and 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<p>Year 5</p>	<p><u>Building bridges – construction</u></p> <p>Levers and pulleys</p> <p><u>Lesson 1 and 2 – DESIGN</u></p> <p>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>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><u>Lesson 3 and 4 - MAKE</u></p> <p>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>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><u>Lesson 5 and 6 – EVALUATE</u></p> <p>investigate and analyse a range of existing products</p> <p>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>understand how key events and individuals in design and technology have helped shape the world</p> <p><u>TECHNICAL KNOWLEDGE throughout.</u></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 [for example, gears, pulleys, cams, levers and linkages]</p> <p>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>apply their understanding of computing to program, monitor and control their products.</p>	<p>Come up with a range of activities</p> <p>Produce a detailed, step by step plan</p> <p>Suggest alternative plans; outlining the positive features and draw backs</p> <p>Evaluate appearance and function against original criteria</p> <p>Use a range of tools and equipment competently</p> <p>Make a prototype before making a final version</p> <p>Can be both hygienic and safe in the kitchen</p>	<p><u>Fashion and textiles</u></p> <p>Stiffen and reinforce more complex structures</p> <p><u>Lesson 1 and 2 – DESIGN</u></p> <p>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>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><u>Lesson 3 and 4 - MAKE</u></p> <p>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>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><u>Lesson 5 and 6 – EVALUATE</u></p> <p>investigate and analyse a range of existing products</p> <p>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>understand how key events and individuals in design and technology have helped shape the world</p> <p><u>TECHNICAL KNOWLEDGE throughout.</u></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 [for example, gears, pulleys, cams, levers and linkages]</p> <p>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>apply their understanding of computing to program, monitor and control their products.</p>	<p>Produce a detailed, step by step plan</p> <p>Suggest alternative plans; outlining the positive features and draw backs</p> <p>Explain how a product will appeal to a specific audience</p> <p>Evaluate appearance and function against original criteria</p> <p>Use a range of tools and equipment competently</p> <p>Make a prototype before making a final version</p>	<p><u>Cooking and Nutrition</u></p> <p>Prepare and cook – understand seasonality</p> <p><u>Lesson 1 and 2 – DESIGN</u></p> <p>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>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><u>Lesson 3 and 4 - MAKE</u></p> <p>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>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><u>Lesson 5 and 6 – EVALUATE</u></p> <p>investigate and analyse a range of existing products</p> <p>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>understand how key events and individuals in design and technology have helped shape the world</p> <p><u>TECHNICAL KNOWLEDGE throughout.</u></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 [for example, gears, pulleys, cams, levers and linkages]</p> <p>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>apply their understanding of computing to program, monitor and control their products.</p>	<p>Can be both hygienic and safe in the kitchen</p> <p>Produce a detailed, step by step plan</p> <p>Suggest alternative plans; 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<p>Year 6</p>	<p><u>Tower construction and light up</u> Electricity and strengthening structures Lesson 1 and 2 – DESIGN</p> <p>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>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>Lesson 3 and 4 – MAKE 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>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>Lesson 5 and 6 – EVALUATE investigate and analyse a range of existing products</p> <p>evaluate their ideas and products 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against clear criteria</p>	<p><u>Design and make a slipper</u> Stiffen and reinforce more complex structures Lesson 1 and 2 – DESIGN</p> <p>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>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>Lesson 3 and 4 – MAKE 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>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>Lesson 5 and 6 – EVALUATE investigate and analyse a range of existing products</p> <p>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>understand how key events and individuals in design and technology have helped shape the world</p> <p>TECHNICAL KNOWLEDGE throughout.</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 [for example, gears, pulleys, cams, levers and linkages]</p> <p>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>apply their understanding of computing to program, monitor and control their products.</p>	<p>Use market research to inform my plans and ideas</p> <p>Follow and refine my plans</p> <p>Justify plans in a convincing way</p> <p>Show that you consider culture and society in plans and designs</p> <p>Show that you can test and evaluate products</p> <p>Work within a budget</p> <p>Evaluate product against clear criteria</p>	<p><u>Cooking and Nutrition</u> Prepare and cook – understand seasonality Lesson 1 and 2 – DESIGN</p> <p>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>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>Lesson 3 and 4 – MAKE 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>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>Lesson 5 and 6 – EVALUATE investigate and analyse a range of existing products</p> <p>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>understand how key events and individuals in design and technology have helped shape the world</p> <p>TECHNICAL KNOWLEDGE throughout.</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 [for example, gears, pulleys, cams, levers and linkages]</p> <p>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>apply their understanding of computing to program, monitor and control their products.</p>	<p>Work within a budget</p> <p>Evaluate product against clear criteria</p> <p>Explain how products should be stored and give reasons</p> <p>Evaluate product against clear criteria</p>
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