



# Design & Technology Progression Map

	Year 3	Year 4	Year 5	Year 6
<b>Vocabulary</b>	<p><b>Textiles:</b> fabric, fastening, running stitch, backward running stitch, blanket stitch, over sewing, finishing technique, stitch, annotated sketch, functional, innovative, aesthetics, function, pattern pieces</p> <p><b>Mechanisms:</b> linkage, lever, pivot, flexible, shape, joint, hinge, linear, reciprocating, rotary, oscillating</p> <p><b>Food:</b> seasonality, nutrition, bridge method, claw method, kneading</p>	<p><b>Food:</b> energy, nutrition, substitute, bridge method, claw method</p> <p><b>Structure:</b> sustainability, architect, architecture, structure, structural, engineer, engineering, construction, function, functional</p> <p><b>Textiles:</b> fabric, fastening, running stitch, backward running stitch, over sewing, blanket stitch, finishing technique, aesthetics, function</p>	<p><b>Textiles:</b> fabric, fastening, finishing technique, templates, stitch, seam, seam allowance, user, evaluate, functional, innovative, aesthetics, function, pattern pieces</p> <p><b>Food and packaging:</b> seasonality, harvested, net, score, assemble, aesthetics, function, functional</p>	<p><b>Mechanisms:</b> mechanism, axle, cam, followers, cutting, joining, finishing, rotary motion, linear motion, component, dwell, snail, egg shaped, eccentric, ellipse, hexagon, round, off centre, offset, innovative, functional, design criteria, functional, aesthetic, design features, innovative, framework, construction, corner joints</p> <p><b>Textiles:</b> wall hanging, running stitch, backward running stitch, over sewing, blanket stitch, aesthetics, function, design criteria</p> <p><b>Food:</b> nutrients, nutrition, processed</p>
<b>Designing</b>	<ul style="list-style-type: none"> <li>• With growing confidence generate ideas for an item, considering its purpose and the user/s.</li> <li>• Start to order the main stages of making a product. Identify a purpose and establish criteria for a successful product.</li> <li>• Know to make drawings with labels when designing.</li> <li>• When planning, explain their choice of materials and components including function and aesthetics.</li> </ul>	<ul style="list-style-type: none"> <li>• Start to generate ideas, considering the purposes for which they are designing - link with Mathematics and Science.</li> <li>• Confidently make labelled drawings from different views showing specific features.</li> <li>• Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail.</li> <li>• Identify the strengths and areas for development in their ideas and products.</li> <li>• Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground - breaking products.</li> </ul>	<ul style="list-style-type: none"> <li>• Start to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces.</li> <li>• Begin to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.</li> <li>• With growing confidence apply a range of finishing techniques, including those from art and design.</li> <li>• Draw up a specification for their design - link with Mathematics and Science.</li> <li>• Use results of investigations, information sources, including ICT when developing design ideas.</li> <li>• With growing confidence select appropriate materials, tools and techniques.</li> <li>• When planning, consider the views of others, including intended users, to improve their work.</li> <li>• Start to understand how much products cost to make, how sustainable and innovative they are, and the impact products have beyond their intended purpose.</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.</li> <li>• Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.</li> <li>• Accurately apply a range of finishing techniques, including those from art and design.</li> <li>• Draw up a specification for their design - link with Mathematics and Science.</li> <li>• Plan the order of their work, choosing appropriate materials.</li> <li>• Suggest alternative methods of making if the first attempts fail.</li> <li>• Identify the strengths and areas for development in their ideas and products.</li> <li>• Know how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.</li> </ul>



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Making	<ul style="list-style-type: none"> <li>• Select a wider range of tools and techniques for making their product i.e. textiles, food ingredients, mechanical components.</li> <li>• Explain their choice of tools and equipment in relation to the skills and techniques they will be using.</li> <li>• Start to understand that mechanical systems have an input, process and output.</li> <li>• Start to understand that mechanical systems such as levers and linkages or pneumatic systems create movement.</li> <li>• Measure, mark out, cut, score and assemble components with more accuracy.</li> <li>• Start to work safely and accurately with a range of simple tools.</li> <li>• Start to think about their ideas as they make progress and be willing to change things if this helps them to improve their work.</li> <li>• Start to measure, tape or pin, cut and join fabric with some accuracy.</li> </ul>	<ul style="list-style-type: none"> <li>• Select a wider range of tools and techniques for making their product safely.</li> <li>• Know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques.</li> <li>• Start to join and combine materials and components accurately in temporary and permanent ways.</li> <li>• Understand how electrical circuits and components can be used to create functional products.</li> <li>• Understand how to reinforce and strengthen a 3D framework.</li> <li>• To sew using a range of different stitches.</li> <li>• Demonstrate how to measure, tape or pin, cut and join fabric.</li> <li>• Begin to use finishing techniques to strengthen and improve the appearance of their product.</li> </ul>	<ul style="list-style-type: none"> <li>• Select appropriate materials, tools and techniques e.g. 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>• Begin to measure, mark out, cut, score and assemble components more accurately.</li> <li>• Demonstrate how to use skills in using different tools and equipment safely and accurately with growing confidence cut and join with accuracy to ensure a good-quality finish to the product.</li> <li>• Weigh and measure accurately (time, dry ingredients, liquids).</li> <li>• Use finishing techniques to strengthen and improve the appearance of their product.</li> </ul>	<ul style="list-style-type: none"> <li>• Confidently select appropriate tools, materials, components and techniques and use them.</li> <li>• Use tools safely and accurately.</li> <li>• Assemble components to make working models.</li> <li>• Aim to make and to achieve a quality product.</li> <li>• With confidence pin, sew and stitch materials together to create a product.</li> <li>• Construct products using permanent joining techniques.</li> <li>• Understand how mechanical systems such as cams, pulleys or gears create movement.</li> <li>• Know how to reinforce and strengthen a 3D framework.</li> <li>• Understand that mechanical and electrical systems have an input, process and output.</li> <li>• Use finishing techniques to strengthen and improve the appearance of their product</li> </ul>
Evaluating	<ul style="list-style-type: none"> <li>• Start to evaluate their product against original design criteria e.g. how well it meets its intended purpose.</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate their products carrying out appropriate tests.</li> <li>• Start to evaluate their work both during and at the end of the assignment.</li> <li>• Evaluate key designs of individuals in design and technology and how they have helped shape the world.</li> </ul>	<ul style="list-style-type: none"> <li>• Start to evaluate a product against the original design specification and by carrying out tests.</li> <li>• Evaluate their work both during and at the end of the assignment.</li> <li>• Begin to evaluate it personally and seek evaluation from others.</li> <li>• Evaluate key designs of individuals in design and technology and how they have helped shape the world.</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests.</li> <li>• Evaluate their work both during and at the end of the assignment.</li> <li>• Record their evaluations using drawings with labels.</li> <li>• Evaluate against their original criteria and suggest ways that their product could be improved.</li> </ul>



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Food and nutrition	<ul style="list-style-type: none"> <li>• Start to know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world.</li> <li>• Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically.</li> <li>• Begin to understand how to use a range of techniques - chopping, slicing and grating, mixing, spreading, kneading and baking.</li> <li>• Start to understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eat well plate'.</li> <li>• Begin to know that to be active and healthy, food and drink are needed to provide energy for the body.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world.</li> <li>• Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</li> <li>• Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</li> <li>• Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eat well plate'.</li> <li>• Know that to be active and healthy, food and drink are needed to provide energy for the body.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world.</li> <li>• Begin to understand that seasons may affect the food available.</li> <li>• Begin to understand how food is processed into ingredients that can be eaten or used in cooking.</li> <li>• Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</li> <li>• Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</li> <li>• Begin to understand that different food and drink contain different substances – nutrients, water and fibre – that are needed for health.</li> </ul>	<ul style="list-style-type: none"> <li>• Know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world.</li> <li>• Understand that seasons may affect the food available.</li> <li>• Understand how food is processed into ingredients that can be eaten or used in cooking.</li> <li>• Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</li> <li>• Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</li> <li>• Know that different food and drink contain different substances – nutrients, water and fibre – that are needed for health.</li> </ul>