



## Welwyn St. Mary's Progression Ladder for Design and Technology

D&T Progression	Designing Developing, Planning and Communicating Ideas.	Make Working with tools, equipment, materials and components to make quality products	Evaluation Processes and Products	Technical knowledge	Cooking and Nutrition
<b>Reception</b>	<ul style="list-style-type: none"> <li>Develop their own ideas and then decided which materials to use to express them</li> <li>Explore, use and refine a variety of artistic effects to express their ideas and feelings</li> <li>Explore different materials, using all their senses to investigate them. Manipulate and play with different materials</li> <li>Create collaboratively sharing ideas, resources and skills</li> </ul>	<ul style="list-style-type: none"> <li>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function</li> <li>Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park</li> <li>Join different materials and explore different textures</li> </ul>	<ul style="list-style-type: none"> <li>Share their creations, explaining the process they have used</li> <li>Return to and build on their previous learning, refining ideas and developing their ability to represent them</li> </ul>	<ul style="list-style-type: none"> <li>Explore different materials freely, in order to develop their ideas about how to use them and what to make</li> </ul>	<ul style="list-style-type: none"> <li>Expand their knowledge and understanding of the world, finding out about different ingredients, what happens when things are mixed together and how heat and cold changes substances</li> <li>Through preparing and eating food, learn find out about other cultures and traditions</li> </ul>
<b>Year 1</b>	<ul style="list-style-type: none"> <li>Draw on their own experience to help generate ideas</li> <li>Suggest ideas and explain what they are going to do</li> <li>Identify a target group for what they intend to design and make</li> <li>Model their ideas in card and paper</li> </ul>	<ul style="list-style-type: none"> <li>Make their design using appropriate techniques</li> <li>With help measure, mark out, cut and shape a range of materials</li> <li>Use tools <i>eg scissors and a hole punch</i> safely</li> <li>Assemble, join and combine materials and components together</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate their product by discussing how well it works in relation to the purpose</li> <li>Evaluate their products as they are developed, identifying strengths and possible changes they might make</li> <li>Evaluate their product by asking questions</li> </ul>	<ul style="list-style-type: none"> <li>build structures, exploring how they can be made stronger, stiffer and more stable</li> <li>explore and use mechanisms [e.g. levers, sliders, wheels and axles], in their products</li> </ul>	<ul style="list-style-type: none"> <li>Select and use appropriate fruit and vegetables, processes and tools</li> <li>Use basic food handling, hygienic practices and personal hygiene - wash hands clean surfaces</li> <li>Cut peel or grate ingredients safely and hygienically.</li> <li>Assemble or cook healthy ingredients</li> </ul>

	<ul style="list-style-type: none"> <li>Develop their design ideas applying findings from their earlier research</li> </ul>	<ul style="list-style-type: none"> <li>using a variety of temporary methods e.g. glues or masking tape</li> <li>Use simple finishing techniques to improve the appearance of their product</li> </ul>	<ul style="list-style-type: none"> <li>about what they have made and how they have gone about it</li> </ul>		<ul style="list-style-type: none"> <li>Understand where food comes from (i.e. plant or animal)</li> <li>Describe differences between some food groups (i.e. sweet, vegetable etc.)</li> <li>Discuss how fruit and vegetables are healthy</li> <li>Describe textures</li> </ul>
<b>D &amp; T Progression</b>	<b>Designing</b>	<b>Make</b>	<b>Evaluation</b>	<b>Technical knowledge</b>	<b>Cooking &amp; Nutrition</b>
<b>Year 2</b>	<ul style="list-style-type: none"> <li>Generate ideas by drawing on their own and other people's experiences</li> <li>Develop their design ideas through discussion, observation, drawing and modelling</li> <li>Identify a purpose for what they intend to design and make</li> <li>Identify simple design criteria</li> <li>Make simple drawings and label parts</li> </ul>	<ul style="list-style-type: none"> <li>Begin to select tools and materials; use vocab' to name and describe them</li> <li>Measure, cut and score with some accuracy</li> <li>Use hand tools safely and appropriately</li> <li>Assemble, join and combine materials in order to make a product</li> </ul> <p><b>SEWING</b></p> <ul style="list-style-type: none"> <li>Cut, shape and join fabric. Use basic sewing techniques</li> <li>Choose and use appropriate finishing techniques</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate against their design criteria</li> <li>Evaluate their products as they are developed, identifying strengths and possible changes they might make</li> <li>Talk about their ideas, saying what they like and dislike about them</li> </ul>	<ul style="list-style-type: none"> <li>build structures, exploring how they can be made stronger, stiffer and more stable</li> <li>explore and use mechanisms [e.g. levers, sliders, wheels and axles], in their products</li> <li>Understand about the simple working characteristics of materials and components</li> <li>Understand about the movement of simple mechanisms including levers, sliders, wheels and axles</li> <li>Know the correct technical vocabulary for the projects they are undertaking</li> <li>Understand how freestanding structures can be made stronger, stiffer and more stable</li> </ul>	<ul style="list-style-type: none"> <li>Follow safe procedures for food safety and hygiene</li> <li>Use the basic principles of a healthy and varied diet to prepare dishes</li> <li>Understand where food comes from (animal, grown underground etc.)</li> <li>Prepare simple dishes safely and hygienically, without using a heat sources</li> <li>Use techniques such as cutting cut, peel or grate ingredients safely and hygienically.</li> <li>Name and sort foods into the five groups of the 'eat well' plate</li> <li>Measure or weigh using measuring cups or electronic scales</li> <li>Assemble or cook healthy ingredients</li> </ul>

D & T Progression	Designing	Make	Evaluation	Technical knowledge	Cooking & Nutrition
<b>Year 3</b>	<ul style="list-style-type: none"> <li>• Generate ideas for an item, considering its purpose and the user/s</li> <li>• Identify a purpose and establish criteria for a successful product.</li> <li>• Plan the order of their work before starting</li> <li>• Explore, develop and communicate design proposals by modelling ideas</li> <li>• Make drawings with labels when designing</li> </ul>	<ul style="list-style-type: none"> <li>• Select tools and techniques for making their product</li> <li>• Think about their ideas as they make progress and be willing change things if this helps them improve their work</li> <li>• Measure, mark out, cut, score and assemble components with more accuracy</li> <li>• Work safely and accurately with a range of simple tools</li> <li>• Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate their product against original design criteria <i>e.g. how well it meets its intended purpose</i></li> <li>• Disassemble and evaluate familiar products Know that a healthy diet is made up from a variety and balance of different foods and drinks, as depicted in the 'eat well' plate Know that to be active and healthy, food is needed to provide energy for the body</li> </ul>	<ul style="list-style-type: none"> <li>• Understand about the simple working characteristics of materials and components</li> <li>• Understand about the movement of simple mechanisms including levers, sliders, wheels and axles</li> <li>• Understand that food ingredients should be combined according to their sensory characteristics</li> <li>• Know the correct technical vocabulary for the projects they are undertaking</li> <li>• Understand how freestanding structures can be made stronger, stiffer and more stable</li> <li>• Understand how levers and linkages or pneumatic systems create movement</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate hygienic food preparation and storage</li> <li>• Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading</li> <li>• Carefully select ingredients</li> <li>• Use equipment safely</li> <li>• Make a product look attractive</li> <li>• Begin to understand food comes from UK and wider world</li> <li>• Describe how healthy diet= variety/balance of food/drinks</li> <li>• Explain how food and drink are needed for active/healthy bodies.</li> </ul>
D & T Progression	Designing	Make	Evaluation	Technical knowledge	Cooking & Nutrition
<b>Year 4</b>	<ul style="list-style-type: none"> <li>• Generate ideas, considering the purposes for which they are designing</li> <li>• Make labelled drawings from different views showing specific features</li> </ul>	<ul style="list-style-type: none"> <li>• Select appropriate tools and techniques for making their product</li> <li>• Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate their work both during and at the end of the assignment</li> <li>• Evaluate their products carrying out appropriate tests</li> </ul>	<ul style="list-style-type: none"> <li>• Understand how levers and linkages create movement</li> <li>• Know how to make strong, stiff shell structures</li> <li>• Know that a single fabric shape can be used to make a 3D textiles product</li> </ul>	<ul style="list-style-type: none"> <li>• Think about presenting product in interesting/ attractive ways</li> <li>• Understand ingredients can be fresh, pre-cooked or processed</li> <li>• Begin to understand about food being grown, reared or caught in the UK or wider world</li> </ul>

	<ul style="list-style-type: none"> <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>Evaluate products and identify criteria that can be used for their own designs</li> </ul>	<ul style="list-style-type: none"> <li>Use simple graphical communication techniques</li> <li>Join and combine materials and components accurately in temporary and permanent ways</li> </ul> <p><b>SEWING</b></p> <ul style="list-style-type: none"> <li>Measure, tape or pin, cut and join fabric with some accuracy</li> <li>Sew using a range of different stitches, weave and knit</li> <li>Understand the need for seam allowance</li> <li>Join textiles with appropriate stitching</li> <li>Select the most appropriate technique to decorate textiles</li> </ul>		<ul style="list-style-type: none"> <li>Know that food ingredients can be fresh, pre-cooked and processed</li> <li>Know the correct technical vocabulary for the projects they are undertaking</li> </ul>	<ul style="list-style-type: none"> <li>Describe eat well plate and how a healthy diet=variety / balance of food and drinks</li> <li>Explain importance of food and drink for active, healthy bodies</li> <li>Prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source</li> <li>Use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</li> <li>Measure using grams</li> <li>Follow a recipe</li> <li>Know that recipes can be adapted to change the appearance, taste, texture and aroma</li> <li>Understand the need for correct storage</li> </ul>
<b>D &amp; T Progression</b>	<b>Designing</b>	<b>Make</b>	<b>Evaluation</b>	<b>Technical knowledge</b>	<b>Cooking &amp; Nutrition</b>
<b>Year 5</b>	<ul style="list-style-type: none"> <li>Generate ideas through brainstorming and identify a purpose for their product</li> <li>Draw up a specification for their design</li> <li>Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative</li> </ul>	<ul style="list-style-type: none"> <li>Select appropriate materials, tools and techniques</li> <li>Measure and mark out accurately</li> <li>Use skills in using different tools and equipment safely and accurately</li> <li>Weigh and measure accurately (time, dry ingredients, liquids)</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate a product against the original design specification</li> <li>Evaluate it personally and seek evaluation from others</li> </ul>	<ul style="list-style-type: none"> <li>Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li> <li>Understand how cams, pulleys and gears create movement</li> <li>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures - 3D framework</li> </ul>	<ul style="list-style-type: none"> <li>Apply the rules for basic food hygiene and other safe practices <i>e.g. hazards relating to the use of ovens</i></li> <li>Explain how to be safe / hygienic and follow own guidelines</li> <li>Present product well - interesting, attractive, fit for purpose</li> <li>Begin to understand seasonality of foods</li> <li>Understand food can be grown, reared or caught in the UK and the wider world</li> </ul>

	<p>methods of making if the first attempts fail</p> <ul style="list-style-type: none"> <li>• Use results of investigations, information sources, including ICT when developing design ideas</li> </ul>	<ul style="list-style-type: none"> <li>• Cut and join with accuracy to ensure a good-quality finish to the product</li> </ul>		<ul style="list-style-type: none"> <li>• Understand and use electrical systems in their products [e.g. series circuits incorporating switches, bulbs, buzzers and motors]</li> <li>• Know that mechanical and electrical systems have an input, process and output</li> <li>• Know that materials have both functional properties and aesthetic qualities</li> <li>• Know that materials can be combined and mixed to create more useful characteristics</li> <li>• Use the correct technical vocabulary for the projects they are undertaking</li> <li>• Know that a recipe can be adapted by adding or substituting one or more ingredients</li> </ul>	<ul style="list-style-type: none"> <li>• Describe how recipes can be adapted to change appearance, taste, texture, aroma</li> <li>• Explain how there are different substances in food / drink needed for health</li> <li>• Prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of heat source</li> <li>• Use range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</li> </ul>
<b>D &amp; T Progression</b>	<b>Designing</b>	<b>Make</b>	<b>Evaluation</b>	<b>Technical knowledge</b>	<b>Cooking &amp; Nutrition</b>
<b>Year 6</b>	<ul style="list-style-type: none"> <li>• Communicate their ideas through detailed labelled drawings</li> <li>• Develop a design specification</li> <li>• Explore, develop and communicate aspects of their design proposals by</li> </ul>	<ul style="list-style-type: none"> <li>• Select appropriate tools, materials, components and techniques</li> <li>• Assemble components make working models</li> <li>• Make modifications as they go along</li> <li>• Use tools safely and accurately</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>• Record their evaluations using drawings with labels</li> </ul>	<ul style="list-style-type: none"> <li>• Understand how to use learning from science and maths to help design and make products that work</li> <li>• Know that materials have both functional properties and aesthetic qualities</li> <li>• Know that materials can be combined and mixed to</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms)</li> <li>• Understand a recipe can be adapted by adding / substituting ingredients to change appearance, taste, texture or aroma.</li> </ul>

	<p>modelling their ideas in a variety of ways</p> <ul style="list-style-type: none"> <li>Plan the order of their work, choosing appropriate materials, tools and techniques</li> </ul>	<ul style="list-style-type: none"> <li>Construct products using permanent joining techniques SEWING</li> <li>Create objects (such as a bags) that employs a seam allowance</li> <li>Join textiles with a combination of stitching techniques (such as back stitching for seams and running stitch to attach decoration)</li> <li>Use the quantities of material to create suitable visual and tactile effects in the decoration of textiles (such as soft decoration for comfort on a bag handle)</li> <li>Pin, sew and stitch materials together to create a product</li> <li>Achieve a quality product</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate against their original criteria and suggest ways that their product could be improved</li> </ul>	<p>create more useful characteristics</p> <ul style="list-style-type: none"> <li>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures - 3D framework</li> <li>Know that a 3D textiles product can be made from a combination of fabric shapes</li> <li>Use the correct technical vocabulary for the projects they are undertaking</li> <li>Know that a recipe can be adapted by adding or substituting one or more ingredients</li> </ul>	<ul style="list-style-type: none"> <li>Prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source.</li> <li>Measure accurately and calculate ratios of ingredients</li> <li>Demonstrate a range of baking and cooking techniques</li> <li>Understand and apply the principles of a healthy and varied diet</li> <li>Explain seasonality of foods</li> <li>Name some types of food that are grown, reared or caught in the UK or wider world</li> <li>Describe some of the different substances in food and drink, and how they can affect health</li> </ul>
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