

## STRATFORD-SUB-CASTLE DESIGN TECHNOLOGY PROGRESSION

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<b>Evaluating existing products</b>	<p>Across KS1 pupils should explore:</p> <ul style="list-style-type: none"> <li>• what products are</li> <li>• who products are for</li> <li>• what products are for</li> <li>• how products work</li> <li>• how products are used</li> <li>• where products might be used</li> <li>• what materials products are made from</li> <li>• what they like and dislike about products</li> </ul>		<p>Across KS2 children should explore:  <b>about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products</b>            how well products have been designed</p> <ul style="list-style-type: none"> <li>• how well products have been made</li> <li>• why materials have been chosen</li> <li>• what methods of construction have been used</li> <li>• how well products work</li> <li>• how well products achieve their purposes</li> <li>• how well products meet user needs and wants</li> <li>• who designed and made the products</li> <li>• where products were designed and made</li> <li>• when products were designed and made</li> <li>• whether products can be recycled or reused</li> </ul> <p><i>In late KS2 pupils should also investigate and analyse:</i></p> <ul style="list-style-type: none"> <li>• how much products cost to make</li> <li>• how innovative products are</li> <li>• how sustainable the materials in products are</li> <li>• what impact products have beyond their intended purpose</li> </ul>			
<b>Understanding contexts, users and purposes</b>	<p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> <li>• work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment</li> </ul> <p>use information and communication technology, where appropriate, to develop and communicate their ideas</p>		<p>Across KS2 pupils should:</p> <p>work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment</p> <p>Share and clarify ideas through discussion</p> <p>Use computer-aided design to develop and communicate their ideas</p>			
<b>Developing, planning and communicating ideas.</b>	<p>Draw on their own experience to help generate ideas</p> <p>Suggest ideas and explain what they are going to do</p> <p>Describe who/what their products are for and what they intend to design and make</p> <p>Develop their design ideas applying findings from evaluation and</p>	<p>Generate ideas by drawing on their own and other people's experiences</p> <p>Develop their design ideas through discussion, observation, drawing, mock ups, construction kits and modelling</p> <p>Identify a purpose for what they intend to design and make</p>	<p>Generate ideas for an item considering its purpose and the user/s</p> <p>Identify a purpose and establish criteria for a successful product.</p> <p>Plan the order of their work before starting</p> <p>Explore, develop and communicate</p>	<p>Generating ideas considering the purposes for which they are designing</p> <p>Make labelled drawings from different views showing specific features</p> <p>Develop a clear idea of what has to be done, planning how to use materials, equipment and</p>	<p>Generate ideas through brainstorming and identify a purpose for their product</p> <p>Draw up a specification for their design</p> <p>Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and</p>	<p>Communicate ideas through detailed labelled drawings</p> <p>Develop a design specification</p> <p>Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways</p> <p>Plan the order of their work, choosing appropriate</p>

	<b>YEAR 1</b>	<b>YEAR 2</b>	<b>YEAR 3</b>	<b>YEAR 4</b>	<b>YEAR 5</b>	<b>YEAR 6</b>
	<p>research of made products</p> <p>State what products they are designing and making</p> <p>Use simple design criteria to help develop their ideas</p>	<p>Identify simple design criteria</p> <p>Make simple drawings and label parts</p> <p>State what products they are designing and making</p> <p>Say how their products will work</p> <p>Describe what their products are for</p> <p>Use simple design criteria to help develop their ideas</p>	<p>design proposals by modelling ideas</p> <p>Make drawings with labels when designing</p> <p>Begin to gather information about the needs and wants of particular individuals and groups</p>	<p>processes, and suggesting alternative methods of making, if the first attempts fail</p> <p>Evaluate products and identify criteria that can be used for their own designs, developing their own design criteria and use these to inform their ideas</p> <p>Gather information about the needs and wants of particular individuals and groups</p> <p>Generate realistic ideas, focusing on the needs of the user</p> <p>Make design decisions that take account of the availability of resources</p>	<p>suggesting alternative methods of making if the first attempts fail</p> <p>Use results of investigations, information sources, including ICT when developing design ideas</p> <p>Begin to carry out research, using surveys, interviews, questionnaires and web-based resources</p>	<p>materials, tools and techniques</p> <p>Carry out research, using surveys, interviews, questionnaires and web-based resources</p> <p>Identify the needs, wants, preferences and values of particular individuals and groups</p> <p>Develop a simple design specification to guide their thinking</p> <p>Generate innovative ideas, drawing on research</p> <p>Make design decisions, taking account of constraints such as time, resources and cost</p>
<b>Practical skills and techniques</b>	<p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> <li>• follow procedures for safety and hygiene</li> <li>• use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components</li> </ul>		<p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> <li>• follow procedures for safety and hygiene</li> <li>• use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components</li> </ul>			
<b>Working with tools, equipment, materials and components to make quality</b>	<p>Make their design using appropriate techniques</p> <p>With help measure, mark out, cut and shape a range of materials</p>	<p>Begin to select tools and materials; use vocab' to name and describe them</p> <p>Measure, cut and score with some accuracy</p>	<p>Select tools and techniques for making their product</p> <p>Measure, mark out, cut, score and assemble components with more accuracy</p>	<p>Select appropriate tools and techniques for making their product</p> <p>Measure, mark out, cut and shape a range of materials, using appropriate</p>	<p>Select appropriate materials, tools and techniques</p> <p>Measure and mark out accurately</p> <p>Use skills in using different tools and</p>	<p>Select appropriate tools materials, components and techniques</p> <p>Assemble components make working models Use</p>

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<b>products (inc food)</b>	<p>Use tools eg scissors and a hole punch safely</p> <p>Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape</p> <p>Select and use appropriate fruit and vegetables, processes and tools</p> <p>Use basic food handling, hygienic practices and personal hygiene</p> <p>Use simple finishing techniques to improve the appearance of their product</p>	<p>Use hand tools safely and appropriately</p> <p>Assemble, join and combine materials in order to make a product</p> <p>Cut, shape and join fabric to make a simple garment.</p> <p>Use basic sewing techniques Follow safe procedures for food safety and hygiene</p> <p>Choose and use appropriate finishing techniques</p>	<p>Work safely and accurately with a range of simple tools</p> <p>Think about their ideas as they make progress and be willing change things if this helps them improve their work</p> <p>Measure, tape or pin, cut and join fabric with some accuracy</p> <p>Demonstrate hygienic food preparation and storage</p> <p>Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT</p>	<p>tools, equipment and techniques</p> <p>Join and combine materials and components accurately in temporary and permanent ways</p> <p>Sew using a range of different stitches, weave and knit</p> <p>Measure, tape or pin, cut and join fabric with some accuracy</p> <p>Use simple graphical communication techniques</p>	<p>equipment safely and accurately</p> <p>Weigh and measure accurately (time, dry ingredients, liquids)</p> <p>Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens □</p> <p>Cut and join with accuracy to ensure a good-quality finish to the product</p>	<p>tools safely and accurately</p> <p>Construct products using permanent joining techniques</p> <p>Make modifications as they go along</p> <p>Pin, sew and stitch materials together create a product</p> <p>Achieve a quality products</p>
<b>Technical knowledge</b>	<p>Across KS1 pupils should know:</p> <ul style="list-style-type: none"> <li>• about the simple working characteristics of materials and components</li> <li>• about the movement of simple mechanisms such as levers, sliders, wheels and axles</li> <li>• how freestanding structures can be made stronger, stiffer and more stable</li> <li>• that a 3-D textiles product can be assembled from two identical fabric shapes</li> <li>• that food ingredients should be combined according to their sensory characteristics</li> <li>• the correct technical vocabulary for the projects they are undertaking</li> </ul>		<p>Across KS2 pupils should know:</p> <ul style="list-style-type: none"> <li>• how to use learning from science to help design and make products that work</li> <li>• how to use learning from mathematics to help design and make products that work</li> <li>• that materials have both functional properties and aesthetic qualities</li> <li>• that materials can be combined and mixed to create more useful characteristics</li> <li>• that mechanical and electrical systems have an input, process and output</li> <li>• the correct technical vocabulary for the projects they are undertaking</li> </ul> <p><b><u>In early KS2 pupils should also know:</u></b></p> <ul style="list-style-type: none"> <li>• how mechanical systems such as levers and linkages or pneumatic systems create movement</li> <li>• how simple electrical circuits and components can be used to create functional products</li> <li>• how to program a computer to control their products</li> <li>• how to make strong, stiff shell structures</li> <li>• that a single fabric shape can be used to make a 3D textiles product</li> <li>• that food ingredients can be fresh, pre-cooked and processed</li> </ul> <p><b><u>In late KS2 pupils should also know:</u></b></p> <ul style="list-style-type: none"> <li>• how mechanical systems such as cams or pulleys or gears create movement</li> </ul>			

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			<ul style="list-style-type: none"> <li>• how more complex electrical circuits and components can be used to create functional products</li> <li>• how to program a computer to monitor changes in the environment and control their products</li> <li>• how to reinforce and strengthen a 3D framework</li> <li>• that a 3D textiles product can be made from a combination of fabric shapes</li> <li>• that a recipe can be adapted by adding or substituting one or more ingredients</li> </ul>			
<b>Evaluating processes and products</b>	<p>Evaluate their product by discussing how well it works in relation to the purpose</p> <p>Evaluate their products as they are developed, identifying strengths and possible changes they might make</p> <p>Evaluate their product by asking questions about what they have made and how they have gone about it</p>	<p>Evaluate against their design criteria</p> <p>Evaluate their products as they are developed, identifying strengths and possible changes they might make</p> <p>Talk about their ideas, saying what they like and dislike about them</p>	<p>Evaluate their product against original design criteria e.g. how well it meets its intended purpose</p> <p>Disassemble and evaluate familiar products</p>	<p>Evaluate their work both during and at the end of the assignment</p> <p>Evaluate their products carrying out appropriate tests</p>	<p>Evaluate a product against the original design specification</p> <p>Evaluate it personally and seek evaluation from others</p>	<p>Evaluate their products identifying strengths and areas for development, and carrying out appropriate tests</p> <p>Record their evaluations using drawings with labels</p> <p>Evaluate against their original criteria and suggest ways that their product could be improved</p>
<b>Cooking and nutrition</b>	<p>Across KS1 pupils should know:</p> <ul style="list-style-type: none"> <li>• that all food comes from plants or animals</li> <li>• that food has to be farmed, grown elsewhere (e.g. home) or caught how to name and sort foods into the five groups in The eatwell plate</li> <li>• that everyone should eat at least five portions of fruit and vegetables every day</li> <li>• how to prepare simple dishes safely and hygienically, without using a heat source</li> <li>• how to use techniques such as cutting, peeling and grating</li> </ul>		<p>Across KS2 pupils should know:</p> <ul style="list-style-type: none"> <li>• 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> </ul> <p><b><u>In early KS2 pupils should also know:</u></b></p> <ul style="list-style-type: none"> <li>• that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eatwell plate</li> <li>• that to be active and healthy, food and drink are needed to provide energy for the body</li> </ul> <p><b><u>In late KS2 pupils should also know:</u></b></p> <ul style="list-style-type: none"> <li>• that seasons may affect the food available</li> <li>• how food is processed into ingredients that can be eaten or used in cooking 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>• how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</li> </ul> <p>that recipes can be adapted to change the appearance, taste, texture and aroma • that different food and drink contain different substances – nutrients, water and fibre – that are needed for health</p>			