

## National Curriculum End Points for Design and Technology

KS1	
Designing	<ul style="list-style-type: none"> <li>• Generate ideas based on simple design criteria and their own experiences, explaining what they could make.</li> <li>• Design appealing and functional products for a particular user based on simple design criteria.</li> <li>• Develop, model and communicate their ideas through drawings, templates talking and mock-ups with card and paper and use of ICT.</li> </ul>
Making	<ul style="list-style-type: none"> <li>• Plan by suggesting what to do next.</li> <li>• Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, shaping, joining, finishing (allowing movement when needed) and explain choices.</li> <li>• Select new and reclaimed materials and construction kits to build their structures.</li> <li>• Select from and use textiles according to their characteristics.</li> <li>• Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics.</li> <li>• Use simple finishing techniques suitable for the product they are creating.</li> <li>• Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely.</li> <li>• Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.</li> </ul>
Evaluating	<ul style="list-style-type: none"> <li>• Explore a range of existing products.</li> <li>• Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences.</li> <li>• Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria.</li> </ul>
Technical knowledge and understanding	<ul style="list-style-type: none"> <li>• Explore and use sliders and levers.</li> <li>• Understand that different mechanisms produce different types of movement.</li> <li>• Know how to make freestanding structures stronger, stiffer and more stable.</li> <li>• Understand where a range of fruit and vegetables come from e.g. farmed or grown at home.</li> <li>• Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of The Eatwell plate.</li> <li>• Understand how simple 3-D textile products are made, using a template to create two identical shapes.</li> <li>• Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.</li> <li>• Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons, painting, fabric crayons, stitching, sequins, buttons and ribbons.</li> <li>• Explore and use wheels, axles and axle holders.</li> <li>• Distinguish between fixed and freely moving axles.</li> <li>• Know and use technical vocabulary relevant to the project.</li> </ul>
LKS2	
Designing	<ul style="list-style-type: none"> <li>• Generate and clarify realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s (including appearance, taste, texture and aroma for an appealing food product).</li> <li>• Produce and use annotated sketches, prototypes, appropriate ICT such as web-based recipes, to develop and communicate ideas, final product sketches and pattern pieces.</li> </ul>
Making	<ul style="list-style-type: none"> <li>• Plan and order the main stages of making.</li> <li>• Select and use a range of appropriate tools with some accuracy e.g. cutting, shaping, joining and finishing.</li> <li>• Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern.</li> <li>• Select from a range of ingredients and use appropriate utensils to prepare and combine and make food products, thinking about sensory characteristics.</li> <li>• Select from and use finishing techniques suitable for the product they are creating.</li> </ul>

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Evaluating	<ul style="list-style-type: none"> <li>• Investigate a range of 3-D textile products relevant to the project.</li> <li>• Investigate and analyse books and products with lever and linkage mechanisms and pneumatic mechanisms.</li> <li>• Test their product against the original design criteria and with the intended user.</li> <li>• Take into account others' views.</li> <li>• Understand how a key event/individual has influenced the development of the chosen product and/or fabric.</li> <li>• Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs.</li> <li>• Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.</li> </ul>
Technical knowledge and understanding	<ul style="list-style-type: none"> <li>• Know how to strengthen, stiffen and reinforce existing fabrics.</li> <li>• Understand how to securely join two pieces of fabric together.</li> <li>• Understand the need for patterns and seam allowances.</li> <li>• Know and use technical vocabulary (and sensory) relevant to the project.</li> <li>• Know how to use appropriate equipment and utensils to prepare and combine food.</li> <li>• Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</li> <li>• Understand and use pneumatic mechanisms.</li> </ul>
UKS2	
Designing	<ul style="list-style-type: none"> <li>• Generate, develop model and communicate innovative ideas and briefs by carrying out research using surveys, interviews, questionnaires, peers, adults, web-based resources through discussion, annotated sketches and pictorial representations (electrical circuits or circuit diagrams)</li> <li>• Use research to develop a design specification for a functional product that responds automatically to changes in the environment, taking account of constraints including time, resources, user, purpose and cost.</li> <li>• Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches. talking, drawing, templates, mock-ups and prototypes including using computer-aided design.</li> <li>• Know how to use utensils and equipment including heat sources to prepare and cook food.</li> <li>• Understand about seasonality in relation to food products and the source of different food products.</li> <li>• Know and use relevant technical and sensory vocabulary.</li> <li>• Understand and use lever and linkage mechanisms.</li> <li>• Distinguish between fixed and loose pivots.</li> </ul>
Making	<ul style="list-style-type: none"> <li>• Produce detailed lists of tools, equipment and materials.</li> <li>• Formulate step-by-step plans and, if appropriate, allocate tasks within a team.</li> <li>• Work within the constraints of time, resources and cost.</li> <li>• Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.</li> <li>• Write a step-by-step recipe, including a list of ingredients, equipment and utensils.</li> <li>• Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients.</li> </ul> <ul style="list-style-type: none"> <li>• Use finishing and decorative techniques suitable for the product they are designing and making.</li> <li>• Make, decorate and present the food product appropriately for the intended user and purpose.</li> <li>• Know how to use utensils and equipment including heat sources to prepare and cook food.</li> <li>• Understand about seasonality in relation to food products and the source of different food products.</li> <li>• Know and use relevant technical and sensory vocabulary.</li> </ul>

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	<ul style="list-style-type: none"> <li>• Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product.</li> <li>• Create and modify a computer control program to enable their electrical product to respond to changes in the environment.</li> <li>• including CAD, to make products that are accurately assembled and well finished.</li> </ul>
Evaluating	<ul style="list-style-type: none"> <li>• Test products and systems with the intended user, where safe and practical, and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</li> <li>• Investigate famous engineers/ inventors and engineering companies relevant to the project.</li> <li>• Investigate and evaluate a range of existing frame structures.</li> <li>• Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.</li> <li>• Research key events and individuals relevant to frame structures.</li> <li>• Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams.</li> <li>• Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements.</li> <li>• Understand how key chefs have influenced eating</li> <li>• Know how to use utensils and equipment including heat sources to prepare and cook food.</li> <li>• Understand about seasonality in relation to food products and the source of different food products.</li> <li>• Know and use relevant technical and sensory vocabulary.</li> <li>• Continually evaluate and modify the working features of the product to match the initial design specification.</li> <li>• Compare the final product to the original design specification.</li> <li>• Consider the views of others to improve their work.</li> <li>• Investigate and analyse textile products linked to their final product.</li> </ul>
Technical Knowledge and Understanding	<ul style="list-style-type: none"> <li>• Understand that mechanical systems have an input, process and an output.</li> <li>• Understand how cams can be used to produce different types of movement and change the direction of movement.</li> <li>• Understand how to strengthen, stiffen and reinforce 3-D frameworks.</li> <li>• Know how to use utensils and equipment including heat sources to prepare and cook food.</li> <li>• Understand about seasonality in relation to food products and the source of different food products.</li> <li>• Know how to use utensils and equipment including heat sources to prepare and cook food.</li> <li>• Understand and use electrical systems in their products. • Understand the use of computer control systems in products.</li> <li>• Apply their understanding of computing to program, monitor and control their products.</li> <li>• Know and use technical and sensory vocabulary relevant to the project.</li> <li>• Understand and use electrical systems in their products.</li> <li>• Apply their understanding of computing to program, monitor and control their products.</li> <li>• Understand that mechanical and electrical systems have an input, process and an output.</li> <li>• Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.</li> <li>• A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics.</li> <li>• Fabrics can be strengthened, stiffened and reinforced where appropriate.</li> </ul>