**National Curriculum End Points for Design and Technology**

| KS1 | |
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| Designing | • Generate ideas based on simple design criteria and their own experiences, explaining what they could make.<br>• Design appealing and functional products for a particular user based on simple design criteria.<br>• Develop, model and communicate their ideas through drawings, templates talking and mock-ups with card and paper and use of ICT. |
| Making | • Plan by suggesting what to do next.<br>• 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.<br>• Select new and reclaimed materials and construction kits to build their structures.<br>• Select from and use textiles according to their characteristics.<br>• Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics.<br>• Use simple finishing techniques suitable for the product they are creating.<br>• Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely.<br>• Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product. |
| Evaluating | • Explore a range of existing products.<br>• Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences.<br>• Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria. |
| Technical knowledge and understanding | • Explore and use sliders and levers.<br>• Understand that different mechanisms produce different types of movement.<br>• Know how to make freestanding structures stronger, stiffer and more stable.<br>• Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. • 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.<br>• Understand how simple 3-D textile products are made, using a template to create two identical shapes.<br>• Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.<br>• Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons, painting, fabric crayons, stitching, sequins, buttons and ribbons.<br>• Explore and use wheels, axles and axle holders.<br>• Distinguish between fixed and freely moving axles.<br>• Know and use technical vocabulary relevant to the project. |
| LKS2 | |
| Designing | • 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).<br>• Produce and use annotated sketches, prototypes, appropriate ICT such as web-based recipes, to develop and communicate ideas, final product sketches and pattern pieces. |
| Making | • Plan and order the main stages of making.<br>• Select and use a range of appropriate tools with some accuracy e.g. cutting, shaping, joining and finishing.<br>• Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern.<br>. • Select from a range of ingredients and use appropriate utensils to prepare and combine and make food products, thinking about sensory characteristics.<br>• Select from and use finishing techniques suitable for the product they are creating. |

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| Evaluating | • Investigate a range of 3-D textile products relevant to the project.<br>• Investigate and analyse books and products with lever and linkage mechanisms and pneumatic mechanisms.<br>• Test their product against the original design criteria and with the intended user.<br>• Take into account others' views.<br>• Understand how a key event/individual has influenced the development of the chosen product and/or fabric.<br>• Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs.<br>• Evaluate the ongoing work and the final product with reference to the design criteria and the views of others. |
| Technical knowledge and understanding | • Know how to strengthen, stiffen and reinforce existing fabrics.<br>• Understand how to securely join two pieces of fabric together.<br>• Understand the need for patterns and seam allowances.<br>• Know and use technical vocabulary (and sensory) relevant to the project.<br>• Know how to use appropriate equipment and utensils to prepare and combine food. • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.<br>•Understand and use pneumatic mechanisms. |
| UKS2 | |
| Designing | • 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)<br>• 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.<br>• Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches. talking, drawing, templates, mock-ups and prototypes including using computer-aided design.<br>• Know how to use utensils and equipment including heat sources to prepare and cook food.<br>• Understand about seasonality in relation to food products and the source of different food products.<br>• Know and use relevant technical and sensory vocabulary.<br>• Understand and use lever and linkage mechanisms.<br>• Distinguish between fixed and loose pivots. |
| Making | • Produce detailed lists of tools, equipment and materials.<br>• Formulate step-by-step plans and, if appropriate, allocate tasks within a team.<br>• Work within the constraints of time, resources and cost.<br>• Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.<br>• Write a step-by-step recipe, including a list of ingredients, equipment and utensils.<br>• Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients.<br><br>• Use finishing and decorative techniques suitable for the product they are designing and making.<br>. • Make, decorate and present the food product appropriately for the intended user and purpose.<br>• Know how to use utensils and equipment including heat sources to prepare and cook food.<br>• Understand about seasonality in relation to food products and the source of different food products.<br>• Know and use relevant technical and sensory vocabulary. |

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| | • Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product.<br>• Create and modify a computer control program to enable their electrical product to respond to changes in the environment.<br>• including CAD, to make products that are accurately assembled and well finished. |
| Evaluating | • 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.<br>• Investigate famous engineers/ inventors and engineering companies relevant to the project.<br>• Investigate and evaluate a range of existing frame structures.<br>• Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.<br>• Research key events and individuals relevant to frame structures.<br>• 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.<br>• Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements.<br>• Understand how key chefs have influenced eating<br>• Know how to use utensils and equipment including heat sources to prepare and cook food.<br>• Understand about seasonality in relation to food products and the source of different food products.<br>• Know and use relevant technical and sensory vocabulary.<br>• Continually evaluate and modify the working features of the product to match the initial design specification.<br>• Compare the final product to the original design specification.<br>• Consider the views of others to improve their work.<br>• Investigate and analyse textile products linked to their final product. |
| Technical Knowledge and Understanding | • Understand that mechanical systems have an input, process and an output.<br>• Understand how cams can be used to produce different types of movement and change the direction of movement.<br>• Understand how to strengthen, stiffen and reinforce 3-D frameworks.<br>• Know how to use utensils and equipment including heat sources to prepare and cook food.<br>• Understand about seasonality in relation to food products and the source of different food products.<br>• Know how to use utensils and equipment including heat sources to prepare and cook food.<br>• Understand and use electrical systems in their products. • Understand the use of computer control systems in products.<br>• Apply their understanding of computing to program, monitor and control their products.<br>• Know and use technical and sensory vocabulary relevant to the project.<br>• Understand and use electrical systems in their products.<br>• Apply their understanding of computing to program, monitor and control their products.<br>• Understand that mechanical and electrical systems have an input, process and an output.<br>• Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.<br>• A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics.<br>• Fabrics can be strengthened, stiffened and reinforced where appropriate. |