

Design and Technology Key Skills

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Designing	<p>Generate initial ideas and simple design criteria through investigation, talking and using own experiences.</p> <p>Develop and communicate ideas through drawings and mock-ups Design appealing products for a particular user based on simple design criteria.</p> <p>Communicate these ideas through talk and drawings.</p>	<p>Generate ideas based on simple design criteria and their own experiences, investigations and explaining what they could make.</p> <p>Design a functional and appealing product for a chosen user and purpose based on simple design criteria.</p> <p>Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology.</p> <p>Communicate these ideas through talk and drawings.</p>	<p>Generate and clarify ideas through discussion with peers and adults to develop design criteria for an appealing, functional product fit for purpose and specific user/s.</p> <p>Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.</p> <p>Produce annotated sketches, prototypes, final product sketches and pattern pieces.</p>	<p>Gather information about needs and wants to generate and clarify a broader range of ideas through discussion with peers and adults to develop design criteria for an appealing, functional product fit for a particular user and purpose.</p> <p>Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.</p> <p>Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams.</p>	<p>Explore a range of initial ideas, and make design decisions to develop a design brief and criteria for a design specification of a final product linked to user and purpose and take account of constraints including time, resources and cost.</p> <p>Use research to develop a design specification for a functional product that responds automatically to changes in the environment.</p> <p>Generate innovative ideas through research and discussion into user needs and existing products, using surveys, interviews, questionnaires and web-based resources.</p>	<p>Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources to develop a design brief and criteria for a design specification.</p> <p>Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.</p> <p>Develop, model and communicate ideas through talking, annotated drawings, exploded drawings and drawings from different views, templates, mock-ups and prototypes and, where appropriate, computer-aided design.</p>

					<p>Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost.</p> <p>Communicate ideas through annotated sketches, pictorial representations and information and communication technology as appropriate</p>	
Making	<p>Plan by suggesting what to do next.</p> <p>Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing.</p> <p>Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics and explain their choices.</p>	<p>Plan by suggesting what to do next.</p> <p>Select and use tools, skills and techniques, explaining their choices.</p> <p>Select new and reclaimed materials and construction kits to build their structures.</p> <p>Use simple finishing techniques suitable for the structure they are creating.</p>	<p>Plan the main stages of a recipe, listing ingredients, utensils and equipment.</p> <p>Select and use appropriate utensils and equipment to prepare and combine ingredients.</p> <p>Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.</p>	<p>Plan the main stages of a recipe, listing ingredients, utensils and equipment.</p> <p>Select and use appropriate utensils and equipment to prepare and combine ingredients.</p> <p>Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.</p>	<p>Write a step-by-step recipe, including a list of ingredients, equipment and utensils.</p> <p>Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components.</p> <p>Select and use appropriate utensils and equipment accurately to measure and</p>	<p>Write a step-by-step recipe, including detailed lists of ingredients, equipment, utensils and fabric relevant to their tasks.</p> <p>Allocate tasks within a team as appropriate</p> <p>Select and use appropriate utensils and equipment to make products that are accurately assembled and well finished.</p>

	<p>Use simple finishing techniques suitable for the product they are creating.</p> <p>Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely.</p> <p>Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.</p>	<p>Select from and use a range of tools and equipment to perform practical tasks</p> <p>Select from and use textiles according to their characteristics.</p> <p>Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely.</p> <p>Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.</p>	<p>Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing.</p> <p>Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern.</p> <p>Order the main stages of making.</p> <p>Select from and use appropriate tools with some accuracy to cut, shape and join paper and card.</p> <p>Select from and use finishing techniques suitable for the product they are creating.</p>	<p>Order the main stages of making.</p> <p>Select from and use tools and equipment to cut, shape, join and finish with some accuracy.</p> <p>Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities.</p> <p>Order the main stages of making.</p> <p>Select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy.</p> <p>Explain their choice of materials according to functional properties and aesthetic qualities.</p> <p>Use finishing techniques suitable for the product they are creating.</p>	<p>combine appropriate ingredients.</p> <p>Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.</p> <p>Use finishing and decorative techniques suitable for the product they are designing and making.</p> <p>Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product.</p> <p>Create and modify a computer control program to enable an electrical product to work automatically in response to changes in the environment.</p>	<p>Accurately to measure and combine appropriate ingredients.</p> <p>Make, decorate and present the food product appropriately for the intended user and purpose.</p> <p>Work within the constraints of time, resources and cost.</p>
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<p>Evaluating</p>	<p>Explore and evaluate a range of everyday products</p> <p>Evaluate their ideas throughout and their products against original criteria.</p> <p>Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria.</p> <p>Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences.</p>	<p>Explore a range of existing products in the school and local environment relevant to the project undertaken</p> <p>Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.</p> <p>Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences.</p>	<p>Carry out sensory evaluations and investigate and analyse a range of ingredients and products relevant to the product.</p> <p>Record the evaluations using e.g. tables and simple graphs.</p> <p>Understand how a key event/individual has influenced the development of the chosen product and/or fabric.</p> <p>Test their product against the original design criteria and with the intended user.</p> <p>Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.</p> <p>Take into account others' views.</p>	<p>Carry out sensory evaluations and investigate and analyse a range of ingredients and products relevant to the product, including the materials, components and techniques that have been used.</p> <p>Record the evaluations using e.g. tables and graphs.</p> <p>Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.</p> <p>Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.</p> <p>Test and evaluate their own products against design criteria and the intended user and purpose</p>	<p>Understand how key chefs have influenced eating habits to promote varied and healthy diets.</p> <p>Research key events and investigate famous inventors</p> <p>Carry out sensory evaluations and investigate and analyse a range of ingredients and products relevant to the product, including the materials, components and techniques that have been used.</p> <p>Record the evaluations using e.g. tables and graphs.</p> <p>Critically evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying</p>	<p>Investigate, analyse and test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</p> <p>Carry out sensory evaluations and investigate and analyse a range of ingredients and products relevant to the product, including the materials, components and techniques that have been used.</p> <p>Record the evaluations using e.g. tables and graphs.</p> <p>Understand how key chefs have influenced eating habits to promote varied and healthy diets.</p> <p>Investigate famous manufacturing and engineering companies relevant to the project.</p> <p>Evaluate the final product with</p>
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<p>Technical Knowledge and understanding</p>	<p>Explore and use different mechanisms</p> <p>Know and use technical and sensory vocabulary relevant to the project.</p> <p>Understand that different mechanisms produce different types of movement.</p>	<p>Know how to make freestanding structures stronger, stiffer and more stable.</p> <p>Know and use technical and sensory vocabulary relevant to the project.</p>	<p>Know how to use appropriate equipment and utensils to prepare and combine food.</p> <p>Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</p>	<p>Know how to use appropriate equipment and utensils to prepare and combine food.</p> <p>Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</p>	<p>Know how to use utensils and equipment including heat sources to prepare and cook food.</p> <p>Understand about seasonality in relation to food products and the source of different food products.</p>	<p>Know how to use utensils and equipment including heat sources to prepare and cook food.</p> <p>Understand about seasonality in relation to food products and the source of different food products.</p>

	<p>Understand where a range of fruit and vegetables come from e.g. farmed or grown at home.</p> <p>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.</p>	<p>Understand how simple 3-D textile products are made, using a template to create two identical shapes.</p> <p>Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.</p> <p>Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons.</p> <p>Understand where a range of fruit and vegetables come from e.g. farmed or grown at home.</p> <p>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.</p>	<p>Know and use relevant technical and sensory vocabulary appropriately.</p> <p>Know how to strengthen, stiffen and reinforce existing fabrics.</p> <p>Understand how to securely join two pieces of fabric together.</p> <p>Understand the need for patterns and seam allowances.</p> <p>Understand and use lever and linkage mechanisms.</p> <p>Distinguish between fixed and loose pivots.</p>	<p>Know and use relevant technical and sensory vocabulary appropriately.</p> <p>Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers.</p> <p>Apply their understanding of computing to program and control their products.</p> <p>Know and use technical vocabulary relevant to the project.</p> <p>Develop and use knowledge of how to construct strong, stiff shell structures.</p> <p>Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.</p>	<p>Know and use relevant technical and sensory vocabulary.</p> <p>Understand how to strengthen, stiffen and reinforce 3-D frameworks.</p> <p>Understand and use electrical systems in their products.</p> <p>Apply their understanding of computing to program, monitor and control their products.</p>	<p>Know and use relevant technical and sensory vocabulary.</p> <p>Know a 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics.</p> <p>Know fabrics can be strengthened, stiffened and reinforced where appropriate.</p> <p>Understand that mechanical and electrical systems have an input, process and an output.</p> <p>Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.</p>
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