

Progression of Skills- Design and Technology

	Developing planning and communicating ideas.	Working with tools.	Evaluating processes and products	Technical knowledge and understanding
Year 1	<p><u>Mechanisms</u> <u>Sliders and Levers</u></p> <p>Generate ideas based on simple design criteria and own experiences, explaining what they could make. Develop model and communicate their ideas through talking, mock-ups and drawings.</p> <p><u>Food</u></p> <p>Design appealing products for a particular user based on simple design criteria. Generate ideas and design through investigating a variety of fruit and veg. Communicate ideas through talk/drawings.</p> <p><u>Structures</u></p> <p>Generate ideas based on simple design criteria and own experiences, explaining what they could make. Develop model and communicate their ideas through talking, mock-ups and drawings.</p>	<p><u>Mechanisms</u> <u>Sliders and Levers</u></p> <p>Plan by suggesting what to do next. Select and use tools, explain their choices, to cut, shape and join paper and card.</p> <p><u>Food</u></p> <p>Use simple utensils to: peel, cut, slice, squeeze, grate and chop safely. Select from a range of fruit and vegetables according to characteristics: colour, texture, taste to create a chosen product.</p> <p><u>Structures</u></p> <p>Use simple finishing techniques suitable for the structure they are creating</p>	<p><u>Mechanisms</u> <u>Sliders and Levers</u></p> <p>Explore a range of existing products that use simple sliders and levers. 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><u>Food</u></p> <p>Taste and evaluate a range of fruit and veg to determine the users preference. Evaluate ideas and finished products against design criteria, including purpose and user.</p> <p><u>Structures</u></p> <p>Explore a range of existing freestanding structures in the school and local environment, e.g everyday products and buildings.</p>	<p><u>Mechanisms</u> <u>Sliders and Levers</u></p> <p>Understand how to design a card using a simple slider.</p> <p><u>Food</u></p> <p>Understand where a range of fruit and veg come from: farmed or grown at home. Understand basic principles of healthy and varied diet to prepare dishes: how fruit and veg part of eat well plate.</p> <p><u>Structure</u></p> <p>Understand how to strengthen structures to enable them to be freestanding.</p>
Year 2	<p><u>Mechanisms Wheels and axles</u></p> <p>Design a functional and appealing product for the chosen user and</p>	<p><u>Mechanisms Wheels and axles</u></p> <p>Select from a range of tools and equipment to perform practical tasks such</p>	<p><u>Mechanisms Wheels and axles</u></p> <p>Explore and evaluate a range of products with wheels and axles.</p>	<p><u>Mechanisms Wheels and axles</u></p> <p>Explore and use wheels, axles and axle holders.</p>

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	<p>purpose based on simple design criteria.</p> <p><u>Textiles</u></p> <p>Design a functional and appealing product for the 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 I.C.T</p> <p><u>Food</u></p> <p>Design appealing products for a particular user based on simple design criteria.</p> <p>Generate ideas and design through investigating a variety of fruit and veg. Communicate ideas through talk/drawings.</p>	<p>as marking out, cutting, joining and finishing.</p> <p><u>Textiles</u></p> <p>Select from and use a range of materials and components such as paper, card, plastic, wood, textiles according to their characteristics.</p> <p><u>Food</u></p> <p>Use simple utensils to: peel ,cut, slice, squeeze, grate and chop safely. Select from a range of fruit and vegetables according to characteristics: colour, texture, taste to create a chosen product.</p>	<p><u>Textiles</u></p> <p>Explore a range of existing textile products relevant to project.</p> <p>Evaluate their ideas throughout and their products against original criteria.</p> <p><u>Food</u></p> <p>Taste and evaluate a range of fruit and veg to determine the users preference.</p> <p>Evaluate ideas and finished products against design criteria, including purpose and user.</p>	<p>Distinguish between fixed and freely moving axles.</p> <p><u>Textiles</u></p> <p>Understand how simple 3-D textile products are made using a template to create 2 identical shapes.</p> <p>Understand how to join fabrics using, running stitch, glue, over stitch, stapling.</p> <p>Explore finishing tech: painting, fabric crayons, stitching, sequins, buttons and ribbons.</p> <p><u>Food</u></p> <p>Understand where a range of fruit and veg come from: farmed or grown at home.</p> <p>Understand basic principles of healthy and varied diet to prepare dishes: how fruit and veg part of eat well plate.</p>
Year 3	<p><u>Mechanical Systems</u> <u>Levers and Linkages</u></p> <p>Generate realistic ideas and their own design criteria through discussion, focussing on the needs of the user. Use annotated sketches and prototypes to develop, model and communicate ideas.</p>	<p><u>Mechanical Systems</u> <u>Levers and Linkages</u></p> <p>Select from and use appropriate tools with some accuracy to cut, shape and join paper and card.</p> <p><u>Textiles</u></p>	<p><u>Mechanical Systems</u> <u>Levers and Linkages</u></p> <p>Investigate and analyse books and where available other products with lever and linkage mechanisms.</p> <p><u>Textiles</u></p>	<p><u>Mechanical Systems</u> <u>Levers and Linkages</u></p> <p>Understand and use lever and linkage mechanisms.</p> <p>Distinguish between fixed and loose pivots.</p> <p><u>Textiles</u></p>

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	<p><u>Textiles</u></p> <p>Produce annotated sketches, prototypes, final product sketches and pattern pieces.</p> <p><u>Food</u></p> <p>Generate and clarify ideas through discussion with peers and adults, develop design criteria: appearance, taste, texture and aroma for an appealing product for user and purpose. Annotated sketches and I.C.T recipes, to develop and communicate ideas.</p>	<p>Select fabrics and fastenings according to their functional characteristics e.g strength and aesthetic qualities e.g pattern.</p> <p><u>Food</u></p> <p>Plan the main stages of a recipe, listing ingredients, utensils and equipment. Select and use appropriate utensils and equipment to prepare and combine ingredients. Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.</p>	<p>Investigate a range of 3D textile products relevant to the project. Test product against original design, criteria and the intended user. Take into account others' views.</p> <p><u>Food</u></p> <p>Carry out sensory evaluations of a variety of ingredients and products. Record using tables, graphs etc. Evaluate ongoing work and final product with reference to design criteria and views of others.</p>	<p>Know how to strengthen, stiffen and reinforce existing fabrics. Understand how to securely join two pieces of fabric together and need for patterns and seam allowances.</p> <p><u>Food</u></p> <p>Know how to use 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.</p>
Year 4	<p><u>Structures and Electrical Systems</u></p> <p>Generate realistic ideas and design criteria collaboratively through discussion, focussing on the need of the user and purpose of product. Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas. Gather information about needs and wants, and develop design criteria to inform the design of product, fir for purpose aimed at a group or individuals.</p>	<p><u>Structures</u></p> <p>Order main stages of making. Select from and use tools and equipment to cut, shape, join and finish with some accuracy. Select from and use materials and components, including construction materials and electrical components according to their functional and aesthetic qualities.</p> <p><u>Electrical Systems</u></p> <p>Plan the main stages of a recipe, listing ingredients, utensils and equipment.</p>	<p><u>Structures</u></p> <p>Investigate existing shell structures including the materials, components and techniques that have been used. Test and evaluate their own product against design criteria and intended user and purpose. Identify strengths and areas for improvement in their work.</p> <p><u>Electrical Systems</u></p> <p>Investigate and analyse a range of existing battery-powered products.</p>	<p><u>Structures</u></p> <p>Develop and use knowledge of how to construct strong, stiff shell structures. Develop and use knowledge of nets of cubes and cuboids and where appropriate, more complex 3D shapes.</p> <p><u>Electrical Systems</u></p>

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	<p>Generate, develop, model and communicate ideas through discussion and if appropriate annotated sketches, cross sectional and exploded diagrams.</p> <p><u>Food</u></p> <p>Generate and clarify ideas through discussion with peers and adults, develop design criteria: appearance, taste, texture and aroma for an appealing product for user and purpose. Annotated sketches and I.C.T recipes, to develop and communicate ideas</p>	<p>Select and use appropriate utensils and equipment to prepare and combine ingredients.</p> <p><u>Food</u></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>Test and evaluate their own product against design criteria and intended user and purpose. Identify strengths and areas for improvement in their work.</p> <p><u>Food</u></p> <p>Carry out sensory evaluations of a variety of ingredients and products. Record using tables, graphs etc.</p> <p>Evaluate ongoing work and final product with reference to design criteria and views of others.</p>	<p>Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. Apply their understanding of computing to program and control their products.</p> <p><u>Food</u></p> <p>Know how to use 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>
Year 5	<p><u>Structures</u></p> <p>Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches.</p> <p><u>Mechanical Systems</u></p> <p>Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web based resources. Develop a simple design specification to guide the development of their ideas and products, taking account of constraints, time, resources and cost.</p> <p><u>Food</u></p>	<p><u>Structures</u></p> <p>Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. Use finishing and decorative techniques suitable for the product they are designing and making.</p> <p><u>Mechanical Systems</u></p> <p>Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used.</p> <p><u>Food</u></p> <p>Write step-by step recipe, list of ingredients, equipment, utensils.</p>	<p><u>Structures</u></p> <p>Investigate and evaluate a range of existing frame structures. Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development.</p> <p><u>Mechanical Systems</u></p> <p>Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development.</p> <p><u>Food</u></p> <p>Carry out sensory evaluations of products/ ingredients.</p>	<p><u>Structures</u></p> <p>Understand how to strengthen, stiffen and reinforce 3-D frameworks.</p> <p><u>Mechanical Systems</u></p> <p>Understand that mechanical and electrical systems have an input, process and an output. Understand how pulleys and gears can be used to speed up, slow down or change the direction of movement.</p> <p><u>Food</u></p> <p>Know how to use utensils and equipment including heat sources to prepare and cook food.</p>

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	<p>Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification.</p> <p>Explore initial ideas and develop final product linked to user purpose.</p> <p>Use words, annotated sketches, I.C.T to develop ideas.</p>	<p>Select, use appropriate utensils, equipment accurately to measure and combine appropriate ingredients.</p> <p>Make, decorate and present the food for user.</p>	<p>Record using tables/graphs/charts.</p> <p>Evaluate product looking at design brief and specification.</p> <p>Understand how key chefs have influence eating habits to promote varied and healthy diets.</p>	<p>Understand about seasonality in relation to food products and the source of different food products.</p>
Year 6	<p><u>Electrical Systems and Textiles</u></p> <p>Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web based resources.</p> <p>Develop a simple design specification to guide the development of their ideas and products, taking account of constraints, time, resources and cost.</p> <p>Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches.</p> <p><u>Food</u></p> <p>Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification.</p> <p>Explore initial ideas and develop final product linked to user purpose.</p> <p>Use words, annotated sketches, I.C.T to develop ideas.</p>	<p><u>Electrical Systems and Textiles</u></p> <p>Produce detailed lists of equipment and fabrics relevant to task.</p> <p>Formulate step-by -step plans to guide making, listing tools, equipment, materials, components.</p> <p>Competently select and accurately assemble materials correctly and securely connect electrical components to produce reliable functional product</p> <p><u>Food</u></p> <p>Write step-by step recipe, list of ingredients, equipment, utensils.</p> <p>Select, use appropriate utensils, equipment accurately to measure and combine appropriate ingredients.</p> <p>Make, decorate and present the food for user.</p>	<p><u>Electrical Systems</u></p> <p>Compare final product to their original design specification.</p> <p>Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</p> <p>Consider views of others to improve their work.</p> <p><u>Textiles</u></p> <p>Investigate and analyse textile products linked to their final product.</p> <p>Compare final product to their original design specification.</p> <p>Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</p> <p>Consider views of others to improve their work.</p> <p><u>Food</u></p>	<p><u>Electrical Systems</u></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><u>Textiles</u></p> <p>A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. Fabrics can be strengthened, stiffened and reinforced where appropriate.</p> <p><u>Food</u></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>

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			<p>Carry out sensory evaluations of products/ ingredients. Record using tables/graphs/charts. Evaluate product looking at design brief and specification. Understand how key chefs have influence eating habits to promote varied and healthy diets.</p>	
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