

Year 5 - Progression of Knowledge and Skills DT

Term	Knowledge	Skills
<p data-bbox="254 371 420 414">Autumn 1</p> <p data-bbox="140 492 547 763">Topic: Electrical Systems using more complex switches and circuits Project to make: Alarm or security light</p> <p data-bbox="165 849 522 1006">Contemporary Icon-Elon Musk (Electrical Systems)</p>	<p data-bbox="573 314 1159 349"><u>Technical knowledge and understanding</u></p> <ul data-bbox="573 364 1337 656" style="list-style-type: none"> • Understand and use electrical systems in their products. • Apply their understanding of computing to program, monitor and control their products. • Know and use technical vocabulary relevant to the project. 	<p data-bbox="1426 314 1567 349"><u>Designing</u></p> <ul data-bbox="1426 364 2229 863" style="list-style-type: none"> • Use research to develop a design specification for a functional product that responds automatically to changes in the environment. • Take account of constraints including time, resources and cost. • Generate and develop innovative ideas and share and clarify these through discussion. • Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams. <p data-bbox="1426 878 1541 913"><u>Making</u></p> <ul data-bbox="1426 928 2242 1428" style="list-style-type: none"> • Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. • Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product. • Create and modify a computer control program to enable an electrical product to work automatically in response to changes in the environment.



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		<p><u>Evaluating</u></p> <ul style="list-style-type: none"> Continually evaluate and modify the working features of the product to match the initial design specification. Test the system to demonstrate its effectiveness for the intended user and purpose. Investigate famous inventors who developed ground-breaking electrical systems and components.
<p>Spring 1 Topic: Frame Structures Project to make: Make a bird box or tent</p> <p>Local Hero- Norman Foster (Structures)</p>	<p><u>Technical knowledge and understanding</u></p> <ul style="list-style-type: none"> Understand how to strengthen, stiffen and reinforce 3-D frameworks. Know and use technical vocabulary relevant to the project. 	<p><u>Designing</u></p> <ul style="list-style-type: none"> 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 including time, resources and cost. Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches.



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<p data-bbox="140 378 540 592">Spring 1 Topic: Frame Structures Project to make: Make a bird box or tent</p> <p data-bbox="165 664 522 828">Local Hero- Norman Foster (Structures)</p>		<p data-bbox="1421 321 1541 349"><u>Making</u></p> <ul data-bbox="1421 364 2242 821" style="list-style-type: none"><li data-bbox="1421 364 2242 506">• Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used.<li data-bbox="1421 521 2242 706">• Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.<li data-bbox="1421 721 2242 821">• Use finishing and decorative techniques suitable for the product they are designing and making. <p data-bbox="1421 835 1579 863"><u>Evaluating</u></p> <ul data-bbox="1421 878 2242 1278" style="list-style-type: none"><li data-bbox="1421 878 2242 978">• Investigate and evaluate a range of existing frame structures.<li data-bbox="1421 992 2242 1178">• Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.<li data-bbox="1421 1192 2242 1278">• Research key events and individuals relevant to frame structures.

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<p style="text-align: center;">Summer 2</p> <p>Topic: Food Celebrating Culture and Seasonality Project to make: Pizza making (Viking Shield)</p> <p>Trailblazer- Ken Hom (Food)</p>	<p><u>Technical knowledge and understanding</u></p> <ul style="list-style-type: none"> • Know how to use utensils and equipment including heat sources to prepare and cook food. • Understand about seasonality in relation to food products and the source of different food products. • Know and use relevant technical and sensory vocabulary. 	<p><u>Designing</u></p> <ul style="list-style-type: none"> • Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. • Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose. • Use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas. <p><u>Making</u></p> <ul style="list-style-type: none"> • Write a step-by-step recipe, including a list of ingredients, equipment and utensils • Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients. • Make, decorate and present the food product appropriately for the intended user and purpose.



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<p data-bbox="249 376 428 411">Summer 2</p> <p data-bbox="140 501 540 772">Topic: Food Celebrating Culture and Seasonality Project to make: Pizza making (Viking Shield)</p> <p data-bbox="163 853 517 951">Trailblazer- Ken Hom (Food)</p>		<p data-bbox="1429 319 1582 354"><u>Evaluating</u></p> <ul data-bbox="1429 368 2237 865" style="list-style-type: none"><li data-bbox="1429 368 2237 458">• Carry out sensory evaluations of a range of relevant products and ingredients.<li data-bbox="1429 472 2237 562">• Record the evaluations using e.g. tables/graphs/charts such as star diagrams.<li data-bbox="1429 576 2237 762">• 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 data-bbox="1429 776 2237 865">• Understand how key chefs have influenced eating habits to promote varied and healthy diets.