

DT Knowledge and Skills

Core Skills:

Active Learning	Basic Skills	Creative Thinking
<ul style="list-style-type: none"> To seek out and enjoy challenges To collaborate with others To show commitment and perseverance Assess themselves and others 	<ul style="list-style-type: none"> To speak clearly and convey ideas confidently To read and communicate ideas in writing efficiently & effectively To calculate efficiently and apply skills to solve problems To use new technologies confidently and purposefully 	<ul style="list-style-type: none"> To ask questions to extend thinking To generate ideas and explore possibilities To overcome barriers by trying out alternatives To connect ideas and experiences in inventive ways

Year 1					
Designing	Making	Evaluating	Technical knowledge	Food Technology	Skills
<p>use own ideas to design something</p> <p>describe how their own idea works</p> <p>design a product which moves</p> <p>explain to someone else how they want to make their product</p> <p>make a simple plan before making</p>	<p>use own ideas to make something</p> <p>make a product which moves</p> <p>choose appropriate resources and tools</p>	<p>describe how something works</p> <p>explain what works well and not so well in the model they have made</p>	<p>make their own model stronger</p>	<p>cut food safely</p>	<p><u>Multi-structural</u> Work as part of a class to solve simple design problems.</p> <p>Begin to interpret design criteria so that products are purposeful, functional and appealing.</p> <p>Begin to review ideas based on feedback from others.</p> <p><u>Relational</u> Demonstrate the ability to use simple tools and equipment to perform practical tasks.</p> <p>Begin to explore and evaluate existing products.</p> <p>Begin to evaluate ideas and products against design criteria.</p> <p><u>Extended Abstract</u> Generate, develop, and communicate their ideas through discussion, drawings and models.</p> <p>Begin to assess the usefulness of a range of materials according to their characteristics.</p>

Year 2					
Designing	Making	Evaluating	Technical knowledge	Food Technology	Skills
<p>think of an idea and plan what to do next</p> <p>explain why they have chosen specific textiles</p>	<p>choose tools and materials and explain why they have chosen them</p> <p>join materials and components in different ways</p> <p>measure materials to use in a model or structure</p>	<p>explain what went well with their work</p>	<p>make a model stronger and more stable</p> <p>use wheels and axles, when appropriate to do so</p>	<p>weigh ingredients to use in a recipe</p> <p>describe the ingredients used when making a dish or cake</p>	<p>Multi-structural Work as part of a group or class to solve simple design problems.</p> <p>Clarify design criteria so that products are purposeful, functional and appealing.</p> <p>Review ideas based on feedback from others.</p> <hr/> <p>Relational Demonstrate the ability to select from and use a range of simple tools and equipment to perform practical tasks.</p> <p>Explore and evaluate existing products.</p> <p>Evaluate ideas and products against design criteria</p> <hr/> <p>Extended Abstract Generate, develop, model and communicate their ideas through discussion, drawings and prototypes (mock-ups).</p> <p>Assess the usefulness of a range of materials according to their characteristics.</p>

Year 3					
Designing	Making	Evaluating	Technical knowledge	Food Technology	Skills
<p>prove that a design meets a set criteria.</p> <p>design a product and make sure that it looks attractive</p> <p>choose a material for both its suitability and its appearance</p>	<p>follow a step-by-step plan, choosing the right equipment and materials</p> <p>select the most appropriate tools and techniques for a given task</p> <p>make a product which uses both electrical and mechanical components</p> <p>work accurately to measure, make cuts and make holes</p>	<p>explain how to improve a finished model</p> <p>know why a model has or has not been successful</p>	<p>know how to strengthen a product by stiffening a given part or reinforce a part of the structure</p> <p>use a simple IT program within the design</p>	<p>describe how food ingredients come together</p> <p>weigh out ingredients and follow a given recipe to create a dish</p> <p>can talk about which food is healthy and which food is not</p> <p>know when food is ready for harvesting</p>	<p>Multi-structural Work as part of a group or class to solve design problems.</p> <p>Begin to clarify design criteria so that products are innovative, functional, appealing and fit for purpose</p> <p>Begin to review and rework ideas considering the views of others.</p> <hr/> <p>Relational Demonstrate increased skill with a range of tools and equipment to perform practical tasks.</p> <p>Investigate and analyse examples of existing products.</p> <p>Begin to evaluate ideas and products against their own design criteria and consider ways to improve their work</p> <hr/> <p>Extended Abstract Begin to understand and appreciate how key events and individuals in design technology have shaped the world.</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes and pattern pieces.</p> <p>Assess a range of materials and components according to their functional properties and aesthetic qualities.</p>

Year 4					
Designing	Making	Evaluating	Technical knowledge	Food Technology	Skills
<p>use ideas from other people when designing</p> <p>produce a plan and explain it</p> <p>persevere and adapt work when original ideas do not work</p> <p>communicate ideas in a range of ways, including by sketches and drawings which are annotated</p>	<p>know which tools to use for a particular task and show knowledge of handling the tool</p> <p>know which material is likely to give the best outcome</p> <p>measure accurately</p>	<p>evaluate and suggest improvements for designs</p> <p>evaluate products for both their purpose and appearance</p> <p>explain how the original design has been improved</p> <p>present a product in an interesting way</p>	<p>links scientific knowledge by using lights, switches or buzzers</p> <p>use electrical systems to enhance the quality of the product</p> <p>use IT where appropriate to add to the quality of the product</p>	<p>know how to be both hygienic and safe when using food</p> <p>bring a creative element to the food product being designed</p>	<p><u>Multi-structural</u> Work as part of a group or class to solve design problems.</p> <p>Clarify design criteria so that products are innovative, functional, appealing and fit for purpose</p> <p>Review and rework ideas considering the views of others.</p>
					<p><u>Relational</u> Demonstrate increased skill with a wider range of tools and equipment to perform practical tasks.</p> <p>Investigate and analyse a range of existing products.</p> <p>Evaluate ideas and products against their own design criteria and consider ways to improve their work.</p>
					<p><u>Extended Abstract</u> Understand and appreciate how key events and individuals in design technology have shaped the world.</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes, pattern pieces and computer-aided design.</p> <p>Assess a wider range of materials and components according to their functional properties and aesthetic qualities.</p>

Year 5					
Designing	Making	Evaluating	Technical knowledge	Food Technology	Skills
<p>come up with a range of ideas after collecting information from different sources</p> <p>produce a detailed, step-by-step plan</p> <p>explain how a product will appeal to a specific audience</p> <p>design a product that requires pulleys or gears</p>	<p>use a range of tools and equipment competently</p> <p>make a prototype before making a final version</p> <p>make a product that relies on pulleys or gears</p>	<p>suggest alternative plans; outlining the positive features and draw backs</p> <p>evaluate appearance and function against original criteria</p>	<p>links scientific knowledge to design by using pulleys or gears</p> <p>uses more complex IT program to help enhance the quality of the product produced</p>	<p>be both hygienic and safe in the kitchen</p> <p>know how to prepare a meal by collecting the ingredients in the first place</p> <p>know which season various foods are available for harvesting</p>	<p>Multi-structural Identify and solve design problems.</p> <p>Begin to use research and exploration to identify, understand and explain user needs.</p> <p>Review and rework ideas, considering the views of others.</p> <hr/> <p>Relational Demonstrate increased skill with a range of techniques, processes and equipment.</p> <p>Begin to analyse the work of professionals to develop and broaden their understanding of the process of design and production.</p> <p>Test and evaluate ideas and products against a specification.</p> <p>Use and combine different approaches to generate creative ideas</p> <hr/> <p>Extended Abstract Investigate and assess new and emerging technologies.</p> <p>Begin to appreciate developments in design technology and begin to explain the impact on individuals, society and the environment.</p> <p>Develop and communicate design ideas using annotated sketches, plans, 3D modelling, oral and digital presentations and computer-based tools.</p>

Year 6					
Designing	Making	Evaluating	Technical knowledge	Food Technology	Skills
use market research to inform plans and ideas.	know which tool to use for a specific practical task	know how to test and evaluate designed products	use electrical systems correctly and accurately to enhance a given product	explain how food ingredients should be stored and give reasons	<p>Multi-structural Identify and solve their own design problems.</p> <p>Use research and exploration to identify, understand and explain user needs through detailed notes and annotations.</p> <p>Review, rework and refine ideas, considering the views of others and actively seeking critique.</p>
follow and refine original plans	know how to use any tool correctly and safely	explain how products should be stored and give reasons	know which IT product would further enhance a specific product	work within a budget to create a meal	
justify planning in a convincing way	know what each tool is used for	evaluate product against clear criteria	use knowledge to improve a made product by strengthening, stiffening or reinforcing	understand the difference between a savoury and sweet dish	<p>Relational Demonstrate increased skill with a range of techniques and equipment, making informed choices based on the suitability and effectiveness of different processes.</p> <p>Analyse the work of professionals to develop and broaden their understanding of the process of design and production.</p> <p>Test, evaluate and refine ideas and products against a specification.</p> <p>Use and combine a variety of approaches to generate creative ideas.</p>
show that culture and society is considered in plans and designs	explain why a specific tool is best for a specific action				
					<p>Extended Abstract Investigate and assess new and emerging technologies.</p> <p>Recognise and appreciate developments in design technology and the impact on individuals, society and the environment.</p> <p>Develop and communicate design ideas with increasing professionalism using annotated sketches, detailed plans, 3D modelling, oral and digital presentations and computer-based tools.</p>

