



## Design and Technology: Progression of knowledge and skills

### DT: Key Stage 1

DT: Key Stage 1		Designing	Making	Evaluating	Technical Knowledge	Cooking and Nutrition
		<p><i>Design - purposeful, functional, appealing products for themselves and other users based on design criteria</i></p> <p><i>Design - generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</i></p>	<p><i>select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</i></p> <p><i>select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</i></p>	<p><i>explore and evaluate a range of existing products</i></p> <p><i>evaluate their ideas and products against design criteria</i></p>	<p><i>build structures, exploring how they can be made stronger, stiffer and more stable</i></p> <p><i>explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</i></p>	<p><i>use the basic principles of a healthy and varied diet to prepare dishes</i></p> <p><i>understand where food comes from</i></p>
<b>Year 1</b>		<ul style="list-style-type: none"> <li>• use own ideas to design something and describe how their own idea works</li> <li>• design a product which moves</li> <li>• explain to someone else how they want to make their product and make a</li> </ul>	<ul style="list-style-type: none"> <li>• use own ideas to make something</li> <li>• make a product which moves</li> <li>• choose appropriate resources and tools</li> </ul>	<ul style="list-style-type: none"> <li>• describe how something works</li> <li>• explain what works well and not so well in the model they have made</li> </ul>	<ul style="list-style-type: none"> <li>• make their own model stronger</li> </ul>	<ul style="list-style-type: none"> <li>• cut food safely</li> </ul>

	<p>simple plan before making</p>				
<p>Year 2</p>	<ul style="list-style-type: none"> <li>• think of an idea and plan what to do next</li> <li>• explain why they have chosen specific textiles</li> </ul>	<ul style="list-style-type: none"> <li>• choose tools and materials and explain why they have chosen them</li> <li>• join materials and components in different ways</li> <li>• measure materials to use in a model or structure</li> </ul>	<ul style="list-style-type: none"> <li>• explain what went well with their work</li> </ul>	<ul style="list-style-type: none"> <li>• make a model stronger and more stable</li> <li>• use wheels and axles, when appropriate to do so</li> </ul>	<ul style="list-style-type: none"> <li>• weigh ingredients to use in a recipe</li> <li>• describe the ingredients used when making a dish or cake</li> </ul>

## DT: Key Stage 2

Designing	Making	Evaluating	Technical Knowledge	Cooking and Nutrition
<p><i>use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups</i></p> <p><i>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</i></p>	<p><i>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</i></p> <p><i>select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</i></p>	<p><i>investigate and analyse a range of existing products</i></p> <p><i>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</i></p> <p><i>understand how key events and individuals in design and technology have helped shape the world</i></p>	<p><i>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</i></p> <p><i>understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</i></p> <p><i>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</i></p> <p><i>apply their understanding of computing to program, monitor and control their products.</i></p>	<p><i>understand and apply the principles of a healthy and varied diet</i></p> <p><i>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</i></p> <p><i>understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed</i></p>

<b>Year 3</b>	<ul style="list-style-type: none"> <li>• prove that a design meets a set criteria.</li> <li>• design a product and make sure that it looks attractive</li> <li>• choose a material for both its suitability and its appearance</li> </ul>	<ul style="list-style-type: none"> <li>• follow a step-by-step plan, choosing the right equipment and materials</li> <li>• select the most appropriate tools and techniques for a given task</li> <li>• make a product which uses both electrical and mechanical components</li> <li>• work accurately to measure, make cuts and make holes</li> </ul>	<ul style="list-style-type: none"> <li>• explain how to improve a finished model</li> <li>• know why a model has, or has not, been successful</li> </ul>	<ul style="list-style-type: none"> <li>• know how to strengthen a product by stiffening a given part or reinforce a part of the structure</li> <li>• use a simple IT program within the design</li> </ul>	<ul style="list-style-type: none"> <li>• describe how food ingredients come together</li> <li>• weigh out ingredients and follow a given recipe to create a dish</li> <li>• talk about which food is healthy and which food is not</li> <li>• know when food is ready for harvesting</li> </ul>
<b>Year 4</b>	<ul style="list-style-type: none"> <li>• use ideas from other people when designing</li> <li>• produce a plan and explain it</li> <li>• persevere and adapt work when original ideas do not work</li> <li>• communicate ideas in a range of ways, including by sketches and drawings which are annotated</li> </ul>	<ul style="list-style-type: none"> <li>• know which tools to use for a particular task and show knowledge of handling the tool</li> <li>• know which material is likely to give the best outcome</li> <li>• measure accurately</li> </ul>	<ul style="list-style-type: none"> <li>• evaluate and suggest improvements for design</li> <li>• evaluate products for both their purpose and appearance</li> <li>• explain how the original design has been improved</li> <li>• present a product in an interesting way</li> </ul>	<ul style="list-style-type: none"> <li>• links scientific knowledge by using lights, switches or buzzers</li> <li>• use electrical systems to enhance the quality of the product</li> <li>• use IT, where appropriate, to add to the quality of the product</li> </ul>	<ul style="list-style-type: none"> <li>• know how to be both hygienic and safe when using food</li> <li>• bring a creative element to the food product being designed</li> </ul>

## DT: Key Stage 2

Designing		Making	Evaluating	Technical Knowledge	Cooking and Nutrition
<p><i>use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups</i></p> <p><i>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</i></p>		<p><i>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</i></p> <p><i>select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</i></p>	<p><i>investigate and analyse a range of existing products</i></p> <p><i>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</i></p> <p><i>understand how key events and individuals in design and technology have helped shape the world</i></p>	<p><i>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</i></p> <p><i>understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</i></p> <p><i>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</i></p> <p><i>apply their understanding of computing to program, monitor and control their products.</i></p>	<p><i>understand and apply the principles of a healthy and varied diet</i></p> <p><i>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</i></p> <p><i>understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed</i></p>
<b>Year 5</b>	<ul style="list-style-type: none"> <li>• come up with a range of ideas after collecting information from different sources</li> <li>• produce a detailed, step-by-step plan</li> <li>• explain how a product will appeal to a specific audience</li> </ul>	<ul style="list-style-type: none"> <li>• use a range of tools and equipment competently</li> <li>• make a prototype before making a final version</li> <li>• make a product that relies on pulleys or gears</li> </ul>	<ul style="list-style-type: none"> <li>• suggest alternative plans; outlining the positive features and draw backs</li> <li>• evaluate appearance and function against original criteria</li> </ul>	<ul style="list-style-type: none"> <li>• links scientific knowledge to design by using pulleys or gears</li> <li>• uses more complex IT program to help enhance the quality of the product produced</li> </ul>	<ul style="list-style-type: none"> <li>• be both hygienic and safe in the kitchen</li> <li>• know how to prepare a meal by collecting the ingredients in the first place</li> <li>• know which season various foods are available for harvesting</li> </ul>

	<ul style="list-style-type: none"> <li>design a product that requires pulleys or gears</li> </ul>				
<p style="text-align: center;"><b>Year 6</b></p>	<ul style="list-style-type: none"> <li>use market research to inform plans and ideas.</li> <li>follow and refine original plans</li> <li>justify planning in a convincing way</li> <li>show that culture and society is considered in plans and designs</li> </ul>	<ul style="list-style-type: none"> <li>know which tool to use for a specific practical task</li> <li>know how to use any tool correctly and safely</li> <li>know what each tool is used for</li> <li>explain why a specific tool is best for a specific action</li> </ul>	<ul style="list-style-type: none"> <li>know how to test and evaluate designed products</li> <li>explain how products should be stored and give reasons</li> <li>evaluate product against clear criteria</li> </ul>	<ul style="list-style-type: none"> <li>use electrical systems correctly and accurately to enhance a given product</li> <li>know which IT product would further enhance a specific product</li> <li>use knowledge to improve a made product by strengthening, stiffening or reinforcing</li> </ul>	<ul style="list-style-type: none"> <li>explain how food ingredients should be stored and give reasons</li> <li>work within a budget to create a meal</li> <li>understand the difference between a savoury and sweet dish</li> </ul>