



Design Technology Knowledge and Skills Progression

Key Stage 1

Designing		Making	Evaluating	Technical Knowledge	Food Technology
<p>To design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, ICT</p>		<p>To select from and use a range of tools and equipment to perform practical tasks.</p> <p>To select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p>	<p>To explore and evaluate a range of existing products.</p> <p>To evaluate their ideas and products against design criteria.</p>	<p>To build structures, exploring how they can be made stronger, stiffer and more stable.</p> <p>To explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p>	<p>To use the basic principles of a healthy and varied diet to prepare dishes.</p> <p>To understand where food comes from.</p>
Year 1	<ul style="list-style-type: none"> • To know how to design a product that moves. • To know how to use ideas to design a product and describe how their own idea works. • To know how to make a simple plan before making. 	<ul style="list-style-type: none"> • To know how to use ideas to make a product which moves. • To know how to choose appropriate resources and tools- 	<ul style="list-style-type: none"> • To know how to describe how something works. • To know how to explain what works well and not so well in the model they have made. 	<ul style="list-style-type: none"> • To know how to explore and use levers and sliders in a picture. 	<ul style="list-style-type: none"> • To know how to cut food safely. • To know how to prepare cold foods. • To know what a healthy diet is and why it is important. • To know where fruits and vegetables come from.
Year 2	<ul style="list-style-type: none"> • To know how to think of an idea through discussion that meets a design criteria. • To know why they have chosen specific materials and why they are fit for purpose. • To know that a product has a particular audience. 	<ul style="list-style-type: none"> • To know how to choose tools and materials and explain why they have chosen them. • To know how to join materials and components in different ways. • To know how to measure materials, using a ruler, to use in a model or structure. 	<ul style="list-style-type: none"> • To know how to explain what went well with their work. • To know how to evaluate a product against design brief. 	<ul style="list-style-type: none"> • To know how to make a model stronger and more stable. • To know how to join different materials. 	<ul style="list-style-type: none"> • To know how to prepare, cut, grate cold ingredients. • To know how to describe and justify the ingredients they have used linked to healthy eating.



Design Technology Knowledge and Skills Progression Lower Key Stage 2

Designing		Making	Evaluating	Technical Knowledge	Food Technology
<p>To 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.</p> <p>To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</p>		<p>To select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</p> <p>To 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.</p>	<p>To investigate and analyse a range of existing products.</p> <p>To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>To understand how key events and individuals in design and technology have helped shape the world.</p>	<p>To apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</p> <p>To understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].</p> <p>To understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].</p> <p>To apply their understanding of computing to program, monitor and control their products.</p>	<p>To understand and apply the principles of a healthy and varied diet.</p> <p>To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.</p> <p>To understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.</p>
Year 3	<ul style="list-style-type: none"> • To know how to create a design and prove that it meets a set criteria. • To know how to design a product based on research and existing products. • To know how to choose 	<ul style="list-style-type: none"> • To know how to follow a step-by-step plan, choosing the right equipment and materials for a desired effect. • To know how to select the most appropriate tools and techniques for a given task. • To know how to select from a 	<ul style="list-style-type: none"> • To know how to evaluate a product against a design criteria. • To know why a model has, or has not, been successful. 	<ul style="list-style-type: none"> • To know how to strengthen, stiffen and reinforce a structure. 	<ul style="list-style-type: none"> • To know how food ingredients come together to make a balanced meal. • To know how to chop and prepare ingredients using different techniques. • To know how to accurately weigh out

	<p>material that is fit for purpose.</p> <ul style="list-style-type: none"> • To know how to create an annotated sketch of a design. • To know how to create a prototype. 	<p>range of materials thinking about their functional properties.</p> <ul style="list-style-type: none"> • To know how to work accurately to measure and cut material. • To join materials and fasten buttons. 			<p>ingredients and follow a given recipe to create a product.</p> <ul style="list-style-type: none"> • To know that a balanced diet is important- including the types and amounts of nutrients that are needed to achieve this. • To know about seasonality and why it is important.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Year 4</p>	<ul style="list-style-type: none"> • To know how to use ideas from other people and existing products when designing. • To know how to produce a design and explain it- exploded diagram. • To know how to communicate ideas in a range of ways, including by sketches and drawings which are annotated- exploded diagram. 	<ul style="list-style-type: none"> • To know which tools to use for a particular task and show knowledge of handling the tool- saws, scissors, clamps. • To know which material is likely to give the best outcome. • To know how to measure and cut accurately. • To know how to adapt work when original ideas do not work. 	<ul style="list-style-type: none"> • To know how to evaluate and suggest improvements for design. • To know how to evaluate products for both their purpose and appearance. • To know how an original design has been improved and adapted to meet requirements. • To know how to present a product in an interesting way, considering aesthetic qualities. 	<ul style="list-style-type: none"> • To know how to use IT, where appropriate, to add to the quality of the product. • To know how to strengthen a product by stiffening a given part or reinforce a part of the structure. • To know how to use mechanical structures – wheels. 	<ul style="list-style-type: none"> • To know that a balanced and healthy diet is important. • To know how food ingredients come together to make a balanced meal. • To know how to work safely in a kitchen using different techniques to prepare food, • To know how to cook a simple meal.



Design Technology Knowledge and Skills Progression

Upper Key Stage 2

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

	<p>a product that requires pulleys or gears.</p> <ul style="list-style-type: none"> • To know how to use IT programmes to understand design (CAD/CAM). 	<p>product that fits a theme-design criteria.</p>			<p>safely.</p>
<p>Year 6</p>	<ul style="list-style-type: none"> • To know how to use market research to inform plans and ideas. • To know how to create a step-by-step plan. • To know how to justify planning in a convincing way and by choosing appropriate materials. • To know and investigate which movements are created by different shaped cams. • To know how to choose a specific shaped cam to suit the intended movement of their design 	<ul style="list-style-type: none"> • To know which tool to use for a specific practical task. • To know how to use a tool correctly and safely. • To know what each tool is used for. • To explain why a specific tool is best for a specific action. 	<ul style="list-style-type: none"> • To know how to test and evaluate a designed product by discussing positives and areas of improvement. • To know how a product should be stored and give reasons. • To know how to evaluate a product against a design criteria. 	<ul style="list-style-type: none"> • To know how to improve a made product by strengthening, stiffening or reinforcing. • To know how to use a mechanical structure – cams. • To know how to join wood together to make a 3D, secure, wooden frame. 	<ul style="list-style-type: none"> • To know that a balanced and healthy diet is important. • To know how to cook and prepare a savoury meal including a variety of ingredients. • To know the importance of seasonality, allergies and dietary requirements when creating a dish.