

Progression of Skills - Design and Technology

Year 1/2				
	Food and nutrition	Textiles	Structures	Mechanisms
Designing	<p>I can work confidently within a range of contexts (such as, imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment)</p> <p>I can state what I am making, who it is for and what it is for.</p> <p>I can say how my product will work</p> <p>I can use simple design criteria to help develop my ideas</p> <p>I can generate ideas by drawing on my own experiences</p> <p>I can use my knowledge of existing products to help come up with ideas</p> <p>I can develop and communicate ideas by talking and drawing</p> <p>I can model ideas by exploring materials, components and construction kits and by making templates and mock ups</p> <p>I can use ICT, where appropriate, to develop and communicate their ideas</p>			
Making	<p>I can plan my product by suggesting what to do next.</p> <p>I can select from a range of tools and equipment and explain my choices.</p> <p>I can select from a range of materials and components according to their characteristics.</p> <p>I can follow procedures for safety and hygiene</p> <p>I can use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components</p> <p>I can measure, mark out, cut and shape materials and components</p> <p>I can assemble, join and combine materials and components</p> <p>I can use finishing techniques, including those from art and design</p>			
Technical Knowledge	<p>I can use the correct technical vocabulary for the projects they are undertaking</p> <p>I know about the simple working characteristics of materials and components</p>			
	<p>I know that all food comes from plants or animals.</p> <p>I know that food has to be farmed, grown elsewhere (home) or caught.</p> <p>I know that food ingredients should be combined according to their sensory characteristics</p> <p>I know how to prepare simple dishes safely and hygienically.</p> <p>I know how to use techniques such as cutting, peeling and grating</p>	<p>I know that a 3-D textiles product can be assembled from two identical fabric shape</p>	<p>I know how freestanding structures can be made stronger, stiffer and more stable</p>	<p>I know about the movement of simple mechanisms such as levers, sliders, wheels and axles</p>
Evaluation	<p>I can make simple judgements about my products and ideas against design criteria</p> <p>I can suggest how their products could be improved</p> <p>I can explore what products are and who or what they are for.</p> <p>I can explore how products work and how or where they might be used.</p> <p>I can explore what materials products are made from</p> <p>I can explore what they like and dislike about products</p>			

Progression of Skills - Design and Technology

Year 3/4							
	Food and nutrition	Mouldable	Textiles	Mechanisms	Electrical	Structures	Computing
Designing	<p>I can work confidently within a range of contexts (such as the home, school, leisure, culture, enterprise, industry and the wider environment)</p> <p>I can describe the purpose of my products</p> <p>I can explain how particular parts of my products work</p> <p>I can gather information about needs and wants of particular individuals and groups</p> <p>I can develop my own design criteria and use these to inform my ideas</p> <p>I can use discussion, models, annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate my ideas</p> <p>I can use computer-aided design to develop and communicate my ideas</p> <p>I can generate realistic ideas, focusing on the needs of the user</p> <p>I can make design decisions that take account of the availability of resources</p>						
Making	<p>I can select tools and equipment suitable for the task</p> <p>I can explain their choice of tools and equipment in relation to the skills and techniques they will be using</p> <p>I can select and explain the materials and components suitable for the task according to functional properties and aesthetic qualities</p> <p>I can order the main stages of making</p> <p>I can use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components</p> <p>I can measure, mark out, cut and shape materials and components with some accuracy</p> <p>I can assemble, join and combine materials and components with some accuracy</p> <p>I can apply a range of finishing techniques, including those from art and design, with some accuracy</p>						
Technical Knowledge	<p>I know how to use learning from science and maths to help design and make products that work</p> <p>I know that materials have both functional properties and aesthetic qualities</p> <p>I know that materials can be combined and mixed to create more useful characteristics</p> <p>I can use the correct technical vocabulary for the projects they are undertaking</p>						
	<p>I know that food is grown, reared and caught in the UK, Europe and the wider world</p> <p>I can describe a balanced diet.</p> <p>I know how to prepare and cook a variety of dishes safely and hygienically</p> <p>I know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</p> <p>I know that a healthy diet is made up from a variety and balance of different food and drink.</p> <p>I know that to be active and healthy, food and drink are needed to provide energy for the body</p>	<p>I know how tools can be used to create texture and design.</p>	<p>I know that a single fabric shape can be used to make a 3D textiles product</p>	<p>I know how mechanical systems such as levers and linkages or pneumatic systems create movement</p>	<p>I know how simple electrical circuits and components can be used to create functional products</p>	<p>I know how to make strong, stiff shell structures</p>	<p>I know how to program a computer to control myproducts</p>
Evaluation	<p>I can identify the strengths and areas for development in my ideas and products</p> <p>I can consider the views of others to improve their work</p> <p>I can refer to my design criteria when making and evaluating</p> <p>I know how well products have been designed and made to achieve their purpose.</p> <p>I know why materials have been chosen</p> <p>I know what methods of construction have been used</p> <p>I know how well products meet user needs and wants</p> <p>I know whether products can be recycled or reused</p> <p>I know about inventors, designers, engineers, chefs and manufacturers who have impacted on the world.</p>						

Progression of Skills - Design and Technology

Year 5/6							
	Food and nutrition	Mouldable	Textiles	Mechanisms	Electrical	Structures	Computing
Designing	<p>I can work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment</p> <p>I can carry out research, using surveys, interviews, questionnaires and web-based resources</p> <p>I can identify the needs, wants, preferences and values of particular individuals and groups</p> <p>I can develop a simple design specification to guide my thinking</p> <p>I can describe the purpose and features of my product that appeal to the intended user.</p> <p>I can use models to show my ideas, e.g. prototype and pattern pieces.</p> <p>I can choose how I share my ideas to develop and communicate my ideas. (discussion, annotated sketches, cross sectional drawings, exploded diagrams, computer aided)</p> <p>I can make design ideas, taking into account the needs of the user and availability of resources.</p> <p>I can describe how my product will work.</p>						
Making	<p>I can select tools and equipment suitable for the task and explain my choice in relation to skills and techniques.</p> <p>I can select materials and components suitable for the task and explain my choice according to functional properties and aesthetic qualities</p> <p>I can produce appropriate lists of tools, equipment and materials that they needed</p> <p>I can formulate step-by-step plans as a guide to making</p> <p>I can choose a wider range of materials and components (construction materials and kits, textiles, food ingredients, mechanical components and electrical components)</p> <p>I can accurately measure, mark out, cut and shape materials and components</p> <p>I can accurately assemble, join and combine materials and components</p> <p>I can accurately apply a range of finishing techniques, including those from art and design</p> <p>I can use techniques that involve a number of steps, following safety and hygiene</p> <p>I can demonstrate resourcefulness when tackling practical problems</p>						
Technical Knowledge	<p>I know the functional properties and aesthetic qualities of different materials.</p> <p>I know that materials can be combined and mixed to create more useful characteristics</p> <p>I can use the correct technical vocabulary for the projects they are undertaking</p>						
	<p>I know that seasons may affect the food available</p> <p>I know how food is processed into ingredients that can be eaten or used in cooking</p> <p>I can choose, prepare and cook safely and hygienically using a range of techniques (peeling, chopping, slicing, grating, mixing, spreading, kneading and baking)</p> <p>I know that recipes can be adapted to change the appearance, taste, texture and aroma</p> <p>I know that different food and drink contain different substances – nutrients, water and fibre – that are needed for health</p> <p>I know that a recipe can be adapted by adding or substituting one or more ingredients</p>	<p>I know how parts can be joined to create a clean finish.</p>	<p>I know that a 3D textiles product can be made from a combination of fabric shapes</p>	<p>I know how mechanical systems such as cams or pulleys or gears create movement.</p> <p>I know that mechanical and electrical systems have an input, process and output</p>	<p>I know how more complex electrical circuits and components can be used to create movement</p>	<p>I know how to reinforce and strengthen a 3D framework</p>	<p>I know how to program a computer to monitor changes in the environment and control my products</p>
Evaluation	<p>I know how well products have been designed and made</p> <p>I can evaluate my product against the design specification</p> <p>I know how much products cost to make</p> <p>I know how innovative products are</p> <p>I know how sustainable the materials in products are</p> <p>I know what impact products have beyond their intended purpose</p> <p>I know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products</p>						

Progression of Skills - Design and Technology