

## Design & Technology Curriculum Progression – Upper Key Stage 2

DESIGNING	YEAR 5	YEAR 6
Understanding contexts, users and purposes	<ul style="list-style-type: none"> <li>Work confidently within a range of contexts such as the home, school, leisure, culture, enterprise, industry and the wider environment</li> <li>Describe the purpose of their product</li> <li>Indicate design features that will appeal to intended users</li> <li>Explain how particular parts of their product will work</li> <li>Carry out research using surveys, interviews, questionnaires and web based resources.</li> <li>Identify the needs, wants, preferences and values of particular individuals and groups</li> </ul>	<ul style="list-style-type: none"> <li>Work confidently within a range of contexts such as the home, school, leisure, culture, enterprise, industry and the wider environment</li> <li>Describe the purpose of their product</li> <li>Indicate design features that will appeal to intended users</li> <li>Explain how particular parts of their product will work</li> <li>Carry out research using surveys, interviews, questionnaires and web based resources.</li> <li>Identify the needs, wants, preferences and values of particular individuals and groups</li> <li>Develop a simple design specification to guide their thinking</li> </ul>
Generating, developing, modeling and communicating ideas	<ul style="list-style-type: none"> <li>Share and clarify ideas through discussion</li> <li>Model ideas using prototypes and pattern pieces</li> <li>Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate ideas.</li> <li>Use computer-aided design to develop and communicate ideas.</li> <li>Make design decisions that take account of resource availability.</li> <li>Generate innovative ideas, drawing on research.</li> </ul>	<ul style="list-style-type: none"> <li>Share and clarify ideas through discussion</li> <li>Model ideas using prototypes and pattern pieces</li> <li>Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate ideas.</li> <li>Use computer aided design to develop and communicate ideas</li> <li>Generate innovative ideas, drawing on research.</li> <li>Make design decisions that take account of constraints such as time, resources and cost.</li> </ul>
MAKING	YEAR 5	YEAR 6
Planning	<ul style="list-style-type: none"> <li>Select tools and equipment suitable for the task</li> <li>Explain their choice of tools and equipment in relation to the skills and techniques they will be using</li> <li>Select materials and components suitable for the task.</li> <li>Explain their choice of materials and components according to functional properties and aesthetic qualities.</li> <li>Produce lists of tools, equipment and materials needed</li> <li>Formulate step-by-step plans as a guide to making</li> </ul>	<ul style="list-style-type: none"> <li>Select tools and equipment suitable for the task</li> <li>Explain their choice of tools and equipment in relation to the skills and techniques they will be using</li> <li>Select materials and components suitable for the task.</li> <li>Explain their choice of materials and components according to functional properties and aesthetic qualities.</li> <li>Produce lists of tools, equipment and materials needed</li> <li>Formulate detailed step-by-step plans as a guide to making.</li> </ul>
Practical skills and techniques	<ul style="list-style-type: none"> <li>Follow procedures for safety and hygiene.</li> <li>Use a wide range of materials and components inc. construction materials and kits, textiles, food ingredients, mechanical and electrical components</li> <li>Accurately measure, mark, cut and shape materials and components.</li> <li>Accurately assemble, join and combine materials and components.</li> <li>Accurately apply a range of finishing techniques, including those from art and design.</li> <li>Demonstrate resourcefulness when tackling practical problems</li> </ul>	<ul style="list-style-type: none"> <li>Follow procedures for safety and hygiene.</li> <li>Use a wide range of materials and components inc. construction materials and kits, textiles, food ingredients, mechanical and electrical components</li> <li>Accurately measure, mark, cut and shape materials and components.</li> <li>Accurately assemble, join and combine materials and components.</li> <li>Accurately apply a range of finishing techniques, including those from art and design.</li> <li>Demonstrate resourcefulness when tackling practical problems</li> <li>Use techniques involving a number of steps</li> </ul>

EVALUATING	YEAR 5	YEAR 6
Own ideas and products	<ul style="list-style-type: none"> <li>Identify strengths and areas for development in their ideas and products.</li> <li>Consider the views of others, including intended users, to improve their work</li> <li>Critically evaluate the quality of design, manufacture and fitness for purpose of their product throughout the process</li> </ul>	<ul style="list-style-type: none"> <li>Identify strengths and areas for development in their ideas and products.</li> <li>Consider the views of others, including intended users, to improve their work</li> <li>Critically evaluate the quality of design, manufacture and fitness for purpose of their product throughout the process</li> <li>Evaluate their ideas and products against their original design specification.</li> </ul>
Existing products	<ul style="list-style-type: none"> <li>Explore how well products have been designed and made.</li> <li>Explore what materials and methods of construction have been used.</li> <li>Explore how well products work and achieve their purpose.</li> <li>Explore how well products meet user needs.</li> <li>Investigate and analyse products' cost, innovativeness and sustainability.</li> </ul>	<ul style="list-style-type: none"> <li>Explore how well products have been designed and made.</li> <li>Explore what materials and methods of construction have been used.</li> <li>Explore how well products work and achieve their purpose.</li> <li>Explore how well products meet user needs.</li> <li>Investigate and analyse products' cost, innovativeness, sustainability and impact beyond intended purpose.</li> </ul>
Key events and individuals	<ul style="list-style-type: none"> <li>Know about relevant inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.</li> </ul>	<ul style="list-style-type: none"> <li>Know about relevant inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.</li> </ul>
TECHNICAL KNOWLEDGE	YEAR 5	YEAR 6
Making products work	<ul style="list-style-type: none"> <li>Know how to use learning from mathematics and science to help design and make products that work.</li> <li>Understand that materials have functional properties and aesthetic qualities.</li> <li>Understand that materials can be both combined and mixed to create more useful characteristics.</li> <li>Understand that mechanical and electrical systems have an input, process and output.</li> <li>Know the correct technical vocabulary for the projects they are undertaking.</li> <li>Know how mechanical systems such as cams, pulleys or gears create movement.</li> <li>Know how more complex electrical circuits can be used to create functional properties</li> <li>Know how to program a computer to monitor changes in the environment and control their product.</li> <li>Know how to reinforce and strengthen a 3-D framework.</li> <li>Know that a 3-D textile product can be made from a combination of fabric shapes.</li> <li>Know that a recipe can be adapted by adding / substituting ingredients.</li> </ul>	<ul style="list-style-type: none"> <li>Know how to use learning from mathematics and science to help design and make products that work.</li> <li>Understand that materials have functional properties and aesthetic qualities.</li> <li>Understand that materials can be both combined and mixed to create more useful characteristics.</li> <li>Understand that mechanical and electrical systems have an input, process and output.</li> <li>Know the correct technical vocabulary for the projects they are undertaking.</li> <li>Know how mechanical systems such as cams, pulleys or gears create movement.</li> <li>Know how more complex electrical circuits can be used to create functional properties</li> <li>Know how to program a computer to monitor changes in the environment and control their product.</li> <li>Know how to reinforce and strengthen a 3-D framework.</li> <li>Know that a 3-D textile product can be made from a combination of fabric shapes.</li> <li>Know that a recipe can be adapted by adding / substituting ingredients.</li> </ul>

COOKING & NUTRITION	YEAR 5	YEAR 6
Where food comes from	<ul style="list-style-type: none"> <li>• Know that all food is grown, reared and caught, both in the UK and the wider world.</li> <li>• Know that seasons can affect food availability.</li> <li>• Know how food is processed into ingredients that can be eaten or used in cooking.</li> </ul>	<ul style="list-style-type: none"> <li>• Know that all food is grown, reared and caught, both in the UK and the wider world.</li> <li>• Know that seasons can affect food availability.</li> <li>• Know how food is processed into ingredients that can be eaten or used in cooking.</li> <li>•</li> </ul>
Food preparation, cooking and nutrition	<ul style="list-style-type: none"> <li>• Know how to prepare and cook a variety of savoury dishes safely and hygienically, including using a heat source.</li> <li>• Know how to use a range of techniques including peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</li> <li>• Know that different food and drink contains different substances – water, nutrients, fibre – that are needed for health</li> </ul>	<ul style="list-style-type: none"> <li>• Know how to prepare and cook a variety of savoury dishes safely and hygienically, including using a heat source.</li> <li>• Know how to use a range of techniques including peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</li> <li>• Know that different food and drink contains different substances – water, nutrients, fibre – that are needed for health</li> <li>• Know that recipes can be adapted to change their appearance, texture, aroma and taste.</li> </ul>