

# Progression of Skills in Design and Technology

SKILLS	Year 1 and 2	Year 3 and 4	Year 5 and 6
Design	<ul style="list-style-type: none"> <li>▶ Use pictures and words to convey what they want to design / make.</li> <li>▶ Explore ideas by rearranging materials.</li> <li>▶ Select pictures to help develop ideas.</li> <li>▶ Use mock-ups e.g. recycled material trial models to try out their ideas.</li> <li>▶ Propose more than one idea for their product.</li> <li>▶ Use ICT to communicate ideas.</li> <li>▶ Use drawings to record ideas as they are developed.</li> <li>▶ Add notes to drawings to help explanations.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Develop more than one design or adaptation of an initial design.</li> <li>▶ Plan a sequence of actions to make a product.</li> <li>▶ Think ahead about the order of their work and decide upon tools and materials.</li> <li>▶ Propose realistic suggestions as to how they can achieve their design ideas.</li> <li>▶ Record the plan by drawing using annotated sketches.</li> <li>▶ Use prototypes to develop and share ideas.</li> <li>▶ Consider aesthetic qualities of materials chosen.</li> <li>▶ Use CAD where appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Record ideas using annotated diagrams.</li> <li>▶ Use models, kits and drawings to help formulate design ideas.</li> <li>▶ Sketch and model alternative ideas.</li> <li>▶ Decide which design idea to develop.</li> <li>▶ Plan the sequence of work.</li> <li>▶ Devise step by step plans which can be read / followed by someone else.</li> <li>▶ Use exploded diagrams and cross-sectional diagrams to communicate ideas.</li> </ul>
Make	<ul style="list-style-type: none"> <li>▶ Select materials from a limited range.</li> <li>▶ Explain what they are making.</li> <li>▶ Name the tools they are using. Discuss their work as it progresses.</li> <li>▶ Discuss their work as it progresses.</li> <li>▶ Select and name the tools needed to work the materials.</li> <li>▶ Explain which materials they are using and why.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Select from a range of tools for cutting, shaping, joining and finishing.</li> <li>▶ Use tools with accuracy.</li> <li>▶ Select from materials according to their functional properties.</li> <li>▶ Use appropriate finishing techniques.</li> <li>▶ Prepare pattern pieces as templates for their design.</li> <li>▶ Select from techniques for different parts of the process.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Develop one idea in depth.</li> <li>▶ Select from and use a wide range of tools.</li> <li>▶ Cut accurately and safely to a marked line.</li> <li>▶ Select from and use a wide range of materials.</li> <li>▶ Make prototypes.</li> <li>▶ Use researched information to inform decisions.</li> <li>▶ Produce detailed lists of ingredients / components / materials and tools.</li> <li>▶ Refine their product – review and rework / improve.</li> </ul>
Evaluate	<ul style="list-style-type: none"> <li>▶ Explore existing products and investigate how they have been made (including teacher-made examples).</li> <li>▶ Talk about their design as they develop and identify good and bad points.</li> <li>▶ Say what they like and do not like about items they have made and attempt to say why.</li> <li>▶ Decide how existing products do / do not achieve their purpose.</li> <li>▶ Discuss how closely their finished product meets their own design criteria.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Investigate similar products to the one to be made to give starting points for a design.</li> <li>▶ Research needs of user.</li> <li>▶ Decide which design idea to develop.</li> <li>▶ Consider and explain how the finished product could be improved.</li> <li>▶ Discuss how well the finished product meets the user's design criteria.</li> <li>▶ Investigate key events and individuals in design and technology.</li> <li>▶ Draw / sketch existing products in order to analyse and understand how products are made.</li> <li>▶ Identify the strengths and weaknesses of their design ideas in relation to purpose / user.</li> <li>▶ Consider and explain how the finished product could be improved.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Research and evaluate existing products.</li> <li>▶ Consider user and purpose.</li> <li>▶ Consider and explain how the finished product could be improved related to design criteria.</li> <li>▶ Investigate key events and individuals in design and technology.</li> <li>▶ Identify the strengths and weaknesses of their design ideas.</li> <li>▶ Report using correct technical vocabulary.</li> <li>▶ Discuss how well the finished product meets the design criteria having tested on/discussed outcomes with the user.</li> <li>▶ Understand how key people have influenced design in a variety of contexts.</li> <li>▶ Investigate key events and individuals in design and technology.</li> </ul>

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		<ul style="list-style-type: none"> <li>▶ Investigate key events and individuals in design and technology.</li> </ul>	
<p>Technical knowledge</p>	<ul style="list-style-type: none"> <li>▶ Start to use technical vocabulary.</li> <li>▶ Cut out shapes which have been created by drawing round a template.</li> <li>▶ Join materials in a variety of ways.</li> <li>▶ Decorate using a variety of techniques.</li> <li>▶ Know some ways of making structures stronger.</li> <li>▶ Show how to stiffen some materials.</li> <li>▶ Know how to make a simple structure more stable.</li> <li>▶ Attach wheels to a chassis using an axle.</li> </ul> <p>Know some different ways of making things move in a 2-D plane.</p>	<ul style="list-style-type: none"> <li>▶ Use an increasingly appropriate technical vocabulary for tools materials and their properties.</li> <li>▶ Understand seam allowance.</li> <li>▶ Prototype a product.</li> <li>▶ Sew on buttons and make loops.</li> <li>▶ Strengthen frames with diagonal struts.</li> <li>▶ Measure and mark square section, strip and dowel accurately to 1cm.</li> <li>▶ Incorporate a circuit into a model.</li> <li>▶ Use electrical systems such as switches bulbs and buzzers.</li> <li>▶ Use ICT to control products.</li> <li>▶ Use linkages to make movement larger or more varied.</li> <li>▶ Use an increasingly appropriate technical vocabulary for tools materials and their properties.</li> <li>▶ Understand seam allowance.</li> <li>▶ Prototype a product.</li> <li>▶ Sew on buttons and make loops.</li> <li>▶ Strengthen frames with diagonal struts.</li> <li>▶ Measure and mark square section, strip and dowel accurately to 1cm.</li> <li>▶ Incorporate a circuit into a model.</li> <li>▶ Use electrical systems such as switches bulbs and buzzers.</li> <li>▶ Use ICT to control products.</li> <li>▶ Use linkages to make movement larger or more varied.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Use the correct vocabulary appropriate to the project.</li> <li>▶ Join materials using appropriate methods.</li> <li>▶ Create 3-D textile products using pattern pieces.</li> <li>▶ Understand pattern layout with textiles.</li> <li>▶ Cut strip wood, dowel, square section wood accurately to 1mm.</li> <li>▶ Build frameworks to support mechanisms.</li> <li>▶ Stiffen and reinforce complex structures.</li> <li>▶ Use mechanical systems such as cams, pulleys and gears.</li> <li>▶ Use electrical systems such as motors and switches.</li> </ul> <p style="text-align: center;">Program, monitor and control using ICT.</p>
<p>Cooking and nutrition</p>	<ul style="list-style-type: none"> <li>▶ Cut, peel, grate, chop a range of ingredients.</li> <li>▶ Work safely and hygienically.</li> <li>▶ Know about the Eatwell Plate.</li> <li>▶ Understand where food comes from.</li> <li>▶ Group familiar food products e.g. fruit and vegetables.</li> <li>▶ Cut and chop a range of ingredients.</li> <li>▶ Work safely and hygienically.</li> <li>▶ Know about the need for a variety of foods in a diet.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Follow instructions / recipes.</li> <li>▶ Join and combine a range of ingredients.</li> <li>▶ Begin to understand the food groups on the Eatwell Plate.</li> <li>▶ Make healthy eating choices – use the Eatwell plate.</li> <li>▶ Understand seasonality.</li> <li>▶ Know where and how ingredients are reared and caught.</li> <li>▶ Prepare and cook using different cooking techniques.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Join and combine a widening range of ingredients.</li> <li>▶ Select and prepare foods for a particular purpose.</li> <li>▶ Know where and how ingredients are grown and processed.</li> <li>▶ Understand and apply the principles of a healthy and varied diet.</li> <li>▶ Choose ingredients to support healthy eating choices when designing their food products.</li> <li>▶ Prepare and cook a variety of mostly savoury dishes using a range of cooking techniques.</li> </ul>

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These skills are developed each time Design and Technology is taught, but are taught in-depth during:

	Year 1 and 2	Year 3 and 4	Year 5 and 6
Design, Make, Evaluate and technical language is developed every time DT is taught.	Cycle A, Autumn: Exciting Engineers and Interesting Inventors Cycle A, Summer: Here, there and everywhere Cycle A, Spring: Our Wonderful World Cycle B, Autumn: Castles and Battles Cycle B, Spring: London's Calling Cycle B, Summer: Our Wild Planet	Cycle A, Autumn: Life in Liverpool Cycle A, Spring: The Rock Days Cycle A, Summer: Italy Cycle B, Autumn: Changing Britain Cycle B, Spring: Brazilian Rainforests Cycle B, Summer: Ancient Egypt	Cycle A, Autumn: Holes Cycle A, Spring: A Cobbs Brow Guide to Galaxy Cycle A, Summer: Ancient Greece Cycle B, Autumn: Crime and Punishment Cycle B, Spring Cycle B, Summer: The Mayans.
Cooking and nutrition	Cycle B, Summer: Our Wild Planet	Cycle A, Summer: Italy	Cycle A, Spring: A Cobbs Brow Guide to Galaxy