



## Disciplinary Knowledge – Design & Technology

The below tables outlines where disciplinary knowledge is **first taught** and deliberately practised in KS1 or KS2. The curriculum has been sequenced so that the content is also reviewed in subsequent units (and may also be reviewed in other subject areas like science and history), but to keep the table readable, we have only set out where it is first taught.

	Marking out and cutting	Fixing and joining	Mechanisms and control	Finishing, including food hygiene
Y1	Safe use of simple tools to punch to cut and make holes materials	<ul style="list-style-type: none"> <li>Joining 2D and 3D materials- gluing, sticking,</li> <li>Tying, fixing with split pins</li> <li>Creating basic hinges</li> <li>Creating levers and sliders</li> </ul> <p>Understanding of structures and how these can be made stronger and more stable</p>	Understanding simple mechanisms that allow movement – sliding mechanisms	<ul style="list-style-type: none"> <li>Basic food handling, hygienic practices and personal hygiene, including how to control risks</li> <li>Safe use of a variety of tools and equipment to peel, cut, grate, mix and mould food</li> <li>The nutritional value of food stuffs in a balanced diet</li> </ul> <p>Know about and apply basic finishing techniques e.g. collage, painting, colouring to match a design brief.</p>
Y2	<ul style="list-style-type: none"> <li>Using templates and patterns on fabric, pinning, tracing around outline of component parts. Experimenting with using a template to draw and cut out 2 identical shapes</li> <li>Applying basic measuring skills</li> <li>Cutting fabric with precision</li> </ul>	<ul style="list-style-type: none"> <li>Developing basic sewing techniques – starting, ending, running stitch to join fabric</li> <li>Developing a range of techniques for joining fabric- lacing, stitching, stapling, gluing, taping</li> </ul> <p>Joining wheels and axels</p>	Understanding simple mechanisms that allow movement - winding mechanisms	Know about and apply different finishing techniques – collage, paint, cut out shapes, computer generated images to match a design brief.



	<p>Use of simple models e.g. base kits/use of nets to plan out use of space or a structure might be marked out in order to be made</p>			
<p>Y3</p>	<p>Work safely with a range of hand tools incl junior hacksaw</p>	<ul style="list-style-type: none"> <li>Extend understanding of ways of fixing and joining components and selecting most appropriate for a given task</li> </ul> <p>Understanding how to make stable structures - rolling, folding, and layering, reinforcing corners, cutting a mitre joint</p>	<ul style="list-style-type: none"> <li>Understanding how pneumatic systems work</li> </ul> <p>Revising how simple levers work</p>	<ul style="list-style-type: none"> <li>Know about and apply different finishing techniques –collage, paint, cut out shapes, decoupage, varnishing for durability.</li> <li>Understanding of food preparation techniques( tearing, cutting, slicing, grating) and ways of combining foods to make a product for a particular purpose</li> <li>Combining foods on the basis of taste, appearance and texture</li> </ul> <p>Understanding of different food groups within a healthy and balanced diet</p>
<p>Y4</p>	<ul style="list-style-type: none"> <li>Measuring accurately, marking out, cutting, folding, scoring,</li> </ul> <p>Using patterns and templates with more than 2 pieces</p>	<ul style="list-style-type: none"> <li>Relate a mechanism to its purpose and select for a desired type of movement</li> <li>Joining and reinforcing fabrics</li> </ul> <p>Demonstrating fabric can be joined in a number of different</p>	<ul style="list-style-type: none"> <li>Understanding linkage mechanisms and the type of movement they produce</li> </ul>	<ul style="list-style-type: none"> <li>Understanding what makes a quality finish- collage, printing, drawing, use of font, size, colour, layout .</li> </ul> <p>Using a widening range of decorative techniques such as dyeing and embroidery,</p>



		ways – sewing using a range of stitches	Applying knowledge about electrical circuits in designing and making products	embellishing, applique, fabric paints, fastenings ( buttons, buckles, press studs, hooks and eyes, Velcro, safety pins, zip, ties
Y5	<ul style="list-style-type: none"> <li>Measuring accurately, marking out, cutting, folding, scoring, drilling and mounting structures</li> </ul> <p>Using a range of sharp tools safely – paper drill, hole punch</p>	<ul style="list-style-type: none"> <li>Understanding how different materials can be reinforced for different purposes</li> <li>Assembling materials in temporary ways as a trial prior to finalizing design choices</li> </ul> <p>Cutting and joining component parts to a main structure</p>	Understanding how to control movement with a cam mechanism	<ul style="list-style-type: none"> <li>Selecting appropriate methods and resources for finishing a design that reflect the intended use, cultural, geographical or historical influences</li> <li>Accurate measuring and weighing skills, understanding that the properties and quantities of ingredients will affect the final product</li> <li>Increased awareness of food safety and hygiene, including the use of ovens</li> </ul> <p>Exploring the functions and properties of ingredients</p>
Y6	<ul style="list-style-type: none"> <li>Making accurate patterns and templates</li> </ul> <p>Using a range of tool and techniques for marking out, measuring and cutting a range of sheet materials, wood, plastic, fabric</p>	<ul style="list-style-type: none"> <li>Knowing that structures can fail when loaded</li> <li>Knowing how to reinforce structures and to research info about this from a range of sources</li> <li>Using a variety of temporary and permanent joining techniques, including</li> </ul>	<ul style="list-style-type: none"> <li>Understanding how products can be driven by electricity</li> <li>Understanding of how to control speed and direction</li> </ul>	<ul style="list-style-type: none"> <li>Developing a structure with finishing techniques including cladding</li> </ul> <p>Distinguish between functional and decorative products</p>



		<p>framework, materials and textiles.</p> <ul style="list-style-type: none"><li>• Assembling components to make working models</li></ul> <p>Using known skills e.g. applique,, cutting, embellishing, fabric gluing, stenciling and extend to include dyeing and machine sewing</p>	<p>Understanding how different sorts of switches can be used to control electrical current</p>	
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