

# Design and Technology Progression



Year	Structures, Systems & Mechanisms Vocabulary	Textiles Vocabulary	Vocabulary: Food Technology, Cooking and Nutrition
EYFS	Cut, snip, pierce, move, parts, design, make, improve	Sew, fabric, needle, thread, Binca	Fruit, vegetables, healthy, chop, safe, clean
Year 1	Cut, fold, join, fix, weak, strong, work, design, make, improve, purpose	Mark out, join, decorate, fabric, template, designer	Fruit, vegetables, soft, juicy, crunchy, sticky, hard, slicing, cutting, squeezing, healthy diet, choosing, ingredients, planning, tasting
Year 2	Wheel, axel, fixed, free, design, make, cutting, joining, hacksaw, vice, dowel, body, cab, evaluate	Quality, suitable, features, dye, stitch, needle, fray, sew	Smooth, sharp, crisp, sour, seed, pip, flesh, skin, core, peeling, arranging, Eatwell plate, peeling, grating
Year 3	Shell, structure, net, marking out, material, joining, three-dimensional, stiff, process, user	Function, running stitch, felted, woven, knitted, seam, spun, decorative, strengthen, stiffen, reinforce	Texture, taste, appearance, hygienic, edible, grown, reared, caught, frozen, tinned, processed, whisk, spatula, handling, preparing, fresh
Year 4	Loose pivot, fixed pivot, system, input, output, linear, rotary, reciprocating, innovative, appealing, linkage, oscillating	Pattern, prototype, aesthetics, seam allowance, pinning, embroidery, back stitch, cross stitch, sustainable, renewable	Preference, greasy, moist, fresh, savoury, seasonal, harvested, claw grip, bridge grip
Year 5	Reinforce, triangulation, stability, temporary, permanent, prototype, innovation, functional, design brief	Specification, starching, pinking shears, hem, reinforce, stem stitch, blanket stitch, tie dye	Carbohydrate, sugar, fat, protein, vitamins, nutrients, savoury, beat, combine, fold, rubbing in, fairtrade
Year 6	User, fault, toggle switch, insulator, conductor, battery holder, crocodile clip, series circuit, connection, push-to-make switch, push-to-break switch, control box, input device, output device, parallel circuit, light-emitting diode	Appliqué, innovation, functionality, authentic, chain stitch, satin stitch, embellish	Yeast, dough, wholemeal, unleavened, gluten, allergy, intolerance, savoury, seasonality, knead, prove

Year	Design	
<b>EYFS</b>	<ul style="list-style-type: none"> <li>• Discuss what they can see about a product: colour, texture and moving parts.</li> <li>• Look at existing products and say what they like about it.</li> </ul>	
<b>Year 1</b>	<ul style="list-style-type: none"> <li>• Discuss what makes existing products successful, e.g. "This one is good because...".</li> <li>• Draw on their own experience to help generate ideas.</li> <li>• Suggest ideas and explain what they are going to do</li> </ul>	<ul style="list-style-type: none"> <li>• Use drawings to show what they are going to do</li> <li>• Model their ideas in card and paper</li> </ul>
<b>Year 2</b>	<ul style="list-style-type: none"> <li>• Look at existing products and discuss the positives and negatives about them.</li> <li>• Generate ideas by drawing on their own and other people's experiences.</li> <li>• Develop their design ideas through discussion, observation, drawing and modelling</li> </ul>	<ul style="list-style-type: none"> <li>• Identify a purpose for what they intend to design and make</li> <li>• Make simple drawings and label parts</li> </ul>
<b>Year 3</b>	<ul style="list-style-type: none"> <li>• Look at existing products, identifying positives and negatives and discuss how they will apply these findings into their own designs.</li> <li>• Generate ideas for an item considering its purpose and the user/s and as a class,</li> <li>• identify simple design criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Plan the order of their work before starting</li> <li>• Explore, develop and communicate design proposals by modelling ideas</li> <li>• Make drawings with labels including materials when designing</li> </ul>
<b>Year 4</b>	<ul style="list-style-type: none"> <li>• Evaluate existing products and identify criteria that can be used for their own designs</li> <li>• Generate ideas, considering the purposes and users for which they are designing.</li> <li>• Explore, develop and communicate design proposals by modelling ideas and testing different materials and processes</li> </ul>	<ul style="list-style-type: none"> <li>• Create step-by step plans of what needs to be done including materials and processes.</li> <li>• Discuss alternative methods of making, if the first attempts fail.</li> </ul>
<b>Year 5</b>	<ul style="list-style-type: none"> <li>• Use results of investigations when developing design ideas</li> <li>• Create more detailed design criteria based on evaluation of existing products, purpose and user.</li> <li>• Children should have the chance to choose their own user group and purpose, where appropriate.</li> <li>• Explore, develop and communicate design proposals by modelling ideas and testing different materials and processes, troubleshooting and adapting processes where necessary</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting their own alternative methods of making if the first attempts fail.</li> <li>• Make labelled drawings from two different views showing specific features</li> </ul>
<b>Year 6</b>	<ul style="list-style-type: none"> <li>• Use results of investigations and information sources, when developing design ideas</li> <li>• Develop a design specification</li> <li>• Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways</li> </ul>	<ul style="list-style-type: none"> <li>• Plan the order of their work, choosing appropriate materials, tools and techniques and planning alternative methods for parts of their plan that they think may fail</li> <li>• Make labelled drawings from multiple different views showing specific features</li> </ul>

Year	Make	
EYFS	<ul style="list-style-type: none"> <li>• Make their design using techniques taught, explored and discovered</li> <li>• With help, draw around, cut, pierce, chop, and combine materials</li> </ul>	
Year 1	<ul style="list-style-type: none"> <li>• Make their design using techniques suggested by the teacher</li> <li>• With help measure, mark out, cut and shape a range of materials</li> </ul>	<ul style="list-style-type: none"> <li>• Use tools e.g. scissors and a hole punch safely</li> <li>• Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape</li> </ul>
Year 2	<ul style="list-style-type: none"> <li>• Begin to select tools and materials, using accurate vocabulary to name and describe them</li> <li>• Measure, cut and score with some accuracy</li> <li>• Use some hand tools safely and appropriately with teacher support</li> </ul>	<ul style="list-style-type: none"> <li>• Assemble, join and combine materials in order to make a product</li> <li>• With teacher guidance, use simple finishing techniques to improve the appearance of their product</li> </ul>
Year 3	<ul style="list-style-type: none"> <li>• Select tools and techniques for making their product</li> <li>• Think about their ideas as they make progress and be willing to change things based on adult suggestions if this helps them improve their work</li> </ul>	<ul style="list-style-type: none"> <li>• Measure, mark out, cut, score and assemble components with more accuracy</li> <li>• Work safely and accurately with a range of simple tools</li> <li>• Use simple finishing techniques to improve the appearance of their product</li> </ul>
Year 4	<ul style="list-style-type: none"> <li>• Select appropriate tools and techniques for making their product</li> <li>• Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques</li> <li>• Join and combine materials and components accurately in temporary and permanent ways</li> </ul>	<ul style="list-style-type: none"> <li>• Think about their ideas as they make progress and change as they go if necessary in order to improve their work</li> <li>• Choose and use appropriate finishing techniques to improve the appearance of their product</li> </ul>
Year 5	<ul style="list-style-type: none"> <li>• Select appropriate materials, tools and techniques based on past experience as well as techniques recently learned</li> <li>• Measure and mark out accurately</li> <li>• Use skills in using different tools and equipment safely and accurately</li> </ul>	<ul style="list-style-type: none"> <li>• Weigh and measure accurately Cut and join with accuracy to ensure a good-quality finish to the product</li> <li>• Use finishing techniques, strengthen and improve the appearance of their product using a range of equipment</li> </ul>
Year 6	<ul style="list-style-type: none"> <li>• Select appropriate materials, tools, components and techniques, drawing on a range learned across KS2.</li> <li>• Assemble components make working models</li> <li>• Make modifications as they go along</li> </ul>	<ul style="list-style-type: none"> <li>• Use tools safely and accurately</li> <li>• Construct products using permanent joining techniques</li> <li>• Suggest which finishing techniques would be appropriate and use them to improve the appearance of the finished product</li> </ul>

Year	Evaluate
EYFS	<ul style="list-style-type: none"> <li>• Evaluate their product by discussing what they like or found difficult.</li> <li>• Listen to other children about what they like about a product and say why</li> </ul>
Year 1	<ul style="list-style-type: none"> <li>• Evaluate their product by discussing what they think works well.</li> <li>• Evaluate their product by asking questions about what they have made, how they have gone about it what they like and dislike about their work</li> </ul>
Year 2	<ul style="list-style-type: none"> <li>• Evaluate their product by discussing how well it works in relation to the purpose and what they planned from looking at existing products. E.g. 'You said it was important that your model would stand up on its own – How well does yours do that?'</li> <li>• Evaluate products after making, identifying strengths and weaknesses and identifying what they have learned that they will use in future work</li> </ul>
Year 3	<ul style="list-style-type: none"> <li>• Evaluate their product against original design criteria e.g. how well it meets its intended purpose</li> <li>• Relate this evaluation to existing products – how well does your work compare to the existing products that we looked at?</li> </ul>
Year 4	<ul style="list-style-type: none"> <li>• Evaluate their work both during and at the end of the assignment</li> <li>• Evaluate their products carrying out simple tests</li> <li>• Refer back to original designs and evaluation of existing products when evaluating work</li> </ul>
Year 5	<ul style="list-style-type: none"> <li>• Evaluate their product against the original design criteria and plans, revisiting these regularly throughout the making process</li> <li>• Evaluate their products carrying out appropriate tests</li> <li>• Evaluate work personally and seek evaluation from others</li> </ul>
Year 6	<ul style="list-style-type: none"> <li>• Evaluate the products against the original design specification, identifying strengths and areas for development throughout the making process as well as at the end.</li> <li>• Plan tests in order to check how successful a product is and carry these out.</li> <li>• Act upon this evaluation where necessary, making some improvements after the making process is complete.</li> </ul>

Year	Technical Knowledge: Structures, Systems, and Mechanisms	
EYFS	<ul style="list-style-type: none"> <li>To explore how mechanisms move and work.</li> <li>Exploring everyday objects to find mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>To know how to join some materials To know the names of 2D and 3D shapes when building and designing structures</li> <li>To know some suitable objects and materials for building structures</li> </ul>
Year 1	<ul style="list-style-type: none"> <li>To explore how to make freestanding structures stronger, stiffer and more stable</li> <li>To know how to join some simple materials</li> <li>To know a simple order of making a structure</li> <li>To know the name of simple 2D shapes and relevant 3D shapes (GD)</li> </ul>	<ul style="list-style-type: none"> <li>To know some strong/stiff structures (i.e. climbing frame, tower)</li> <li>To know what materials are useful for strengthening or stiffening structures and why this is</li> <li>To know some simple facts about an important structural engineer (i.e. Isambard Kingdom Brunel)</li> </ul>
Year 2	<ul style="list-style-type: none"> <li>To know what wheels, axels and axel holders are</li> <li>To know the difference between fixed and free moving axels</li> <li>To know simple methods to fix wheels and axels to a product</li> <li>To know the names of some simple tools and their purpose</li> </ul>	<ul style="list-style-type: none"> <li>To know simple commercial products that use wheels and axels to move To know the difference between pulling and pushing forces To know which materials are best used for particular components (i.e. rubber covered wheels might provide more grip than plastic wheels)</li> </ul>
Year 3	<ul style="list-style-type: none"> <li>To know more sophisticated methods for stiffening/strengthening structures</li> <li>To know what a net is</li> <li>To know the names of 3D shapes</li> <li>To know which tools are appropriate for cutting and scoring materials</li> </ul>	<ul style="list-style-type: none"> <li>To know how to test a material's strength</li> <li>To know why engineers use certain structures for certain purposes</li> <li>To know how engineers solve design problems i.e. building Burji Khalifa in Dubai To know some simple facts about more than one structural engineer (i.e. IKB, Gustavo Eiffel, Peter Rice, Fazlur Khan)</li> </ul>
Year 4	<ul style="list-style-type: none"> <li>To know the difference between a fixed and loose pivot</li> <li>To know how to use lever and linkage mechanisms</li> <li>To know the difference between inputs and outputs</li> <li>To know how to increase accuracy when measuring, marking out and cutting (i.e. measure in mm rather than cm or inches)</li> </ul>	<ul style="list-style-type: none"> <li>To know technical vocabulary relevant to the project (see vocabulary above) To know what a design brief is</li> <li>To know where levers and linkages are used in commercial products or industry</li> <li>To know why levers are used to lift loads</li> </ul>
Year 5	<ul style="list-style-type: none"> <li>To know how to stiffen, strengthen and reinforce a range of 3-D frameworks</li> <li>To know which materials are best suited to stiffen and reinforce by selecting them due to their properties</li> <li>To know which shapes are the strongest and will support the most weight in a structure</li> </ul>	<ul style="list-style-type: none"> <li>To know how to use a range of tools i.e. junior hacksaws, clamps, bench hooks, hand drills safely</li> <li>To know why engineers use complex structures for certain purposes</li> <li>To know how engineers solve complex design problems i.e. building Burji Khalifa in Dubai</li> <li>To have a more in depth knowledge of more than one structural engineer (i.e. IKB, Gustavo Eiffel, Peter Rice, Fazlur Khan)</li> </ul>
Year 6	<ul style="list-style-type: none"> <li>To know how to incorporate simple self made switches in a circuit</li> <li>To know how to test components in more complex circuits</li> <li>To know how simple switches can be made</li> <li>To know how to assess faults in their own electrical systems</li> </ul>	<ul style="list-style-type: none"> <li>To know how to test components in a simple series circuit</li> <li>To know why materials make good conductors and insulators</li> <li>To know how electrical systems are controlled (i.e. flow charts)</li> </ul>

Year	Technical Knowledge: Textiles	
EYFS	<ul style="list-style-type: none"> <li>To know what fabric is</li> <li>To know the names of simple tools hammer, needle, saw, knife</li> </ul>	<ul style="list-style-type: none"> <li>To know how to embellish a fabric with simple stitching</li> </ul>
Year 1	<ul style="list-style-type: none"> <li>To know what a template is</li> <li>To know why simple fabrics are chosen based on their properties (i.e. wool is used for a blanket because it is soft and warm)</li> <li>To know how to join two pieces of fabrics using different joining techniques (gluing, stapling, stitching)</li> </ul>	<ul style="list-style-type: none"> <li>Add simple decoration to a garment e.g. gluing sequins</li> <li>To know the names of simple fabric products (i.e. cushion, jumper, blanket) and at least one designer relevant to their project</li> </ul>
Year 2	<ul style="list-style-type: none"> <li>To know why designers use templates .</li> <li>To know when to use certain fabrics based on their suitability to the product</li> <li>To use simple stitch techniques with some support</li> <li>Develop use of simple decorative techniques e.g. gluing or sewing if children are able</li> </ul>	<ul style="list-style-type: none"> <li>To know the names of at least one designer of fabric products and a little about their relevance today</li> <li>To know where simple fabrics come from/are made of (i.e. wool from sheep, cotton from cotton plants, hessian made from fibres of jute plant)</li> </ul>
Year 3	<ul style="list-style-type: none"> <li>To use templates to make sure that their fabric is the correct shape</li> <li>To know some simple techniques to strengthen, stiffen and reinforce existing fabrics</li> <li>To use simple stitch techniques to join fabrics</li> <li>Begin to use some simple embroidery or decorative stitching</li> </ul>	<ul style="list-style-type: none"> <li>To know at least two relevant designers to their project and take inspiration from one in their work</li> <li>To know how different fabrics are constructed (i.e. woven materials, spun materials, knitted materials)</li> </ul>
Year 4	<ul style="list-style-type: none"> <li>To know why designers use patterns and begin to use combinations of templates</li> <li>To know why designers might need to strengthen, stiffen and reinforce existing fabrics</li> <li>To know how to securely join two pieces of fabric together using at least two different types of stitches</li> </ul>	<ul style="list-style-type: none"> <li>To know how/when to use decorative stitches to finish a product</li> <li>To know what a prototype is</li> <li>To know a range of designers who use fabrics in their work</li> <li>To know what constitutes a renewable/sustainable material/fabric</li> </ul>
Year 5	<ul style="list-style-type: none"> <li>To know that a 3D textile product can be made from a combination of accurately made pieces. Explore what happens if a pattern isn't used accurately.</li> <li>To know when to combine multiple different fabrics to create a 3D product and how to stiffen some so that they can be used together</li> </ul>	<ul style="list-style-type: none"> <li>To know how to securely join two pieces of fabric together using a variety of different types of stitches</li> <li>To know why designers use prototypes</li> <li>To know how embroidery can embellish a product</li> <li>To know some key dates in the development of fabric and textiles</li> </ul>
Year 6	<ul style="list-style-type: none"> <li>To understand the importance of pattern making and the accurate use of patterns, and be able to cut pieces so that they fit together well to make a pleasing end product.</li> <li>To know when to combine multiple different fabrics to create a 3D product and choose which pieces need to be strengthened and stiffened, choosing appropriate techniques.</li> <li>To know when to use particular stitch types (including finishing stitches)</li> </ul>	<ul style="list-style-type: none"> <li>To know how applique can embellish a product</li> <li>To create a simple prototype before making</li> <li>To know when to use particular stitch types (including finishing stitches)</li> <li>To know some key dates in the development of fabric and textiles and the impact that these have on the clothes we wear or fabrics we use today</li> </ul>

Year	Technical Knowledge: Food Technology, Cooking and Nutrition	
EYFS	<ul style="list-style-type: none"> <li>To know how to follow simple health and safety procedures</li> <li>To know how to chop, knead, pour and scoop</li> </ul>	<ul style="list-style-type: none"> <li>To know the names of common fruits and vegetables</li> <li>To know that a healthy diet is important for our bodies and minds</li> </ul>
Year 1	<ul style="list-style-type: none"> <li>To know how to use simple cutting tools to prepare soft fruit and vegetables</li> <li>To know how to follow simple health and safety procedures</li> <li>To know how to chop and slice foods.</li> </ul>	<ul style="list-style-type: none"> <li>To know where a range of fruit and vegetables come from.</li> <li>To know the principles of a varied diet</li> </ul>
Year 2	<ul style="list-style-type: none"> <li>To know how to prepare simple dishes safely and hygienically, without using a heat source</li> <li>To know how to peel, chop, slice and grate foods.</li> </ul>	<ul style="list-style-type: none"> <li>To know how to name and sort foods into the 5 groups in The Eatwell Plate</li> <li>To know that everyone should eat at least five portions of fruit and vegetables every day</li> </ul>
Year 3	<ul style="list-style-type: none"> <li>To use a variety of techniques e.g. chopping, slicing, peeling and grating with more confidence and accuracy evaluate a variety of ingredients</li> <li>To know how to combine foods using different utensils i.e. whisk, spatula</li> </ul>	<ul style="list-style-type: none"> <li>To know relevant health and safety procedures when handling and preparing foods</li> <li>To know the difference between fresh and processed foods</li> <li>To know whether foods are grown, reared or caught</li> </ul>
Year 4	<ul style="list-style-type: none"> <li>To know how to chop a wider range of foods using different techniques i.e. claw grip, bridge grip.</li> <li>To know how to measure ingredients using simple measures i.e. cup, tsp</li> <li>To know how to use sensory information to evaluate a variety of ingredients</li> <li>To know how to combine foods using different utensils i.e. whisk, spatula, choosing which would be more appropriate</li> </ul>	<ul style="list-style-type: none"> <li>To know relevant health and safety procedures when handling and preparing food</li> <li>To know about a range of fresh and processed foods for their product</li> <li>To know about one key chef and their contribution to healthy eating e.g. Jamie Oliver – healthy schools</li> </ul>
Year 5	<ul style="list-style-type: none"> <li>To know some more advance methods for mixing ingredients i.e. rubbing in</li> <li>To know how to measure ingredients using different units</li> <li>To know how to follow a recipe</li> </ul>	<ul style="list-style-type: none"> <li>To know how to select appropriate utensils for specific jobs.</li> <li>To compare at least two chefs and their individual styles of cooking</li> <li>To know about fair trade foods</li> </ul>
Year 6	<ul style="list-style-type: none"> <li>To be confident with a range of cooking methods and begin to understand more advanced techniques e.g. proving dough</li> <li>To know how to measure ingredients accurately using different units</li> <li>To know how to follow a recipe and begin to be selective with the recipes they choose</li> <li>To know how to select appropriate utensils for specific jobs, using technical vocabulary.</li> </ul>	<ul style="list-style-type: none"> <li>To know how to cut, shape and knead dough</li> <li>To know about a range of chefs and their individual styles of cooking</li> <li>To know about organic foods and the impact of these</li> </ul>