


# Design and technology knowledge progression



	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Developing, planning and communicating design ideas</b>  	<ul style="list-style-type: none"> <li>*Uses a range of language "I want to make"</li> </ul>	<ul style="list-style-type: none"> <li>*Experiment with creating different things and to be able to talk about their uses</li> <li>*Identify and select resources and tools to achieve a particular outcome</li> <li>*Share their creations, explaining the process they have used</li> </ul>	<ul style="list-style-type: none"> <li>*Generate ideas by drawing on their own and other people's experiences.</li> <li>*Suggest ideas and explain what they are going to do</li> <li>* Begin to understand the development of existing products - what they are for, how they work and what materials they use</li> <li>*Identify a purpose for what they are going to make</li> <li>*Use talking, drawing, templates and information technology to communicate ideas</li> <li>*Begin to make mock-ups of their ideas using card or paper</li> </ul>	<ul style="list-style-type: none"> <li>*Generate ideas for a product considering purpose and user</li> <li>*Establish criteria for a successful product</li> <li>*Make labelled drawings and cross sectional diagrams</li> <li>*Use pattern pieces and mock-ups.</li> <li>*Begin to understand and use prototypes</li> <li>*Plan the order of work to be done.</li> <li>*Begin to consider alternative methods if the first attempt fails</li> <li>*Begin to comment on how well a product has been designed and made in terms of fulfilling its purpose and the suitability of the materials used</li> <li>*Learn about some groundbreaking designers, inventors, engineers, chefs and manufacturers</li> <li>*Know whether products can be recycled</li> </ul>	<ul style="list-style-type: none"> <li>*Communicate ideas through brainstorming as a result of need or purpose</li> <li>*Develop a design specification</li> <li>*Record ideas using detailed labelled drawings, sketches, cross sections, prototypes and exploded diagrams.</li> <li>*Begin to understand and use computer aided design</li> <li>*Plan the order of work to be done, including how to use materials and processes</li> <li>*Use the results of investigations and information sources, including computing, when developing design ideas</li> <li>*Use available research to inform their designs and in considering whether existing products are fit for purpose</li> <li>*Know how much products cost to make, how sustainable and innovative they are and the impact they have</li> <li>*Know the work of some groundbreaking designers, inventors, engineers, chefs and manufacturers</li> </ul>			
<b>Working with materials, tools,</b>	<ul style="list-style-type: none"> <li>*Construct with a purpose and</li> </ul>	<ul style="list-style-type: none"> <li>*Use resources to create own props</li> </ul>	<ul style="list-style-type: none"> <li>*Make their designs using simple techniques, including cutting, joining and</li> </ul>	<ul style="list-style-type: none"> <li>*Select appropriate tools and techniques for making their product.</li> </ul>	<ul style="list-style-type: none"> <li>*Accurately use appropriate tools and techniques for making their product.</li> </ul>			

<p><b>components and equipment to make products</b></p> 	<p>safely</p> <ul style="list-style-type: none"> <li>*Create recognisable representations of objects</li> <li>*Joins construction pieces together to build and balance</li> </ul>	<ul style="list-style-type: none"> <li>*Manipulate materials to achieve a planned effect</li> </ul>	<p>shaping</p> <ul style="list-style-type: none"> <li>*Select appropriately from a range of tools and equipment to perform practical tasks</li> <li>*Select from and use a wide range of materials and components, including construction materials and textiles</li> <li>*With support, measure, cut and shape a range of materials including fabric</li> <li>*Assemble, join and combine materials and components</li> </ul>	<ul style="list-style-type: none"> <li>*Measure, mark, cut out and shape a range of materials, including fabric</li> <li>*Sew using a range of stitches as well as knit and weave</li> <li>*Use simple finishing techniques to improve the strength and appearance of their product</li> <li>*Join and combine materials and components accurately in temporary and permanent ways</li> </ul>	<ul style="list-style-type: none"> <li>*Measure, mark and cut out accurately</li> <li>*Pin, sew and stitch materials together to make a product</li> <li>*Cut and join with accuracy to make a good quality finish to the product</li> <li>*Assemble components to make working models</li> <li>*Select materials according to their functional properties and aesthetic qualities</li> </ul>
<p><b>Evaluating processes and products</b></p> 	<ul style="list-style-type: none"> <li>*Talk about what they have made</li> </ul>	<ul style="list-style-type: none"> <li>*Safely construct with a purpose and evaluate their designs</li> <li>*Selects appropriate resources and adapts work where necessary</li> </ul>	<ul style="list-style-type: none"> <li>*Explore and evaluate a range of existing products, saying what they like and dislike</li> <li>*Discuss how well their designs work in relation to the purpose</li> <li>*Be able to talk about the strengths of the product and possible changes they would make</li> </ul>	<ul style="list-style-type: none"> <li>*Disassemble and evaluate existing products</li> <li>*Evaluate their product against original design criteria. How well does it meet its intended purpose?</li> <li>*Talk about what they like and dislike about their product and why</li> <li>*Discuss changes they would make during the development stage as well as when the product is finished</li> <li>*Identify and carry out tests to prove the success of the product</li> <li>*Begin to evaluate the designs of individuals who have helped shape the world</li> </ul>	<ul style="list-style-type: none"> <li>*Evaluate their product against original design criteria, incorporating testing to determine how well it meets its intended purpose?</li> <li>*Evaluate their products, identifying strengths and areas for development both during and at the end of the process</li> <li>*Record evaluations in a range of ways including drawings with labels.</li> <li>*Seek evaluation from others</li> <li>*Evaluate the key designs of individuals in Design and Technology who have helped shape the world</li> </ul>
<p><b>Technical knowledge</b></p> 	<ul style="list-style-type: none"> <li>*Know that different construction toys can be used to make new things that can be used in pretend play</li> </ul>	<ul style="list-style-type: none"> <li>*Use simple tools and techniques competently and appropriately</li> <li>*Selects tools and techniques needed to shape, assemble and join materials they are using.</li> </ul>	<ul style="list-style-type: none"> <li>*Explore how structures can be made stronger, stiffer and more stable</li> <li>*Explore and use mechanisms in their products including levers, sliders, wheels and axles</li> </ul>	<ul style="list-style-type: none"> <li>*Apply understanding of how to strengthen, stiffen and reinforce complex structures</li> <li>*Begin to apply knowledge of computing to control products</li> <li>*Understand and use electrical switches in their products</li> </ul>	<ul style="list-style-type: none"> <li>*Confidently apply understanding of how to strengthen, stiffen and reinforce complex structures</li> <li>*Apply knowledge of computing to control products</li> <li>*Begin to use more complex electrical circuits in their products</li> <li>*Understand how mechanisms such as cams, pulleys and gears can create movement</li> </ul>

## Cooking and nutrition



\*Interested in trying new experiences

\*Explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

\*Follow safety procedures for food technology and hygiene  
\*Understand where food comes from.  
\*Know that food has to be farmed, grown or caught  
\*Begin to understand the 5 food groups  
\*Use basic understanding of a healthy diet to prepare dishes without a heat source  
\*Use techniques such as cutting, peeling and grating

\*Demonstrate hygienic food preparation and storage  
\*Understand and apply the principles of a healthy diet  
\* Prepare and cook a range of predominantly savoury dishes using a range of cooking techniques  
\*In addition to those previously learned, begin to use techniques such as chopping, slicing, mixing, spreading, kneading and baking  
\*Know how energy is gained by the body, from different foods  
\*Begin to understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed  
\*Begin to know some of the sources of food in the UK and wider world

\*Demonstrate hygienic food preparation and storage with independence  
\*Understand and apply the principles of a healthy diet  
\*Weigh and measure ingredients accurately  
\*Prepare and cook a range of predominantly savoury dishes using a range of cooking techniques  
\*Begin to understand the processing of different foods  
\*Understand seasonality, and how it may affect food availability  
\*Know the sources of foods in the UK and the wider world  
\*Use techniques such as cutting, chopping, slicing, peeling, grating, mixing, spreading, kneading and baking with increasing independence  
\*Begin to understand that different foods and drinks contain different substances such as nutrients, water and fibre, that are needed for good health