	Menu	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
DESIGNING	***Understanding contexts, users and purposes***	• Begin to work across a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment	<u>Across KS1 pupils should:</u> • work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment • state what products they are designing and making • say whether their products are for themselves or other users • describe what their products are for • say how their products will work • say how they will make their products suitable for their intended users • use simple design criteria to help develop their ideas		<u>Across KS2 pupils should:</u> • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • describe the purpose of their products • indicate the design features of their products that will appeal to intended users • explain how particular parts of their products work			
					<u>In early KS2 pupils should also:</u> • gather information about the needs and wants of particular individuals and groups • develop their own design criteria and use these to inform their ideas		<u>In late KS2 pupils should also:</u> • carry out research, using surveys, interviews, questionnaires and web-based resources • identify the needs, wants, preferences and values of particular individuals and groups • **develop a simple design specification to guide their thinking**	
	Generating, developing, modelling and communicating ideas	• Opportunities to use the language of designing and making, e.g. words such as 'join', 'build' and 'shape' as well as evaluative and comparative language - 'longer', 'shorter', 'lighter', 'heavier' and 'stronger'.	<u>Across KS1 pupils should:</u> • generate ideas by drawing on their own experiences • use knowledge of existing products to help come up with ideas • develop and communicate ideas by talking and drawing • model ideas by exploring materials, components and construction kits and by making templates and mock-ups • use information and communication technology, where appropriate, to develop and communicate their ideas		<u>Across KS2 pupils should:</u> • share and clarify ideas through discussion • model their ideas using prototypes and pattern pieces • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • use computer-aided design to develop and communicate their ideas			
					<u>In early KS2 pupils should also:</u> • generate realistic ideas, focusing on the needs of the user • **make design decisions that take account of the availability of resources**		<u>In late KS2 pupils should also:</u> • generate innovative ideas, drawing on research • **make design decisions, taking account of constraints such as time, resources and cost**	
MAKING	***Planning***	• Children should also learn to record their experiences by, for example, drawing, writing, voice recording, modelling or using ICT	<u>Across KS1 pupils should:</u> • **plan by suggesting what to do next** • select from a range of tools and equipment, **explaining their choices** • select from a range of materials and components according to their characteristics		<u>Across KS2 pupils should:</u> • select tools and equipment suitable for the task • **explain their choice of tools and equipment in relation to the skills and techniques they will be using** • select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic qualities			
					<u>In early KS2 pupils should also:</u> • **order the main stages of making**		<u>In late KS2 pupils should also:</u> • **produce appropriate lists of tools, equipment and materials that they need** • **formulate step-by-step plans as a guide to making**	
	Practical skills and techniques	• Opportunities to discuss reasons that make activities safe or unsafe e.g. hygiene and electrical awareness. • Learning to construct with a purpose in mind, e.g. using scissors, glue, string and a hole-punch to make a bag to store items collected during a Forest School session •Observing closely and Replicating a structure, e.g. following a visit, children make a milking shed, church tower out of small wooden bricks.	<u>Across KS1 pupils should:</u> • follow procedures for safety and hygiene • use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components • measure, mark out, cut and shape materials and components • assemble, join and combine materials and components • use finishing techniques, including those from art and design		<u>Across KS2 pupils should:</u> • follow procedures for safety and hygiene • use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components			
					<u>In early KS2 pupils should also:</u> • measure, mark out, cut and shape materials and components with some accuracy • assemble, join and combine materials and components with some accuracy • apply a range of finishing techniques, including those from art and design, with some accuracy		<u>In late KS2 pupils should also:</u> • accurately measure, mark out, cut and shape materials and components • accurately assemble, join and combine materials and components • accurately apply a range of finishing techniques, including those from art and design • **use techniques that involve a number of steps** • demonstrate resourcefulness when tackling practical problems	

<table>
<tr><td rowspan="4">EVALUATING</td><td>Own ideas and products</td><td>• begin to talk about their design ideas and what they are making
• begin to make simple judgements about their products and ideas against design criteria
• begin to suggest how their products could be improved</td><td><u>Across KS1 pupils should:</u>
• talk about their design ideas and what they are making
• make simple judgements about their products and ideas against design criteria
• suggest how their products could be improved</td><td colspan="2"><u>Across KS2 pupils should:</u>
• identify the strengths and areas for development in their ideas and products
• consider the views of others, including intended users, to improve their work</td></tr>
<tr><td rowspan="2">Existing products</td><td rowspan="2">• Learning about how everyday objects work by dismantling things and looking closely at their component parts, e.g. a child might dismantle a pepper grinder and discover how It is put together and the materials different parts are made from.</td><td rowspan="2"><u>Across KS1 pupils should explore:</u>
• what products are
• who products are for
• what products are for
• how products work
• how products are used
• where products might be used
• what materials products are made from
• what they like and dislike about products</td><td><u>In early KS2 pupils should also:</u>
• refer to their design criteria as they design and make
• use their design criteria to evaluate their completed products</td><td><u>In late KS2 pupils should also:</u>
• critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make
• evaluate their ideas and products against their original design specification</td></tr>
<tr><td colspan="2"><u>Across KS2 pupils should investigate and analyse:</u>
• how well products have been designed
• how well products have been made
• why materials have been chosen
• what methods of construction have been used
• how well products work
• how well products achieve their purposes
• how well products meet user needs and wants

<u>In early KS2 pupils should also investigate and analyse:</u>
• who designed and made the products
• where products were designed and made
• when products were designed and made
• whether products can be recycled or reused</td><td><u>In late KS2 pupils should also investigate and analyse:</u>
• how much products cost to make
• how innovative products are
• how sustainable the materials in products are
• what impact products have beyond their intended purpose</td></tr>
<tr><td>Key events and individuals</td><td></td><td>Not a requirement in KS1</td><td colspan="2"><u>Across KS2 pupils should know:</u>
• about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products</td></tr>
<tr><td rowspan="3">TECHNICAL KNOWLEDGE</td><td>Making products work</td><td>• begin to learn about the movement of some simple mechanisms such as levers, sliders, wheels and axles</td><td><u>Across KS1 pupils should know:</u>
• about the simple working characteristics of materials and components
• about the movement of simple mechanisms such as levers, sliders, wheels and axles
• how freestanding structures can be made stronger, stiffer and more stable
• that a 3-D textiles product can be assembled from two identical fabric shapes
• that food ingredients should be combined according to their sensory characteristics
• the correct technical vocabulary for the projects they are undertaking</td><td colspan="2"><u>Across KS2 pupils should know:</u>
• how to use learning from science to help design and make products that work
• how to use learning from mathematics to help design and make products that work
• that materials have both functional properties and aesthetic qualities
• that materials can be combined and mixed to create more useful characteristics
• that mechanical and electrical systems have an input, process and output
• the correct technical vocabulary for the projects they are undertaking</td></tr>
<tr><td colspan="2"><u>In early KS2 pupils should also know:</u>
• how mechanical systems such as levers and linkages or pneumatic systems create movement
• how simple electrical circuits and components can be used to create functional products
• how to program a computer to control their products
• how to make strong, stiff shell structures
• that a single fabric shape can be used to make a 3D textiles product
• that food ingredients can be fresh, pre-cooked and processed</td><td><u>In late KS2 pupils should also know:</u>
• how mechanical systems such as cams or pulleys or gears create movement
• how more complex electrical circuits and components can be used to create functional products
• how to program a computer to monitor changes in the environment and control their products
• how to reinforce and strengthen a 3D framework
• that a 3D textiles product can be made from a combination of fabric shapes
• that a recipe can be adapted by adding or substituting one or more ingredients</td></tr>
</table>

<table>
<tr><td rowspan="2">COOKING AND NUTRITION</td><td>Where food comes from</td><td>Begin to understand that all food comes from plants or animals</td><td><u>Across KS1 pupils should know:</u>
• that all food comes from plants or animals
• that food has to be farmed, grown elsewhere (e.g. home) or caught</td><td colspan="2"><u>Across KS2 pupils should know:</u>
• that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world</td></tr>
<tr><td colspan="2"></td><td><u>In late KS2 pupils should also know</u>:
• that seasons may affect the food available
• how food is processed into ingredients that can be eaten or used in cooking</td></tr>
<tr><td>Food preparation, cooking and nutrition</td><td>Begin to talk about healthy and unhealthy food choices.
Beginning to understand
Some of the tools, techniques and processes Involved in food preparation. E.g. taking
Turns stirring the mixture for a cake and then watching it rise while cooking.
Children should practise stirring, mixing, pouring and blending ingredients during cookery activities.</td><td><u>Across KS1 pupils should know:</u>
• how to name and sort foods into the five groups in The Eatwell Plate
• that everyone should eat at least five portions of fruit and vegetables every day
• how to prepare simple dishes safely and hygienically, without using a heat source
• how to use techniques such as cutting, peeling and grating</td><td colspan="2"><u>Across KS2 pupils should know:</u>
• how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source
• how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</td></tr>
<tr><td colspan="2"></td><td colspan="2"><u>In early KS2 pupils should also know:</u>
• that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Plate
• that to be active and healthy, food and drink are needed to provide energy for the body</td><td><u>In late KS2 pupils should also know</u>:
• that recipes can be adapted to change the appearance, taste, texture and aroma
• that different food and drink contain different substances – nutrients, water and fibre – that are needed for health</td></tr>
</table>