

Progression of skills: DESIGN TECHNOLOGY (To be read in conjunction with long-term plan and curriculum maps).

Area	Reception	Across KS1	Lower KS2	Upper KS2	Across KS2
<p>PDA - DESIGNING</p> <p>Understanding contexts, users and purposes</p>	<p>What do children need to know by end of EYFS to prepare them for KS1 DT?</p>	<p>National Curriculum: <i>Design purposeful, functional, appealing products for themselves and other users based on design criteria</i></p> <p><i>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</i></p> <p>PDA 1 - work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment PDA 2 - state what products they are designing and making PDA 3 - say whether their products are for themselves or other users PDA 4 - describe what their products are for PDA 5 - say how their products will work PDA 6 - say how they will make their products suitable for their intended users PDA 7 - use simple design criteria to help develop their ideas</p>	<p>PDA 8 - gather information about the needs and wants of particular individuals and groups PDA 9 - develop their own design criteria and use these to inform their idea</p>	<p>PDA 10 - carry out research, using surveys, interviews, questionnaires and web-based resources PDA 11 - identify the needs, wants, preferences and values of particular individuals and groups PDA 12 - develop a simple design specification to guide their thinking</p>	<p>National Curriculum: <i>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups</i></p> <p><i>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</i></p> <p>PDA13 - work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment PDA 14 - describe the purpose of their products PDA 15 - indicate the design features of their products that will appeal to intended users PDA 16 - explain how particular parts of their products work</p>
<p>PDB - DESIGNING</p> <p>Generating, developing, modelling and communicating ideas</p>	<p>What do children need to know by end of EYFS to prepare them for KS1 DT?</p>	<p>PDB 1 - generate ideas by drawing on their own experiences PDB 2 - use knowledge of existing products to help come up with ideas PDB 3 - develop and communicate ideas by talking and drawing PDB 4 - model ideas by exploring materials, components and construction kits and by making templates and mockups PDB 5 - use information and communication technology, where appropriate, to develop and communicate their ideas</p>	<p>PDB 6 - generate realistic ideas, focusing on the needs of the user PDB 7 - make design decisions that take account of the availability of resources</p>	<p>PDB 8 - generate innovative ideas, drawing on research PDB 9 - make design decisions, taking account of constraints such as time, resources and cost</p>	<p>PDB 10 - share and clarify ideas through discussion PDB 11 - model their ideas using prototypes and pattern pieces PDB 12 - use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas PDB 13 - use computer-aided design to develop and communicate their ideas</p>

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PMA - MAKING Planning	What do children need to know by end of EYFS to prepare them for KS1 DT?	<p>National Curriculum: <i>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</i></p> <p><i>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</i></p> <p>PMA 1 - plan by suggesting what to do next PMA 2 - select from a range of tools and equipment, explaining their choices PMA 3 - select from a range of materials and components according to their characteristics</p>	<p>PMA 4 - order the main stages of making</p>	<p>PMA 5 - produce appropriate lists of tools, equipment and materials that they need PMA 6 - formulate step-by-step plans as a guide to making</p>	<p>National Curriculum: <i>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</i></p> <p><i>Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</i></p> <p>PMA 7 - select tools and equipment suitable for the task PMA 8 - explain their choice of tools and equipment in relation to the skills and techniques they will be using PMA 9 - select materials and components suitable for the task PMA 10 - explain their choice of materials and components according to functional properties and aesthetic qualities</p>
PMB - MAKING Practical skills and techniques	How does woodwork in EYFS link in and show progression?	<p>PMB 1 - follow procedures for safety and hygiene PMB 2 - use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components PMB 3 - measure, mark out, cut and shape materials and components PMB 4 - assemble, join and combine materials and components PMB 5 - use finishing techniques, including those from art and design</p>	<p>PMB 6 - measure, mark out, cut and shape materials and components with some accuracy PMB 7 - assemble, join and combine materials and components with some accuracy PMB 8 - apply a range of finishing techniques, including those from art and design, with some accuracy</p>	<p>PMB 9 - accurately measure, mark out, cut and shape materials and components PMB 10 - accurately assemble, join and combine materials and components PMB 11 - accurately apply a range of finishing techniques, including those from art and design PMB 12 - use techniques that involve a number of steps PMB 13 - demonstrate resourcefulness when tackling practical problem</p>	<p>PMB 14 - follow procedures for safety and hygiene PMB 15 - use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components</p>

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<p>PEA - EVALUATING</p> <p>Own ideas and products</p>	<p>What do children need to know by end of EYFS to prepare them for KS1 DT?</p>	<p>National Curriculum: Explore and evaluate a range of existing products</p> <p>Evaluate their ideas and products against design criteria</p> <p>PEA 1 - talk about their design ideas and what they are making PEA 2 - make simple judgements about their products and ideas against design criteria PEA 3 - suggest how their products could be improved</p>	<p>PEA 4 - refer to their design criteria as they design and make PEA 5 - use their design criteria to evaluate their completed products</p>	<p>PEA 6 - critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make PEA 7 - evaluate their ideas and products against their original design specification</p>	<p>National Curriculum: Investigate and analyse a range of existing products</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>Understand how key events and individuals in design and technology have helped shape the world</p> <p>PEA 8 - identify the strengths and areas for development in their ideas and products PEA 9 - consider the views of others, including intended users, to improve their work</p>
<p>PEB - EVALUATING</p> <p>Existing products</p>	<p>What do children need to know by end of EYFS to prepare them for KS1 DT? What do children need to know by end of EYFS to prepare them for KS1 DT?</p>	<p>PEB 1 - what products are PEB 2 - who products are for PEB 3 - what products are for PEB 4 - how products work PEB 5 - how products are used PEB 6 - where products might be used PEB 7 - what materials products are made from PEB 8 - what they like and dislike about products</p>	<p>PEB 9 - who designed and made the products PEB 10 - where products were designed and made PEB 11 - when products were designed and made PEB 12 - whether products can be recycled or reused</p>	<p>PEB 13 - how much products cost to make PEB 14 - how innovative products are PEB 15 - how sustainable the materials in products are PEB 16 - what impact products have beyond their intended purpose</p>	<p>PEB 17 - how well products have been designed PEB 18 - how well products have been made PEB 19 - why materials have been chosen PEB 20 - what methods of construction have been used PEB 21 - how well products work PEB 22 - how well products achieve their purposes PEB 23 - how well products meet user needs and wants</p>
<p>PEC - EVALUATING</p> <p>Key events and individuals</p>	<p>What do we need to do in EYFS to build up to this?</p>	<p>What do we need to do in KS1 to build up to this?</p>			<p>PEC 1 - about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products</p>

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<p>PTK - TECHNICAL KNOWLEDGE</p> <p>Making products work</p>	<p>What do children need to know by end of EYFS to prepare them for KS1 DT?</p>	<p>National Curriculum: Build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p> <p>PTK 1 - about the simple working characteristics of materials and components PTK 2 - about the movement of simple mechanisms such as levers, sliders, wheels and axles PTK 3 - how freestanding structures can be made stronger, stiffer and more stable PTK 4 - that a 3-D textiles product can be assembled from two identical fabric shapes PTK 5 - that food ingredients should be combined according to their sensory characteristics PTK 6 - the correct technical vocabulary for the projects they are undertaking</p>	<p>PTK 7 - how mechanical systems such as levers and linkages or pneumatic systems create movement PTK 8 - how simple electrical circuits and components can be used to create functional products PTK 9 - how to program a computer to control their products PTK 10 - how to make strong, stiff shell structures PTK 11 - that a single fabric shape can be used to make a 3D textiles product PTK 12 - that food ingredients can be fresh, pre-cooked and processed</p>	<p>PTK 13 - how mechanical systems such as cams or pulleys or gears create movement PTK 14 - how more complex electrical circuits and components can be used to create functional products PTK 15 - how to program a computer to monitor changes in the environment and control their products PTK 16 - how to reinforce and strengthen a 3D framework PTK 17 - that a 3D textiles product can be made from a combination of fabric shapes PTK 18 - that a recipe can be adapted by adding or substituting one or more ingredients</p>	<p>National Curriculum: Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p> <p>Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>Apply their understanding of computing to program, monitor and control their products</p> <p>PTK 19 - how to use learning from science to help design and make products that work PTK 20 - how to use learning from mathematics to help design and make products that work PTK 21 - that materials have both functional properties and aesthetic qualities PTK 22 - that materials can be combined and mixed to create more useful characteristics PTK 23 - that mechanical and electrical systems have an input, process and output PTK 24 - the correct technical vocabulary for the projects they are undertaking</p>

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<p>PCNA - COOKING AND NUTRITION</p> <p>Where food comes from</p>	<p>What do children need to know by end of EYFS to prepare them for KS1 DT?</p>	<p>National Curriculum: Use the basic principles of a healthy and varied diet to prepare dishes</p> <p>Understand where food comes from.</p> <p>PCNA 1 - that all food comes from plants or animals PCNA 2 - that food has to be farmed, grown elsewhere (e.g. home) or caught</p>		<p>PCNA 3 - that seasons may affect the food available PCNA 4 - how food is processed into ingredients that can be eaten or used in cooking</p>	<p>National Curriculum: Understand and apply the principles of a healthy and varied diet</p> <p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p> <p>PCNA 5 - 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</p>
<p>PCNB - COOKING AND NUTRITION</p> <p>Food preparation, cooking and nutrition</p>	<p>What do children need to know by end of EYFS to prepare them for KS1 DT?</p>	<p>PCNB 1 - how to name and sort foods into the five groups in The eatwell plate PCNB 2 - that everyone should eat at least five portions of fruit and vegetables every day PCNB 3 - how to prepare simple dishes safely and hygienically, without using a heat source PCNB 4 - how to use techniques such as cutting, peeling and grating</p>	<p>PCNB 5 - that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eatwell plate PCNB 6 - that to be active and healthy, food and drink are needed to provide energy for the body</p>	<p>PCNB 7 - that recipes can be adapted to change the appearance, taste, texture and aroma PCNB 8 - that different food and drink contain different substances – nutrients, water and fibre – that are needed for health</p>	<p>PCNB 9 - how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source PCNB 10 - how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</p>

Adapted from The Design and Technology Association