

### DT-Knowledge and Skills Progression map 2022-2023

Reception				
Area of Learning	Designing	Making	Evaluating	Technical Knowledge
EYFS – Development Matters	<p><b>Being Imaginative</b> Create simple representations of events, people and objects. Chooses particular colours to use for a purpose. Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.</p> <p><b>Expressive Art and Design</b> Experiments to create different textures. Understands that different media can be combined to create new effects. Manipulates materials to achieve a planned effect. Constructs with a purpose in mind, using a variety of resources. Uses simple tools and techniques competently and appropriately. Selects appropriate resources and adapts work where necessary. Selects tools and techniques needed to shape, assemble and join materials they are using. Early Learning Goal Children sing songs, make music and dance, and experiment with ways of changing them. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function</p>			
Knowledge and Skills	<p>Decide on an appropriate material for a task before starting to build. Talk about their ideas building on their own experiences. Talk about how they could join, shape and assemble their creations during their making Generate ideas drawing from their own experiences.</p>	<p>Begin to select from a range of appropriate tools and explain why they are using it. Begin to understand safety implications and keeping clean when making. Begin to mark out what they want to cut by drawing or tracing.</p>	<p>Talk about what they have made and whether it has ended up like they have initially planned. Make improvements/changes during the construction process as necessary. Begin to suggest what they could have done differently to improve the items they make.</p>	<p>Begin to understand some food preparation tools, techniques and processes Practise stirring, mixing, pouring, blending Discuss how to make an activity safe and hygienic Discuss use of senses. Understand need for variety in food. Begin to understand that eating well contributes to good health.</p>
Year 1				
	Designing	Making	Evaluating	Technical Knowledge
	<p>Children talk about what it is they are designing and making.  They use knowledge of existing products to</p>	<p>Children plan by suggesting what to do next. They select from arrange of tools and equipment explaining their choices.</p>	<p>Children talk about their design ideas and what they are making.  Children make simple judgments about</p>	<p><b>Children will know:</b> That free standing structures can be made stronger, stiffer and more stable.</p>

	<p>help them come up with ideas.</p> <p>They generate ideas drawing from their own experiences.</p> <p>They talk about what they are planning to make, is it for themselves or others? Draw models, explore materials by making mock-ups templates. Talking about their ideas.</p>	<p>They follow given procedures for safety and hygiene.</p> <p>Children mark out, cut and shape materials and components.</p>	<p>their product and ideas against a given criteria.</p> <p>Children suggest how their products could be improved.</p>	<p>The simple working characteristics of materials and components and about the movement of simple mechanisms such as levers, sliders.</p> <p>Levers and sliders can be found in existing products such as pop-up books. A slider allows for movements from side to side or up and down</p> <p><u>Cooking &amp; Nutrition</u> All foods come from plants and animals. To know how to cut prepare food safely To understand the different food groups that they need to incorporate to live a healthy lifestyle. This should be reflected in the choices that they make when making their sandwich.</p>
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**Year 2**

	<b>Desihing</b>	<b>Making</b>	<b>Evaluating</b>	<b>Technical Knowledge</b>
	<p>Children describe what their product is for.</p> <p>They say how their products will work.</p> <p>They talk about how they will make their product and whether it is suitable for the intended user.</p> <p>They use a simple design criterion to help them develop their ideas.</p> <p>Use ICT</p> <p>They develop and communicate ideas by</p>	<p>Children select from a range of materials and components according to their characteristics.</p> <p>They use a range of materials and components including materials, food ingredients, mechanical components.</p>	<p>Children talk about their design ideas and what they are making.</p> <p>They make simple judgements about their products and ideas against a design criteria.</p> <p>They explore what the products are, who 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</p>	<p><b>Children will know:</b> Simple working characteristics of materials and components about the movement of simple mechanisms such as wheels and axels.</p> <p>Use the correct technical vocabulary for projects they are undertaking. E.g w heels, axels, dowels, chassis.</p> <p>Materials can be joined in different ways for example using glue, staples or by sewing.</p>

	<p>talking and drawing models, exploring materials.</p> <p>Make simple templates or mock-ups.</p>			<p>Different joins are used for different effects and reasons.</p> <p><u>Cooking &amp; Nutrition</u>          Know that food has to be farmed, grown elsewhere or caught.          How to prepare food safely and hygienically          How to cut, peel and grate.          Name and sort food in the Eatwell plate.</p>
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**Year 3**

	<b>Designing</b>	<b>Making</b>	<b>Evaluating</b>	<b>Technical knowledge</b>
	<p>Gather information about needs and wants of particular individuals and groups.</p> <p>Develop their own design criteria and use this to inform their own ideas.</p> <p>Describe the purpose of their product.</p>	<p>Order the mainstages of making.</p> <p>Explain their choices of tools and equipment in relation to skills and techniques they will be using.</p> <p>Measure Mark out, cut and shape materials &amp; components with some accuracy.</p>	<p>Refer to their design criteria as they design and make .</p> <p>Use their design criteria to evaluate their completed products.</p> <p><b>Children should consider:</b>          Who designed and made the products?          Where products were designed and made.          When products were designed and made          How well products achieve their purpose.          How well products meet user needs and wants.          Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products – Paul Hollywood</p>	<p><b>Children will know:</b>          That a single fabric shape can be used to make 3d textile products.</p> <p>Join 2 pieces of fabric together using a stitch, know about different types of stitches.</p> <p><u>Cooking &amp; Nutrition</u>          Cook savoury dishes using a heat source.          Peel, chop, slice, knead and bake.</p> <p>Build on the Eatwell plate including drinks.</p> <p>Explore grown food caught in different countries.</p>

**Year 4**

	Designing	Making	Evaluating	Technical Knowledge
	<p>Indicate the design features of their products that will appeal to intended users.</p> <p>Explain how different parts will work.</p> <p>Make design decisions which take account of availability of resources.</p> <p>Generate realistic ideas focussing on the needs of the user.</p>	<p>Select materials and components suitable for the task.</p> <p>Explain their choice of tools and equipment in relation to the skills and techniques they will be using.</p> <p>Follow procedures for safety and hygiene.</p> <p>Use a wide range of materials including electrical components.</p>	<p>Identify the strengths and areas for development in their ideas and products.</p> <p>Consider the views of others, including intended users, to improve their work</p> <p><b>Children should consider:</b>            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</p> <p>Learn about engineers– Brunel.</p>	<p><b>Children will know:</b></p> <p>How to make a strong stiff shell structures.</p> <p>How simple electrical circuits and components can be used to make functional products.</p> <p>How to program a computer to control their products.</p> <p>How to use learning from science to help design and make products that work.</p> <p><u>Cooking &amp; Nutrition</u></p> <p>Cook savoury dishes using a heat sources.</p> <p>Peeling, chopping, slicing kneading bread.</p>

**Year 5**

	Designing	Making	Evaluating	Technical Knowledge
	<p>Carry out research using surveys, interviews, questionnaires and web based resources.</p> <p>Identify the needs wants preferences and values of particular individuals &amp; groups.</p> <p>Develop a design specification to guide their thinking.</p>	<p>Explain their choice of materials and components according to functional properties &amp; aesthetic qualities.</p> <p>Accurately measure, mark out, cut and shape materials and components.</p> <p>Accurately assemble join and combine materials and components.</p>	<p>Identify the strengths and areas for development in their ideas and products.</p> <p>Consider the views of others, including intended users, to improve their work</p> <p><b>Children should consider:</b>            How well products have been designed</p>	<p><b>Children will know:</b></p> <p>To think about user and aesthetics when choosing textiles.</p> <p>How to use their own template.</p> <p>Think of a range of ways to join things</p>

	<p>Use annotated sketches, cross sectional drawing &amp; exploded diagrams to develop and communicate their ideas.</p>		<p>How well products have been made          Why materials have been chosen          What methods of construction have been used          How well products work          Learn about chefs &amp; Fashion designers <b>(Coco Chanel &amp; Stella McCartney)</b> who have developed ground-breaking products.</p> <p>How much products cost to make          How innovative products are</p>	<p>Begin to understand that a single 3D textiles project can be made from a combination of fabric shapes.</p> <p><u>Cooking &amp; Nutrition</u></p> <p>Know that recipes can be adapted by adding or substituting one or more ingredient.</p> <p>Know that recipes can be adapted to change the appearance, taste, texture and aroma.</p> <p>Cook savoury dishes using a heat source.</p> <p>Explain how to be safe / hygienic and follow own guidelines</p> <p>present product well - interesting, attractive, fit for purpose</p> <p>Begin to understand seasonality of foods          Understand food can be grown, reared or caught in the UK and the wider world</p> <p>Explain how there are different substances in food / drink needed for health</p>
<b>Year 6</b>				
	<b>Designing</b>	<b>Making</b>	<b>Evaluating</b>	<b>Technical Knowledge</b>

	<p>Carry out research using surveys, interviews, questionnaires and web-based resources.</p> <p>Identify the needs wants preferences and values of particular individuals &amp; groups.</p> <p>Develop a design specification to guide their thinking.</p> <p>Use annotated sketches, cross sectional drawing &amp; exploded diagrams to develop and communicate their ideas.</p> <p>Generate innovative ideas drawing on research.</p> <p>Make design decisions taking account of constraints such as time and cost.</p>	<p>Produce appropriate list of tools, equipment and materials they need.</p> <p>Formulate step by step plans to guided making.</p> <p>Accurately apply a range of finishing techniques.</p> <p>Demonstrate resourcefulness when tackling practical problems.</p>	<p>Identify the strengths and areas for development in their ideas and products</p> <p>Consider the views of others, including intended users, to improve their work</p> <p><b>Chn should consider:</b>  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</p> <p>How much products cost to make  How innovative products are</p> <p>How sustainable the materials in products are.</p>	<p><b>Children will know that:</b></p> <p>How more complex electrical circuits &amp; components can be used to create functional products.  How to reinforce &amp; strengthen a 3D frame.</p> <p>How to program a computer to monitor changes in the environment and control their products</p> <p>That a 3D textiles product can be made from a combination of fabric shapes</p> <p>How to use learning from mathematics to help design and make products that work.</p> <p>That materials have both functional properties and aesthetic qualities.</p> <p>That materials can be combined and mixed to create more useful characteristics.</p> <p>That mechanical and electrical systems have an input, process and output the correct technical vocabulary for the projects they are undertaking.</p>
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