

## DT PROGRESSION MAP

EYFS	Early Learning Goals	Characteristics of effective learning
	<p>Choose the resources they need for their chosen activities</p> <p>Handle equipment and tools effectively</p> <p>Children know the importance for good health of a healthy diet</p> <p>They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>Children use what they have learnt about media and materials in original ways, thinking about uses and purposes.</p> <p>They represent their own ideas, thoughts and feelings through design and technology.</p>	<p>To show curiosity about objects, events, and people.</p> <p>To question why things happen.</p> <p>To engage in open-ended activities.</p> <p>To think of ideas.</p> <p>To find ways to solve problems / find new ways to do things / test their ideas.</p> <p>To use senses to explore the world around them.</p> <p>To create simple representations of events, people and objects.</p> <p>To plan, make decisions about how to approach a task, solve a problem and reach a goal.</p> <p>To check how well their activities are going.</p> <p>To change strategy as needed reviewing how well the approach worked.</p> <p>To become increasingly dexterous with a range of tools including; scissors, hole punchers and staplers.</p>

	NC	KS1	LKS2	UKS2
<p><b>Designing</b></p>	<p>KS1: Design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>KS2: 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.</p>	<p>To work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry, and the wider environment.</p> <p>To state what products, they are designing and making.</p> <p>To say whether their products are for themselves or other users.</p> <p>To describe what their products are for.</p> <p>To say how their products will work.</p> <p>To say how they will make their products suitable for their intended users.</p> <p>To use a simple design criterion to help develop their ideas.</p>	<p>To gather information about the needs and wants of individuals and groups.</p> <p>To develop their own design criteria and use these to inform their ideas.</p>	<p>To carry out research, using surveys, interviews, questionnaires, and web-based resources.</p> <p>To identify the needs, wants, preferences and values of individuals and groups.</p> <p>To develop a simple design specification to guide their thinking.</p>

	<p>KS1: Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>KS2: Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</p>	<p>To generate ideas by drawing on their own experiences.</p> <p>To use knowledge of existing products to help come up with ideas.</p> <p>To develop and communicate ideas by talking and drawing model ideas by exploring materials, components, and construction kits and by making templates and prototypes.</p> <p>To use information and communication technology, where appropriate, to develop and communicate their ideas.</p>	<p>To generate realistic ideas, focusing on the needs of the user <i>make design decisions that take account of the availability of resources.</i></p> <p>To use computer-aided design to develop and communicate their ideas.</p> <p>To use annotated sketches to develop and communicate their ideas.</p>	<p>To model their ideas using prototypes and pattern pieces.</p> <p>To use cross-sectional drawings and exploded diagrams to develop and communicate their ideas.</p> <p>To generate innovative ideas, drawing on research.</p> <p>To make design decisions, taking account of constraints such as time, resources and cost.</p>
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**Making**

KS1: Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing).

KS2: Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.

To plan by suggesting what to do next.  
To select from a range of tools and equipment, explaining their choices.  
To select from a range of materials and components according to their characteristics.

To order the main stages of making.  
To suggest which tools and equipment they will need to produce their product.

To produce appropriate lists of tools, equipment, and materials that they need.  
To formulate step-by-step plans as a guide to making.  
To explain their choice of tools and equipment in relation to the skills and techniques they will be using.

	<p>KS1: Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p> <p>KS2: 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.</p>	<p>To follow procedures for safety and hygiene.</p> <p>To use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components.</p> <p>To measure, mark out, cut and shape materials and components.</p> <p>To assemble, join and combine materials and components.</p> <p>To use finishing techniques, including those from art and design.</p>	<p>To measure, mark out, cut and shape materials and components with some accuracy.</p> <p>To assemble, join and combine materials and components with some accuracy.</p> <p>To select materials and components suitable for the task.</p> <p>To apply a range of finishing techniques, including those from art and design, with some accuracy.</p>	<p>To accurately measure, mark out, cut and shape materials and components.</p> <p>To accurately assemble, join and combine materials and components.</p> <p>To demonstrate resourcefulness when tackling practical problems.</p> <p>To select materials and components and explain their choice according to functional properties and aesthetic qualities.</p> <p>To accurately apply a range of finishing techniques, including those from art and design.</p> <p>To use techniques that involve several steps.</p>
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**Evaluating**

<p>KS1: Explore and evaluate a range of existing products.</p> <p>KS2: Investigate and analyse a range of existing products.</p>	<p>To know what products are. To know who products are for. To know what products are for. To know how products work. To know how products are used. To know where products might be used. To know what materials products are made from. To know what they like and dislike about products.</p>	<p>To know who designed and made the products. To know where products were designed and made. To know when products were designed and made. To know whether products can be recycled or reused.</p>	<p>To know how much products cost to make. To know how innovative products are. To know how sustainable the materials in products are. To know what impact products have beyond their intended purpose.</p>
<p>KS1: Evaluate their ideas and products against design criteria.</p> <p>KS2: Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p>	<p>To talk about their design ideas and what they are making. To make simple judgements about their products and ideas against design criteria. To suggest how their products could be improved.</p>	<p>To refer to their design criteria as they design and make. To use their design criteria to evaluate their completed products.</p>	<p>To critically evaluate the quality of the design, manufacture, and fitness for purpose of their products as they design and make. To evaluate their ideas and products against their original design specification.</p>
<p>KS2: Understand how key events and individuals in design and technology have helped shape the world.</p>		<p>To know about inventors, engineers, who have developed ground-breaking products.</p>	<p>To know about designers, chefs and manufacturers who have developed ground-breaking products.</p>

**Cooking and Nutrition**

<p>KS1: Use the basic principles of a healthy and varied diet to prepare dishes.</p> <p>KS2: Understand and apply the principles of a healthy and varied diet.</p>	<p>To use the basic principles of a healthy and varied diet to prepare dishes.</p> <p>To know that we eat different foods depending on the time of day, occasion, and our lifestyle.</p> <p>To know that different people eat or avoid certain foods for different reasons and give some of these reasons, e.g. allergy, intolerance, religious belief.</p>	<p>To understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eatwell plate.</p> <p>To understand that to be active and healthy, food and drink are needed to provide energy for the body and we need to have 6-8 drinks a day.</p> <p>To know that different factors can affect our food choices and give some examples of these. E.g. availability, cost, advertising, pressure.</p> <p>To know that different types of food provide different amounts of energy.</p> <p>To know that food ingredients can be fresh, pre-cooked and processed.</p>	<p>To understand that different food and drink contain different substances - nutrients, water and fibre - that are needed for health.</p> <p>To know that energy provided by food and drink is measured in kilojoules (metric) and kilocalories (imperial).</p> <p>To know that different people need different amounts of energy and understand portion sizes.</p> <p>To know that a recipe can be adapted by adding or substituting one or more ingredients.</p>
<p>KS2: Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.</p>	<p>To recognise and name a basic range of ingredients.</p> <p>To name and use a range of basic cooking skills with support.</p>	<p>To understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically.</p> <p>To know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing with increasing competence</p> <p>To recognise and name an increasing range of ingredients.</p>	<p>To understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</p> <p>To know how to use a range of techniques such as kneading and baking with confidence and accuracy.</p> <p>To understand that recipes can be adapted to change the appearance, taste, texture and aroma.</p> <p>To know that there are a vast range of ingredients used around the world and name some of these.</p>

	<p>KS1: Understand where food comes from.</p> <p>KS2: Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.</p>	<p>To understand where food comes from. To name some foods which come from the area where we live.</p>	<p>To understand 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. To name foods which are produced in the UK.</p>	<p>To understand that seasons may affect the food available due to climate and conditions. To understand how food is processed into ingredients that can be eaten or used in cooking. To name foods which are produced outside of the UK.</p>
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## Technical knowledge

<b>Structures</b>	<p>KS1: Build structures, exploring how they can be made stronger, stiffer and more stable.</p> <p>KS2: Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</p>	<p>To begin to build structures, joining components together to create a finished product. To build structures with some independence exploring how they can be made stronger, stiffer and more stable.</p>	<p>To build structures with increasing independence and accuracy. To demonstrate an understanding of how they can be reinforced, made stronger and more stable.</p>	<p>To use finishing techniques to strengthen and improve the appearance of their models. To independently and skilfully, build innovative, functional, appealing, stable structures that are fit for purpose. To demonstrate confidently how to reinforce and strengthen a 3D framework. To know that materials can be combined and mixed to create more useful characteristics.</p>
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<p><b>Mechanisms</b></p>	<p>KS1: Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p> <p>KS2: Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].</p>	<p>With some support, begin to explore and use simple mechanisms. For example, use sliders in moving pictures, hinges into models, wheels and axles etc.</p> <p>With some independence explore and use winding mechanisms.</p> <p>To begin to incorporate wheels and axles into their products.</p>	<p>To begin to develop an understanding that mechanical systems such as pneumatic systems can create movement.</p> <p>With increasing independence produce models that incorporate mechanical systems such as pneumatic systems to create movement.</p> <p>To know that mechanical have an input, process, and output.</p>	<p>To begin to understand how mechanical systems such as cams create movement.</p> <p>To design and make a product that incorporates a cam mechanism.</p> <p>To develop a greater understanding of how cams create movement.</p> <p>To create and use prototypes.</p> <p>To design and make products with greater independence.</p> <p>To know that mechanical have an input, process and output.</p>
<p><b>Textiles</b></p>		<p>To know how to cut out shapes which have been created by drawing round a template onto the fabric.</p> <p>To begin to sew using cross stitch.</p>	<p>To know that a single fabric can be used to make a 3D textiles product.</p> <p>To join fabrics using a range of stitches with increasing independence.</p> <p>To know how to add further decoration to their work using buttons, beads, sequins etc.</p> <p>To use a pattern and are introduced to making a prototype of a product.</p> <p>To sew more accurately.</p>	<p>To create products using pattern pieces and demonstrate an awareness of seam allowance.</p> <p>To know how to blanket stitch.</p> <p>To pin and tack fabric pieces together.</p> <p>To join fabrics by over sewing, back stitch and blanket stitch.</p> <p>To make quality products with increasing accuracy and independence.</p> <p>To know that a 3D textiles product can be made from a combination of fabric shapes.</p>

<p><b>Electrical Systems</b></p>	<p>KS2: Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. Apply their understanding of computing to program, monitor and control their products.</p>		<p>To know how to program a computer to control their products (linked to the Computing progression map). To know that electrical systems have an input, process and output.</p>	<p>To know that electrical systems have an input, process and output. To understand and use electrical systems in their products for example: series circuits, switches, bulbs, buzzers and motors (see Science and Computing Progression map). To know how to program a computer to monitor changes in the environment and control their products (linked to the Computing Progression map, using Crumble kits).</p>
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