



## DT Progression Ladder



Progression of Skills in DT	Designing	Making	Evaluating	Technical Knowledge	Cooking and Nutrition
Year 1	<p>Use a range of contexts to impact design (i.e. stories/ school/ home etc) through experience.</p> <p>Create a simple design for a product.</p> <p>Say how their products will work.</p> <p>Use a simple criterion to develop ideas further.</p> <p>Talk about their ideas and draw them.</p> <p>Use knowledge of existing products to impact their own ideas.</p> <p>Model ideas by accessing materials, construction kits, make mock-ups etc.</p> <p>Use ICT where appropriate to develop ideas.</p>	<p>Select from a range of tools and equipment and explain their choices according to their characteristics.</p> <p>Follow procedures for safety when using a range of simple tools to cut, join, shape and combine materials and components.</p> <p>Use finishing techniques from art and design.</p> <p>Explore what products are.</p> <p>Explore what products are for.</p> <p>Explore how products work and where they might be used– axels and wheels.</p> <p>Explore what products are made from.</p>	<p>Explore what they like/ dislike about a product.</p> <p>Talk about their ideas and what they are making.</p> <p>Make simple judgements about their products against a simple success criterion.</p> <p>Ask simple questions about existing products and those that have been made.</p>	<p>Know about simple characteristics of materials and components.</p> <p>Know about movement of simple mechanisms - - wheels and axles.</p> <p>Know how to strengthen a free-standing structure to make it stiffer, stronger and more stable.</p>	<p>Prepare simple dishes safely and hygienically without a heat source.</p> <p>Cut, peel and grate.</p> <p>Talk about what I eat at home and discuss what healthy foods are.</p> <p>Say where some food comes from and give examples of food that is grown.</p>

**By the end of year 1 pupils should be able to**

Talk about what they eat at home and discuss what healthy foods are. Know where food comes from and give examples of food that is grown. Use simple tools to help to prepare food safely (cut, peel, grate).

Create a simple design for a product, using pictures and words to describe what they want to do. Select tools and equipment to perform practical tasks safely. Ask simple questions about existing products and those that they have made. Know how to stiffen and make structures stronger and more stable. Use wheels and axels in a project.



## DT Progression Ladder



Progression of Skills in DT	Designing	Making	Evaluating	Technical Knowledge	Cooking and Nutrition
Year 2	<p>Use a range of contexts to impact design through their own experiences – including industry and the local and wider environment.</p> <p>Generate, develop, model and communicate ideas through talking, drawing, templates, mock ups and IT for a specific that they are designing.</p> <p>State who their products are for (themselves or others) and how it will be made suitable for their intended user/s.</p> <p>Give their product a purpose.</p> <p>Use existing products to impact my design.</p> <p>Model ideas using templates and mock ups.</p>	<p>Plan by thinking what to do next.</p> <p>Select tools and select a range of materials based on knowledge of their properties.</p> <p>Safely measure, mark out, cut and shape materials and components using a range of tools.</p> <p>Assemble, join and combine materials and components.</p> <p>Improve finishing techniques.</p> <p>Explore who products are for</p>	<p>Critique what they like/ dislike about their work.</p> <p>Make judgements about their ideas and product using a specific design criterion as well as existing products.</p>	<p>Know that a 3D shape can be assembled from two identical fabric shapes.</p> <p>Know that food ingredients should be combined due to their sensory characteristics.</p> <p>Technical vocabulary for projects undertaking.</p> <p>Know about simple characteristics of materials and components.</p> <p>Know about movement of simple mechanisms such as levers, sliders, wheels and axles.</p> <p>Identify different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable.</p>	<p>Use a wider range of cookery techniques (mix, chop, cook) to prepare food safely and hygienically.</p> <p>Know that food comes from plants or animals.</p> <p>Know that food needs to be farmed, grown (elsewhere) or caught.</p> <p>Name and sort food into the 5 groups – Eatwell Plate.</p> <p>Understand that everyone should eat at least 5 portions or fruit and vegetables a day.</p>

**By the end of year 2 pupils should be able to**

Explain why they need a variety of foods in their diet. Know that all food has to be farmed, grown and caught. Use a wide range of cookery techniques to prepare food safely.

Design pleasing products for themselves and others based on a design. Generate, develop, model and communicate ideas through talking, drawing, templates, mock ups and ICT. Choose tools and select materials based on their knowledge and properties. Safely measure, mark out, cut and shape materials and components using a wide range of tools. Evaluate and assess products using a design criteria. Investigate techniques for stiffening materials and enable structures to remain stable. Explore mechanisms such as levers, sliders, wheels and axles.



## DT Progression Ladder



<p>Year 3</p>	<p>Work in a range of social contexts with confidence Including leisure/ culture/ enterprise/ industry and the wider environment.</p> <p>Explain how particular parts of their product works.</p> <p>Gather information about needs and wants of particular individuals and/or groups.</p> <p>Create a design criterion to inform ideas.</p> <p>Share and clarify ideas through discussion.</p> <p>Use annotated sketches, cross sectional drawings and simple computer programmes to communicate and develop ideas.</p>	<p>Select suitable choices of materials for the task.</p> <p>Explain their choice of tools and equipment in relation to the skills and techniques that they will be using.</p> <p>Order the main stages of making.</p> <p>Use a wider range of materials and components than KS1 including construction materials and kits, textiles, food ingredients and plan for using them.</p> <p>Measure, mark out, cut and shape materials and components with some accuracy.</p> <p>Assemble, join and combine materials and components with some accuracy.</p> <p>Use a range of finishing techniques with some accuracy.</p>	<p>Identify strengths and areas for development in ideas and products.</p> <p>Consider views of others, including intended users, to improve their work.</p> <p>Return to their design criteria as they design and make.</p> <p>Decide how well products have been made.</p> <p>Decide why materials have been chosen.</p> <p>Identify what methods of construction have been used.</p> <p>Decide how well products work and achieve their purpose.</p> <p>Decide how the product meets the needs and wants of the user.</p>	<p>Know that materials have both functional and aesthetic qualities.</p> <p>Know that materials can be combined to create more useful characteristics.</p> <p>Technical vocabulary is being used for projects.</p> <p>Know how mechanical systems such as lever and linkages or pneumatic systems create movement.</p> <p>Know how to make strong, stiff shell structures using diagonal struts.</p>	<p>Know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chicken and cattle) and caught (such as fish) in the UK, Europe and the wider world.</p> <p>Know how to prepare and cook some predominantly savoury dishes safely and hygienically with the use of a heat source (where appropriate).</p> <p>Use a range of techniques including slicing, grating, spreading kneading and baking.</p> <p>Identify the food groups from the Eatwell plate without looking.</p>
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## DT Progression Ladder



### By the end of year 3 pupils should be able to

Name the food groups and name a food from each. Understand that food has to be grown, farmed or caught in Europe and around the world. Use a variety of ingredients and techniques to prepare and combine ingredients safely.

Use existing knowledge to design a functional product. Create sketches, cross-sectional diagrams and simple computer programmes. Safely measure, mark out, cut, assemble and join with some accuracy. Make suitable choices of tools and materials and plan out stages for using them. Investigate and analyse existing products and those they have made considering a wide range of factors. Strengthen frames with diagonal struts. Understand how mechanical systems such as levels, linkages or pneumatic systems create movement.



## DT Progression Ladder



Progression of Skills in DT	Designing	Making	Evaluating	Technical Knowledge	Cooking and Nutrition
Year 4	<p>Use knowledge of existing products to design functional and appealing products for a particular purpose and audience.</p> <p>Use knowledge of the techniques and aesthetic and functional qualities of a wide range of materials and plan how to use these.</p> <p>Indicate how their design features will appeal to an intended user.</p> <p>Create designs using exploded diagrams</p> <p>Generate realistic ideas focusing on the need of the user.</p> <p>Model ideas using prototypes and pattern pieces.</p> <p>Make design decisions that take account of the availability of resources.</p>	<p>Use techniques which require more accuracy to cut, shape, join and finish work e.g. cutting internal shapes.</p> <p>Explain their choice of materials and components according to their functional and aesthetic qualities.</p> <p>Use a wider range of materials and components than KS1 including mechanical and electrical components and plan for using them.</p>	<p>Consider how existing products and own finished products might be improved and analyse how effective they are in meeting the needs of the intended user.</p> <p>Investigate and analyse how well products have been designed.</p> <p>Focus inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.</p> <p>Analyse and investigate who designed and made the products.</p> <p>Find out where and when the products were designed made.</p> <p>Have an awareness of whether the products can be recycled or reused.</p>	<p>Know how to use science and maths to help design and make them work.</p> <p>Know how to apply techniques they have learnt to strengthen structures and explore their own ideas.</p> <p>Know that a single fabric shape can be used to make a 3D textiles project.</p> <p>Know how to programme a computer to control a product.</p> <p>Know how simple electrical circuits and components can be used to create functional products.</p> <p>Know that mechanical and electrical systems have an input, process and output.</p>	<p>Know that food products can be fresh, pre-cooked and processed.</p> <p>Know that to be active and healthy, food and drink are needed to provide energy to the body.</p> <p>Understand seasonality and the advantages of locally produced food.</p> <p>Read and follow recipes that involve several processes, skills and techniques.</p>

**By the end of year 4 pupils should be able to**

Understand that different foods and drinks provide different substances the body needs to stay healthy. Know the advantages of eating locally produced food and seasonality. Read and follow recipes involving several processed, skills and techniques.

Design a functional and appealing product for a purpose and audience using exploded diagrams. Accurately cut, shape, join and finish work. Use knowledge of qualities of wide range of materials to plan use of them. Suggest ideas to improve work and note how well they meet the user's needs. Apply techniques to strengthen structures.



## DT Progression Ladder



Progression of Skills in DT	Designing	Making	Evaluating	Technical Knowledge	Cooking and Nutrition
Year 5	<p>Carry out research using surveys, interviews, questionnaires and web-based resources.</p> <p>Use research into existing products and market research to inform the design of my own innovative product.</p> <p>Identify the needs, wants, preferences and values of individuals and groups.</p> <p>Develop a simple design specification to guide their thinking.</p>	<p>Formulate a step-by-step plan as a guide to making demonstrating that you can apply knowledge of different materials, tools and techniques.</p> <p>Produce appropriate lists of tools, equipment and materials that they need.</p> <p>Explain their choice of tools and equipment in relation to the skills and techniques that they are using.</p> <p>Use a wider range of construction materials including more complex mechanical and electrical components and systems.</p> <p>Use techniques that involve several steps.</p> <p>Demonstrate resourcefulness when tackling problems.</p> <p>Create prototypes to show ideas.</p> <p>Make careful and precise measurements so that joins and holds and openings are in exactly the right place.</p>	<p>Make detailed evaluations about existing products and your own considering the views of others to improve work.</p> <p>Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make.</p> <p>Evaluate their ideas and products against their original specification.</p> <p>Know how innovative products are.</p> <p>Know how sustainable the materials in products are.</p> <p>Know what product have beyond their intended purpose.</p>	<p>Build more complex 3D structures and apply knowledge of strengthening techniques to make them stronger and more stable.</p> <p>Know how mechanical systems such as cams or pulleys or gears create movement.</p> <p>Know how more complex electrical circuits and components can be used to create functional products.</p>	<p>Understand the main food groups and the different nutrients that are important for health.</p> <p>Understand how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable/ tasty to eat.</p> <p>Know how food is processed into ingredients that can be used in or used in cooking.</p> <p>Select appropriate ingredients and use a wide range of techniques to combine them.</p>

**By the end of year 5 pupils should be able to**

Identify the food groups and nutrients important to health. Tell us how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable. Select ingredients and techniques to combine them.

Use market research to inform design. Create prototypes. Make careful, precise measurements to ensure joins, holes and openings are exact. Produce step by step plans to guide making (materials, tools, techniques). Make detailed evaluations and take on constructive criticism to improve work. Build complex 3D structures applying strengthening techniques. Use more complex mechanical and electrical systems.



## DT Progression Ladder



Progression of Skills in DT	Designing	Making	Evaluating	Technical Knowledge	Cooking and Nutrition
Year 6	<p>Generate innovative ideas, drawing on research.</p> <p>Make design decisions, taking account of constraints such as time, cost and resources.</p> <p>Use research I have done into famous designers and inventors to inform my designs. .</p>	<p>Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer aided design.</p> <p>Apply my knowledge of materials and techniques to refine and rework my product to improve its functional properties and aesthetic qualities.</p> <p>Use a wide range of methods to strengthen, stiffen and reinforce complex structures and use them accurately and appropriately.</p>	<p>Investigate and analyse how much product costs to make.</p> <p>Analyse what construction methods have been used.</p> <p>Use knowledge of famous designs to further explain the effectiveness of existing products and products they have made.</p>	<p>Know how to programme a computer to monitor changes in the environment and control their products. Know that a 3D textiles product can be made from a combination of fabric shapes.</p> <p>Know that a recipe can be adapted by adding or substituting one or more ingredients.</p> <p>Use technical knowledge and accurate skills to problem solve during the making process.</p>	<p>Know that recipes can be adapted to change the appearance, taste, texture and aroma.</p> <p>Know that different food and drink contain different substances, nutrients, water and fibre that are needed for health.</p> <p>Confidently plan a series of healthy meals based on the principles of a healthy and varied diet.</p> <p>Use information labels to inform choice.</p> <p>Research, plan and prepare and cook a savoury dish, applying knowledge of ingredients and technical skills.</p>

**By the end of year 6 pupils should be able to**

Research, plan, prepare and cook a savoury dish. Plan a series of healthy meals based on the principles of a healthy, varied diet. Use food labels to inform choice.

Use research into designers and inventors to inform design. Generate, develop, model and communicate ideas through a range of ways. Use knowledge of materials and techniques to refine and rework a product to improve its properties and aesthetic qualities. Use knowledge and accurate skills to problem solve during making. Use knowledge of famous designs to further explain effectiveness of products.



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