

Cycle A- D&T Progression In Skills

Skill Set	Years 1 and 2	Years 3 and 4	Years 5 and 6
Designing	<p>In Years 1 and 2, children are taught the knowledge, understanding and skills needed to engage in the process of designing. They work in a range of contexts to design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>Children can:</p> <ul style="list-style-type: none"> • use their knowledge of existing products and their own experience to help generate their ideas; • design products that have a purpose and are aimed at an intended user; • explain how their products will look and work through talking and simple annotated drawings; • design models using simple computing software; • plan and test ideas using templates and mock-ups; • understand and follow simple design criteria. 	<p>In Years 3 and 4, children develop the knowledge, understanding and skills of the process of designing. They apply these skills to a range of contexts and begin to use research to develop design criteria for products that are fit for purpose and aimed at particular individuals or groups.</p> <p>Children can:</p> <ul style="list-style-type: none"> • identify the design features of their products that will appeal to intended customers; • use their knowledge of a broad range of existing products to help generate their ideas; • design products that have a clear purpose and are aimed at a specific user; • explain how particular parts of their products work; • use annotated sketches and cross-sectional drawings to develop and communicate their ideas; • when designing, explore different initial ideas before coming up with a final design; • when planning, start to explain their choice of materials and components including function and aesthetics; • develop and follow simple design criteria; 	<p>In Years 5 and 6, children use their knowledge, understanding and skills of the design process across a range of contexts. Research -based projects are planned which and follow specific design criteria that inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</p> <p>Children begin to 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>Children can:</p> <ul style="list-style-type: none"> • use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market; • use their knowledge of a broad range of existing products to help generate their ideas; • design products that have a clear purpose and indicate the design features of their products that will appeal to the intended user; • explain how particular parts of their products work; • consider the availability and costings of resources when planning out designs;

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Making - Mechanisms	<p>In Years 1 and 2, children select from and use a range of tools and equipment to perform practical tasks. They select from and can use a wide range of materials and components to create products that have mechanisms.</p> <p>Children can:</p> <ul style="list-style-type: none"> • learn to use hand safely and appropriately; • use a range of materials and components; • with help, measure and mark out; • cut, shape and score materials with some accuracy; • assemble, join and combine materials, components; 	<p>In Years 3 and 4, children select from and use a wider range of tools and equipment to perform practical tasks accurately. They select from and use a wider range of materials according to their functional properties and aesthetic qualities.</p> <p>Children can:</p> <ul style="list-style-type: none"> • learn to use a range of tools and equipment safely, appropriately and accurately; • use a wider range of materials and components, including construction materials, mechanical and electrical components; • with growing independence, measure and mark out to the nearest cm and millimetre; • cut, shape and score materials with some degree of accuracy; • assemble, join and combine material and components with some degree of accuracy; 	<p>In Years 5 and 6, children use a wide range of tools and equipment with confidence. They select materials and components justifying their choices according to the functionality and aesthetics of these.</p> <p>Children can:</p> <ul style="list-style-type: none"> • accurately use a range of tools and equipment safely and appropriately • independently take exact measurements and mark out, to within 1 millimetre; • cut a range of materials with precision and accuracy; • shape and score materials with precision and accuracy; • assemble, join and combine materials and components with accuracy;

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Making - Cooking and Nutrition	<p>In Years 1 and 2, children use the basic principles of a healthy and varied diet to prepare dishes and they understand where food comes from.</p> <p>Children can:</p> <ul style="list-style-type: none"> • cut, peel and grate ingredients, including measuring and weighing ingredients using measuring cups; • explain where in the world different foods originate from; • understand that all food comes from plants or animals; • understand that food has to be farmed, grown elsewhere (e.g. home) or caught; • name and sort foods into the five groups in the Eatwell Guide; • understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why; • use what they know about the Eatwell Guide to design and prepare dishes. 	<p>In Years 3 and 4, children develop their understanding of the principles of a healthy and varied diet and use this to prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.</p> <p>Children can:</p> <ul style="list-style-type: none"> • start to know when, where and how food is grown (such as herbs, tomatoes and strawberries) in the UK, Europe and the wider world and consider food miles; • with support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven; • use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking; • explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide and be able to apply these principles when planning and cooking dishes; • understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body; • prepare ingredients using appropriate cooking utensils; • measure and weigh ingredients to the nearest gram and millilitre; • start to independently follow a recipe; • start to understand seasonality. 	<p>In Years 5 and 6, children use their knowledge of healthy and varied diets to prepare savoury meals. They will look at how meals have changed through history and seasonality, where and how ingredients are grown, reared, caught and processed.</p> <p>Children can:</p> <ul style="list-style-type: none"> • know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as poultry and cattle) and caught (such as fish) in the UK, Europe and the wider world; • understand about seasonality, how this may affect the food availability and plan recipes according to seasonality; • understand that food is processed into ingredients that can be eaten or used in cooking; • demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically; • demonstrate how to use a range of cooking techniques, such as, grilling, frying and boiling; • explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes; • adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma; • measure accurately and calculate ratios of ingredients to scale up or down from a recipe; • independently follow a recipe.

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Making - Textiles	<p>In Years 1 and 2, children select from and use a range of tools and equipment to perform practical tasks. They select from and can use a wide range of materials and components to design and make products from textiles.</p> <p>Children can;</p> <ul style="list-style-type: none"> • learn to use hand tools equipment safely and appropriately; • with help, measure and mark out; • demonstrate how to cut, shape and join fabric to make a simple product; • manipulate fabrics in simple ways to create the desired effect; • use a basic running stitch; • begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations. 	<p>Children select from and use a wider range of tools and equipment to perform practical tasks accurately. They select from and use a wider range of materials and components, according to their functional properties and aesthetic qualities to make products from textiles.</p> <p>Children can:</p> <ul style="list-style-type: none"> • use a range of tools and equipment safely, appropriately and accurately • with growing independence, measure and mark out to the nearest cm and millimetre; • cut, shape and score materials with some degree of accuracy; • assemble, join and combine material and components with some degree of accuracy; • demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product; • join textiles with an appropriate sewing technique; • begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming, tie-dye, fabric paints and digital graphics. 	<p>Children select from and use a wider range of tools and equipment to perform practical tasks with proficiency. They select from and use a wider range of materials and components with accuracy, according to their functional properties and aesthetic qualities, taking into account the purpose of the final product.</p> <p>Children can:</p> <ul style="list-style-type: none"> • learn to use a wider range of tools and equipment safely with increasing accuracy. • independently take exact measurements and mark out, to within 1 millimetre; • use a full range of materials and components, including construction materials and kits, textiles, and mechanical components; • cut a range of materials with precision and accuracy; • shape and score materials with precision and accuracy; • assemble, join and combine materials and components with accuracy; • demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product; • join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch; • refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape.

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Evaluating	<p>In Years 1 and 2, children explore and evaluate a range of existing products, in addition to evaluating their ideas and products against design criteria.</p> <p>Children can:</p> <ul style="list-style-type: none"> • explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations; • explain positives and things to improve for existing products; • explore what materials products are made from; • talk about their design ideas and what they are making; • as they work, start to identify strengths and possible changes they might make to refine their existing design; • evaluate their products and ideas against their simple design criteria; • start to understand that the iterative process sometimes involves repeating different stages of the process. 	<p>In Years 3 and 4, children develop their analysis of a range of existing products. They evaluate their ideas and products against their own design criteria, but also begin to consider the views of others to improve their work.</p> <p>Children can:</p> <ul style="list-style-type: none"> • explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose; • explore what materials/ingredients products are made from and suggest reasons for this; • consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps them to improve their product; • evaluate their product against their original design criteria; • evaluate the key events, including technological developments, and designs of individuals in design and technology that have helped shape the world. 	<p>In Years 5 and 6, children further develop their analysis of a range of existing products. They evaluate their ideas and products against their own design criteria, taking into consideration the views of others to make improvements to their products.</p> <p>Children can:</p> <ul style="list-style-type: none"> • complete detailed competitor analysis of other products on the market; • critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make; • evaluate their ideas and products against the original design criteria, making changes as needed.

Technical Knowledge	<p>Children develop knowledge and skills to enable them to;</p> <ul style="list-style-type: none">• talk about and start to understand the simple working characteristics of materials and components;• explore and create products using mechanisms, such as levers, sliders and wheels.	<p>Children develop knowledge and skills to enable them to;</p> <ul style="list-style-type: none">• understand that materials have both functional properties and aesthetic qualities;• apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;• explain how mechanical systems such as levers and linkages create movement;• use mechanical systems in their products.	<p>Children develop knowledge and skills to enable them to;</p> <ul style="list-style-type: none">• explain how mechanical systems, such as cams, create movement and use mechanical systems in their products;•
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