



Design Technology CURRICULUM SKILLS OVERVIEW

National Curriculum Aims

Through the support of the Design and Technology Association (DATA) scheme, Projects on a Page, children will experience an array of different progressive and linkable skills and techniques over the course of a child's time at Harrietsham Primary School. This ensures that children are constantly building upon previous learning and are able to expand their knowledge and understanding of problem solving, designing and constructing different products. All children will design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. Through the evaluation of past and present design and technology, our intent is that children will develop a critical understanding of its impact on daily life and how it has helped shape the world we now live in.

We have used the supporting documentation of the scheme to help us develop the progression and key concepts detailed below.

	YR	Y1	Y2	Y3	Y4	Y5	Y6
Design Technology Key Concepts							
Designing							
Making							
Evaluating							
Technical knowledge							
Cooking and nutrition							
Problem solving							

EYFS	Early Learning Goals: ELG: Building Relationships - Working and playing cooperatively and taking turns with others; ELG: Fine Motor Skills - Holding a pencil effectively in preparation for fluent writing – using the tripod grip in almost all cases; - Using a range of small tools, including scissors, paint brushes and cutlery; - Beginning to show accuracy and care when drawing. Expressive Arts and Design	ELG: Creating with Materials - Safely using and exploring a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; - Sharing their creations, explaining the process they have used; - Making use of props and materials when role playing characters in narratives and stories.		
	Knowledge	Skills	Key Vocabulary	
	Design: I can create my own designs. Make: I can explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Evaluate: I can share and talk about my creations. Technical Knowledge: I can explain processes I have used. Cooking and Nutrition: I know some foods that can be grown locally.	I can understand how to keep myself safe when using equipment. I can use a range of small tools, including scissors, paint brushes and cutlery. I can use a table knife safely to cut with increasing accuracy.	<ul style="list-style-type: none"> • Adapt • Balance • Build • Create • Construct • Design • Evaluate • Horizontal • Model • Purpose 	
Year 1	Design: I can design purposeful, functional, appealing products for myself and other users based on design criteria. Make: I can understand a variety of ways to join materials. Evaluate: I can begin to explain how my product can be improved. I can explore and evaluate a range of existing products. I can begin to explain the key vocabulary: design, make and evaluate. Cooking and Nutrition: I understand where food comes from. I can explain how different food might be prepared.	I can select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing). I can accurately apply the most suitable material for joins. I can build structures, exploring how they can be made stronger, stiffer and more stable. I can begin to talk about and demonstrate how to safely use equipment. Focus skills: 1. Joining materials - wheels. 2. Structures - sliders. 3. Cooking - local food. Raw materials.	<ul style="list-style-type: none"> • Adapting • Appealing • Assemble • Cloth • Cutting • Curling • Diet • Design • Designer • Evaluate • Embellish • Folding • Finishing • Function/Functional/Functionality • Healthy • Hygiene • Ingredients • Innovation • Joining 	

Year 2	<p>Design: I can design and communicate an idea using simple annotations to explain my ideas. I can generate, develop, model and communicate my ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>Make: I can explore and use mechanisms [for example, levers, sliders, wheels and axles], in my products.</p> <p>Evaluate: I can evaluate my ideas and products against design criteria.</p> <p>Technical Knowledge: I can use technical vocabulary to explain and annotate my work.</p> <p>Cooking and Nutrition: I can use the basic principles of a healthy and varied diet to prepare dishes. I can explain that food has to be farmed, grown elsewhere (e.g. home) or caught.</p>	<p>I can select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p> <p>I can explore, use and make mechanisms in my products.</p> <p>I can prepare simple dishes safely and hygienically, without using a heat source.</p> <p>I can use techniques such as cutting, peeling and grating.</p> <p>Focus skills:</p> <ol style="list-style-type: none"> 1. Mechanisms - Joining materials. Sewing. 2. Structures - levers, axles. 3. Cooking - healthy meal. Raw materials. 	<ul style="list-style-type: none"> • Construction • Curling • Cutting • Design • Evaluate • Functionality • Folding • Measure • Materials • Models • Mechanisms • Prototypes • Purposeful • Product • Sketch
Year 3	<p>Design: I can modify existing designs to change my purpose. I can develop my ideas using a design criteria. I can use more detailed sketches with levels to communicate my design ideas.</p> <p>Make: I can apply my understanding of how to strengthen, stiffen and reinforce more complex structures.</p> <p>Evaluate: I can begin to modify my original designs based on suitability for purpose.</p> <p>Technical Knowledge: I can explain why structures have been used for specific designs.</p> <p>Cooking and Nutrition: I can explain a healthy and balanced diet.</p>	<p>I can begin to use more complicated joins safely using equipment such as glue guns, junior hacksaws, hand drills and sanding equipment.</p> <p>Focus skills:</p> <ol style="list-style-type: none"> 1. Structures - reinforcing. 2. Joining - pulleys. 3. Cooking - balanced diet. Cooking with few ingredients. 	<ul style="list-style-type: none"> • Assemble • Construction • Diet • Design • Designer • Evaluate • Fresh Foods • Healthy • Hygiene • Iconic • Innovation • Ingredients • Maker • Measure / Measurement • Materials • Models • Nutrition

Year 4	<p>Design: I can investigate and analyse a range of existing products.</p> <p>Make: I can understand and use mechanical systems in my products [for example, gears, pulleys, cams, levers and linkages].</p> <p>Evaluate: I can investigate and analyse a range of existing products. I can evaluate my ideas and products against my own design criteria.</p> <p>Technical Knowledge: I can begin to look at the limitations of equipment. I can understand and use electrical systems in my products [for example, series circuits incorporating switches, bulbs, buzzers and motors].</p> <p>Cooking and Nutrition: I can understand and apply the principles of a healthy and varied diet.</p>	<p>I can build working mechanical systems using a variety of different equipment safely.</p> <p>I can use heat to cook and prepare savoury dishes.</p> <p>Focus skills:</p> <ol style="list-style-type: none"> 1. Mechanical systems - cams. 2. Electrical systems. 3. Cooking - heating savoury dishes. 	<ul style="list-style-type: none"> • Aesthetics • Cutting • Creativity • Design • Decoration • Embellishment • Functional/Functionality • Finishing • Innovation • Joins / Joining • Materials • Model • Measure • Mechanisms • Originality • Purpose / Purposeful • Product
Year 5	<p>Design: I can 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>Make: I can make an appealing product that is fit for purpose based on design criteria. I can explain my choice of tools and equipment in relation to the skills and techniques they will be using.</p> <p>Evaluate: I can evaluate my ideas and products against my own design criteria and consider the views of others to improve my work.</p> <p>Technical Knowledge: I can understand how key events in design and technology have helped shape the world.</p> <p>Cooking and Nutrition: I can prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.</p>	<p>I can select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.</p> <p>I can use knives safely to prepare food and then use heat to cook and prepare savoury dishes using a range of cooking techniques.</p> <p>Focus skills:</p> <ol style="list-style-type: none"> 1. Mechanical systems - pulleys. 2. Reinforcement - sewing. 3. Cooking - techniques (boiling, frying, baking, grilling, poaching, scrambling). 	<ul style="list-style-type: none"> • Cutting • Creativity • Design/Designer • Evaluate • Functionality • Finishing • Innovation • Joining • Measure • Materials • Mechanisms • Maker • Purpose • Purposeful • Product • Sketch • Shaping • Structures • Tools

<p>Year 6</p>	<p>Design: I can generate, develop, model and communicate my ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. I can make design decisions that take account of the availability of resources.</p> <p>Make: I can select from and use a wider range of materials and components, including construction materials, textiles and ingredients, suitable for the task.</p> <p>Evaluate: I can consider the views of others, including the intended users, to improve their work. I can critically evaluate the quality of the design, manufacture and fitness for purpose of my product. I can consider the product cost and sustainability of the materials when evaluating my product.</p> <p>Technical Knowledge: I can understand how key events and individuals in design and technology have helped shape the world.</p> <p>Cooking and Nutrition: I can understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p>	<p>I can carry out research using surveys, interviews, questionnaires and web-based resources. I can identify the needs, wants, preferences and values of particular individuals and groups.</p> <p>I can apply my understanding of computing to program, monitor and control my products.</p> <p>I can explain my choice of materials and components according to functional properties and aesthetic qualities. I can accurately apply a range of finishing techniques, including those from art and design.</p> <p>Focus skills:</p> <ol style="list-style-type: none"> 1. Mechanical systems - gears (computer programming) 2. Sewing. 3. Cooking - seasonality (Seasonally appropriate meals). 	<ul style="list-style-type: none"> • Assemble • Construction • Construction • Diet • Decay • Design • Electrics • Fresh Foods • Growth • Hygiene • Healthy • Harvest • Ingredients • Measurement /Measure • Materials • Models • Nutrition
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