



St. Thomas of Canterbury Design and Technology Progression Document



St Thomas of Canterbury Progression in D&T

<div>National curriculum expectations</div> <div>→</div>	<div>Aims</div> <div>Ensure that all pupils:</div> <div><ul style="list-style-type: none">♣ develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world♣ build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users♣ critique, evaluate and test their ideas and products and the work of others♣ understand and apply the principles of nutrition and learn how to cook</div>	<div>KS1</div> <div>Pupils should be taught:</div> <div><ul style="list-style-type: none">♣ design purposeful, functional, appealing products for themselves and other users based on design criteria♣ select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]♣ evaluate their ideas and products against design criteria♣ use the basic principles of a healthy and varied diet to prepare dishes</div>			<div>KS2</div> <div>Pupils should be taught:</div> <div><ul style="list-style-type: none">♣ generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design♣ select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately♣ evaluate their ideas and products against their own design criteria and consider the views of others to improve their work♣ understand and apply the principles of a healthy and varied diet</div>		
<div>Links to EYFS Development Matters</div> <div>→</div>	<div>Expressive Arts and Design</div> <div><u>ELG- Creating with Materials</u></div> <div><ul style="list-style-type: none">♣ safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function♣ share their creations, explaining the process they have used♣ make and use props and materials when role playing characters in narratives and stories</div>						
<div>Substantive knowledge</div>	<div>Food</div>	<div>Mechanisms</div>	<div>Structures</div>	<div>Textiles</div>	<div>Mechanical systems</div>	<div>Electrical systems</div>	
<div>EYFS</div>	<div>-Food tasting opportunities from other cultures linking to festivals and celebrations.</div> <div>- Cooking opportunities linked to stories, micro topics and healthy eating opportunities.</div>	<div>-Planned opportunities to create mechanisms using tools and resources appropriate to the product.</div> <div>- Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape.</div>	<div>-Planned opportunities to create mechanisms using tools and resources appropriate to the product.</div> <div>- Experience of using of basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card.</div>	<div>-Explore and use different fabrics.</div> <div>-Think about the user and purpose of products.</div> <div><i>consider the use of different materials for different products???</i></div>			

	- Children to talk about healthy and unhealthy food.	-Opened ended opportunities available through continuous provision, with carefully selected tools and materials available for the pupils to access within the classroom.	-Opened ended opportunities available through continuous provision, with carefully selected tools and materials available for the pupils to access within the classroom.			
Year 1	-Understand and use the basic principles of a healthy and varied diet to prepare dishes. - Know and use technical and sensory vocabulary relevant to the project e.g. ingredients, utensils.	- Explore and use slider and lever mechanisms in a product. Begin to understand how sliders and levers move. - Know and use technical vocabulary relevant to the project e.g. sliders, levers.	- Know how to make freestanding structures stronger, stiffer and more stable. - Know and use technical vocabulary relevant to the project e.g. joins, framework.			
Year 2	- Understand the principles of a healthy diet and understand where food comes from. - Know and use technical and sensory vocabulary relevant to the project e.g. slicing, healthy diet.	- Explore and use components such as wheels and axels. - Understand that different mechanisms produce different types of movement. - Know and use technical vocabulary relevant to the project e.g. wheels, axels.		- Understand how simple 3-D textile products are made, using a template to create two identical shapes. • Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. • Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons.		

				<ul style="list-style-type: none"> • Know and use technical vocabulary relevant to the project e.g. seam, template. 		
Year 3	<ul style="list-style-type: none"> - Understand and apply the principles of a healthy and varied diet. - Know and use technical and sensory vocabulary relevant to the project e.g. grating, spreading. 		<ul style="list-style-type: none"> - Develop and use knowledge of how to construct strong, stiff shell structures. - Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. - Know and use technical vocabulary relevant to the project e.g. net, shell. 	<ul style="list-style-type: none"> - Know how to strengthen, stiffen and reinforce existing fabrics. • Understand how to securely join two pieces of fabric together. - Use different finishing techniques suitable to the fabric e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons. • Understand the need for patterns and seam allowances. • Know and use technical vocabulary relevant to the project e.g. fastening, pattern. 		
Year 4	<ul style="list-style-type: none"> - To prepare and cook a predominantly savoury dish using some cooking techniques. - Know and use technical and sensory vocabulary relevant to the project e.g. appearance, texture. 				<ul style="list-style-type: none"> - Understand and use lever and linkage mechanisms. • Distinguish between fixed and loose pivots. • Know and use technical vocabulary relevant to the project e.g. linkages, pivots. 	<ul style="list-style-type: none"> - Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. • Apply their understanding of computing to program and control their products.

						<ul style="list-style-type: none"> • Know and use technical vocabulary relevant to the project e.g. circuit, connection.
Year 5	<ul style="list-style-type: none"> - To know about cooking and nutritional information whilst celebrating culture through food. - Know and use technical and sensory vocabulary relevant to the project e.g. nutrition, savoury. 		<ul style="list-style-type: none"> - Understand how to strengthen, stiffen and reinforce 3-D frameworks. - Know and use technical vocabulary relevant to the project e.g. frame structure, triangulation. 		<ul style="list-style-type: none"> - Understand that mechanical systems have an input, process and an output. - Understand how cams can be used to produce different types of movement and change the direction of movement. - Know and use technical vocabulary relevant to the project e.g. CAM, rotary motion. 	
Year 6	<ul style="list-style-type: none"> - To understand cooking and nutritional information whilst preparing a seasonal dish. - Know and use technical and sensory vocabulary relevant to the project e.g. seasonality, nutrients. 			<ul style="list-style-type: none"> - Understand how a 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. - Know how fabrics can be strengthened, stiffened and reinforced where appropriate. - Know and use technical vocabulary relevant to the project e.g. reinforce, functionality. 		<ul style="list-style-type: none"> - Understand and use electrical systems in their products such as more complex switches and circuits. • Apply their understanding of computing to program, monitor and control their products. • Know and use technical vocabulary relevant to the project e.g. switches, components.

Disciplinary knowledge	Investigate	Design	Make	Evaluate
EYFS	Explore a range of products e.g. toys for the children to try and see how they work. Taste different types of food that are from other cultures or promote a healthy lifestyle. Communicate their ideas of what they have noticed.	Mark make or draw basic sketches to represent their ideas about what they would like to make. Communicate what they have included in their design and how it might work.	Use resources available within the provision to make a product. This could be based on their own designs or ideas linked to a topic. With support, prepare and make food linked to other cultures, micro topics or a healthy lifestyle. Communicate ideas about what they are doing as they are making the product.	Communicate their ideas about their product/food. Talk about whether they like it or would make changes next time.
Year 1	Explore a range of existing products to help them to describe how something works.	Use ideas and inspiration from existing products to form their own ideas, making use of a simple plan and basic tools. Develop and communicate their ideas through talking, drawing and mock-ups.	Begin to communicate their ideas about what to do when making the product. Begin to select and use tools, skills and techniques to create a product based on the design brief. Begin to use utensils and equipment to cut and peel safely. Begin to select from a range of vegetables according to their characteristics e.g. texture and taste to create a chosen product.	Begin to evaluate their work by discussing how well the product worked in relation to the intended user, and design brief.
Year 2	Investigate and evaluate the purpose of existing products that are linked to the project.	Design a product that is functional and appealing to the user, whilst considering how the product can be realistically made.	Plan by suggesting what to do next. Use and select tools, equipment and resources to perform practical tasks linked to the design brief. Use utensils and equipment to peel, cut, slice, squeeze, grate and chop safely. Select from a range of fruit according to their characteristics	Evaluate their products and ideas against the design criteria and other existing products that use similar components and materials.

			e.g. colour, texture and taste to create a chosen product.	
Year 3	Investigate how existing products that are linked to the project are assembled and what finishing techniques are used.	Begin to use research to design a product that is fit for purpose and aimed at a particular group or individual.	Plan the main stages of making. Select and use appropriate tools with some accuracy. Begin to plan the main stages of a recipe, listing ingredients, utensils and equipment. Consider which utensils and equipment are most appropriate to prepare and combine ingredients. Select from a range of ingredients to make appropriate food products, thinking about a healthy balanced diet.	Test and evaluate their own products against design criteria and the intended user and purpose. Begin to consider the views of others.
Year 4	Investigate a range of existing products that already use components relevant to the project.	Generate and communicate their design ideas using annotated sketches and prototypes.	Order the main stages of making. Select and use appropriate tools and equipment to cut, shape and join with some accuracy. Plan the main stages of a recipe, listing ingredients, utensils and equipment. Select and use utensils and equipment that are most appropriate to prepare and combine ingredients. Select from a range of ingredients to make appropriate food products, considering factors such as sensory characteristics.	Evaluate their ideas and products against their own design criteria; identify the strengths and areas for improvement in their work. Begin to communicate their views on whether their product has worked.
Year 5	Investigate a range of existing products linked to the product and consider how they work.	Use research and existing products to generate, develop and communicate ideas through annotated sketches, diagrams and prototypes.	Formulate a step-by-step plan, with a list of resources to be used. Select from and use a range of tools and equipment to make products that that are accurately	Critically evaluate the final product against their design specification, intended user and purpose. Consider the views of others on

			<p>assembled and well finished. Write a simple step-by-step recipe, and consider the ingredients, equipment and utensils used. Select and use appropriate utensils and equipment to begin to measure and combine appropriate ingredients. Make, decorate and present the food product and begin to consider the intended user and purpose.</p>	whether their product has worked
Year 6	Investigate a range of existing products and understand how they are appropriate for use.	Make annotated sketches to create a design that considers how to realistically create their own product.	<p>Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components relevant to the task. If appropriate, allocate tasks within the team. Competently select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost. Write a step-by-step recipe, including a list of ingredients, equipment and utensils. Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients. Make, decorate and present the food product appropriately for the intended user and purpose.</p>	<p>Compare the final product to the original design brief taking into account the views of others when identifying improvements. Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</p>