



Design & Technology Progression Map and End Points

St Joseph's RC Primary School

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Design and technology
should be the subject where
mathematical brainboxes and
science whizzkids turn their
bright ideas into useful
products.

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St Joseph's RC Primary School

Design and Technology Curriculum Progression

Skills Focus	End of EYFS	End of KSI	End of Lower KS2	End of Upper KS2
To master practical skills and techniques	<p>Food</p> <ul style="list-style-type: none"> Cut, peel or mix ingredients safely With support measure ingredients Mix or assemble ingredients. <p>Materials</p> <ul style="list-style-type: none"> Cut materials safely using tools provided under supervision Develop a range of cutting and shaping techniques (such as tearing, cutting, and folding) Develop a range of joining techniques (such as gluing, sticking or combining materials to strengthen). <p>Textiles</p> <ul style="list-style-type: none"> Shape textiles using templates. Join textiles using glue, staples Decorate textiles through sticking on other materials <p>Electricals and Electronics</p>	<p>Food</p> <ul style="list-style-type: none"> Cut, peel or grate ingredients safely and hygienically. Measure or weigh using measuring cups or electronic scales. Assemble or cook ingredients. <p>Materials</p> <ul style="list-style-type: none"> Cut materials safely using tools provided. Measure and mark out to the nearest centimetre. Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). <p>Textiles</p> <ul style="list-style-type: none"> Shape textiles using templates. Join textiles using running stitch. Colour and decorate textiles using a number of 	<p>Food</p> <ul style="list-style-type: none"> Prepare ingredients hygienically using appropriate utensils. Measure ingredients to the nearest gram accurately. Follow a recipe. Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking). <p>Materials</p> <ul style="list-style-type: none"> Cut materials accurately and safely by selecting appropriate tools. Measure and mark out to the nearest millimetre. Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). Select appropriate joining techniques. <p>Textiles</p> <ul style="list-style-type: none"> Understand the need for a seam allowance. 	<p>Food</p> <ul style="list-style-type: none"> Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms). Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. Demonstrate a range of baking and cooking techniques. Create and refine recipes, including ingredients, methods, cooking times and temperatures. <p>Materials</p> <ul style="list-style-type: none"> Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape). Show an understanding of the qualities of materials to choose appropriate tools.

	<ul style="list-style-type: none"> Explore products that use a battery to produce sounds/lights. <p>Computing</p> <ul style="list-style-type: none"> Explore creating a design using software. <p>Construction</p> <ul style="list-style-type: none"> Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products. <p>Mechanics</p> <ul style="list-style-type: none"> Create a product that uses a slider. 	<p>techniques (such as dyeing, adding sequins or printing).</p> <p>Electricals and Electronics</p> <ul style="list-style-type: none"> Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage). <p>Computing</p> <ul style="list-style-type: none"> Model designs using software. <p>Construction</p> <ul style="list-style-type: none"> Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products. <p>Mechanics</p> <ul style="list-style-type: none"> Create products using levers, wheels and winding mechanisms. 	<ul style="list-style-type: none"> Join textiles with appropriate stitching. Select the most appropriate techniques to decorate textiles. <p>Electricals and Electronics</p> <ul style="list-style-type: none"> Create series and parallel circuits. <p>Computing</p> <ul style="list-style-type: none"> Control and monitor models using software designed for this purpose. <p>Construction</p> <ul style="list-style-type: none"> Choose suitable techniques to construct products or to repair items. Strengthen materials using suitable techniques. <p>Mechanics</p> <ul style="list-style-type: none"> Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears). 	<p>to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper).</p> <p>Textiles</p> <ul style="list-style-type: none"> Create objects (such as a cushion) that employ a seam allowance. Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration). Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion). <p>Electricals and Electronics</p> <ul style="list-style-type: none"> Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips). <p>Computing</p> <ul style="list-style-type: none"> Write code to control and monitor models or products.
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				<p>Construction</p> <ul style="list-style-type: none"> Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding). <p>Mechanics</p> <ul style="list-style-type: none"> Convert rotary motion to linear using cams. Use innovative combinations of electronics (or computing) and mechanics in product designs.
Designing	End of EYFS	End of KS1	End of Lower KS2	End of Upper KS2
Understanding contexts, users and purposes	<ul style="list-style-type: none"> Design a simple product 	<ul style="list-style-type: none"> Design products that have a clear purpose and an intended user. Use simple design criteria State what their products are, who and what they are for and how they will work. Use software to design. 	<ul style="list-style-type: none"> Design with purpose by identifying opportunities to design. Use software to design and represent product designs Gather information about user needs Develop their own design criteria Describe the user, purpose and design features of their products and explain how they will work. 	<ul style="list-style-type: none"> Carry out research Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). Develop a simple design specification Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. Describe the user, purpose and design features of their products and explain how they will work.

Generating developing, modelling and communication ideas	<ul style="list-style-type: none"> • Generate ideas using their own experiences • Use knowledge of existing products to help come up with ideas • Develop and communicate ideas by talking and drawing • Model ideas by exploring materials, components and construction kits and by making templates and mock- ups 	<ul style="list-style-type: none"> • Generate ideas by drawing on their own experiences to use knowledge of existing products to help come up with ideas • Develop and communicate ideas by talking and drawing • Model ideas by exploring materials, components and construction kits and by making templates and mock- ups Use information and communication technology, where appropriate, to develop and communicate their ideas 	<ul style="list-style-type: none"> • Share and clarify ideas through discussion • model their ideas using prototypes and pattern pieces • Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas Use computer-aided design to develop and communicate their ideas • In early KS2 pupils should also: Generate realistic ideas, focusing on the needs of the user 	<ul style="list-style-type: none"> • Generate innovative ideas drawing on research • Use a range of drawing skills, discussion, prototypes, pattern pieces and computer-aided design • Make design decisions that take account of the availability of resources • Make design decisions, taking account of constraints such as time, resources and cost
Making	End of EYFS	End of KS1	End of Lower KS2	End of Upper KS2
	<ul style="list-style-type: none"> • Make a simple product 	<ul style="list-style-type: none"> • Make a simple product, refining the design as work progresses. 	<ul style="list-style-type: none"> • Make products by working efficiently (such as by carefully selecting materials). • Order the main stages of making 	<ul style="list-style-type: none"> • Make products through stages of prototypes, making continual refinements. • Produce appropriate list of tools, equipment and materials that they need
Planning	<ul style="list-style-type: none"> • Make a simple plan • Select equipment and materials 	<ul style="list-style-type: none"> • Plan by suggesting what to do next • Select from a range of tools and equipment, explaining their choices • Select from a range of materials and components according to their characteristics 	<ul style="list-style-type: none"> • Plan by suggesting what to do next • Select from a range of suitable tools, equipment, materials and components and explain their choices • 	<ul style="list-style-type: none"> • Formulate step by step plans as a guide to making • Select tools, equipment, materials and components suitable for the task • Explain their choice of tools and equipment in relation to the skills and techniques they will be using

				<ul style="list-style-type: none"> Explain their choice of materials and components according to functional properties and aesthetic qualities.
Practical skills and techniques	<ul style="list-style-type: none"> Follow procedures for safety and hygiene Mark out, cut, shape, join and finish a range of materials. 	<ul style="list-style-type: none"> Follow procedures for safety and hygiene Measure, mark out, cut, shape, assemble, join, combine and finish a range of materials and components. 	<ul style="list-style-type: none"> Follow procedures for safety and hygiene Use a wider range of materials and components. Measure, mark out, cut, shape, assemble, join, combine and finish with some accuracy. 	<ul style="list-style-type: none"> Follow procedures for safety and hygiene Use a wider range of materials and components. Measure, mark out, cut, shape, assemble, join, combine and finish with accuracy.
Evaluating	End of EYFS	End of KSI	End of Lower KS2	End of Upper KS2
<p>Existing Products:</p> <p>To take inspiration from design throughout history</p>	<ul style="list-style-type: none"> Explore a range of objects to identify likes and dislikes 	<ul style="list-style-type: none"> Explore objects and designs to identify what materials they are made from and what they like and dislike about them. Explore who and what products are for, how they work and are used Suggest improvements to existing designs. Explore how products have been created. 	<ul style="list-style-type: none"> Investigate how well products have been designed and made, whether they are fit for purpose and meet user needs. Investigate why materials have been chosen, the methods of construction used and how well they work. Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. Disassemble products to understand how they work. Improve upon existing designs, giving reasons for 	<ul style="list-style-type: none"> Investigate how well products have been designed and made, whether they are fit for purpose and meet user needs. Investigate why materials have been chosen, the methods of construction used and how well they work and how innovative and sustainable they are. Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. Evaluate the design of products so as to suggest improvements to the user experience.

			choices.	<ul style="list-style-type: none"> Create innovative designs that improve upon existing products.
Evaluating and improving own ideas and products	<ul style="list-style-type: none"> Evaluate a simple product 	<ul style="list-style-type: none"> Evaluating and improving design as work progresses Make simple judgements about their products and ideas against design criteria. 	<ul style="list-style-type: none"> Refine work and techniques as work progresses, continually evaluating the product design. Evaluate their ideas and products against their design criteria. 	<ul style="list-style-type: none"> Ensure products have a high quality finish, using art skills where appropriate. Identify strengths and areas to develop in their ideas and products against their design specification. Consider the views of others to make improvements.
Key events and individuals	<ul style="list-style-type: none"> Not a requirement in EYFS and KSI 	<ul style="list-style-type: none"> Know about inventors, designers, engineers, chefs and manufacturers, who have developed ground breaking products. 		
Technical Knowledge	End of EYFS	End of KSI	End of Lower KS2	End of Upper KS2
Making products work	<p>Can talk about:</p> <ul style="list-style-type: none"> The simple properties of materials and components the movement of simple mechanisms; 	<ul style="list-style-type: none"> Know about the simple working characteristics of materials and components; the movement of simple mechanisms; how freestanding structures can be made stronger, stiffer and more stable, Use the correct technical vocabulary, 	<ul style="list-style-type: none"> Know that materials have functional and aesthetic qualities. Know that systems have an input, process and output. Know how to program a computer to control their products. Know how to make strong, stiff shell structures. Use the correct technical vocabulary. 	<ul style="list-style-type: none"> Know that materials have functional and aesthetic qualities. Know that systems have an input, process and output. Know how to program a computer to control and monitor their products. Know how to reinforce and strengthen a framework. Use the correct technical vocabulary.

Cooking and Nutrition	End of EYFS	End of KS1	End of Lower KS2	End of Upper KS2
Where food comes from	<ul style="list-style-type: none"> Know that food comes from plants or animals 	<ul style="list-style-type: none"> Know that food comes from plants or animals and that it is farmed or caught. 	<ul style="list-style-type: none"> Know that food is grown, reared and caught in the UK, Europe and the wider world. 	<ul style="list-style-type: none"> Know that food is grown, reared and caught in the UK, Europe and the wider world. Know that seasons may affect the food available. Know how food is processed into ingredients.
Food preparation, cooking and nutrition	<ul style="list-style-type: none"> Know how to prepare simple dishes safely and hygienically, without a heat source. 	<ul style="list-style-type: none"> Know how to prepare simple dishes safely and hygienically, without a heat source. Name and sort foods into groups. Know that everyone should eat at least five portions of fruit and vegetables a day. 	<ul style="list-style-type: none"> Know how to prepare simple dishes safely and hygienically. Know that a healthy diet is made from a variety and balance of different food and drink. Know that food and drink are needed to provide energy for the body. 	<ul style="list-style-type: none"> Know how to prepare and cook a variety of dishes safely and hygienically using, where appropriate, a heat source. Know that different food and drink contain nutrients, water and fibre that are needed for health.

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Design and Technology End Points

EYFS

<ul style="list-style-type: none"> Pupils can design and make products that solve real and relevant problems within a variety of contexts 	<ul style="list-style-type: none"> Pupils can consider their own and others' needs, wants and values when considering design criteria 	<ul style="list-style-type: none"> Pupils can use and apply mathematics, science, computing and art through DT 	<ul style="list-style-type: none"> Pupils can learn how to take calculated risks in designing stage
<ul style="list-style-type: none"> Pupils can evaluate and test their ideas and products against a design criteria 	<ul style="list-style-type: none"> Pupils can understand the basic principles of a healthy diet 	<ul style="list-style-type: none"> Pupils understand where food has come from 	

Year 1

<ul style="list-style-type: none"> Pupils can design and make products that solve real and relevant problems within a variety of contexts 	<ul style="list-style-type: none"> Pupils can consider their own and others' needs, wants and values when considering design criteria 	<ul style="list-style-type: none"> Pupils can use and apply mathematics, science, computing and art through DT 	<ul style="list-style-type: none"> Pupils can learn how to take calculated risks in designing stage
<ul style="list-style-type: none"> Pupils can evaluate and test their ideas and products against a design criteria 	<ul style="list-style-type: none"> Pupils can understand the basic principles of a healthy diet 	<ul style="list-style-type: none"> Pupils understand where food has come from 	

Year 2

<ul style="list-style-type: none"> Pupils can design and make products that solve real and relevant problems within a variety of contexts 	<ul style="list-style-type: none"> Pupils can consider their own and others' needs, wants and values when considering design criteria 	<ul style="list-style-type: none"> Pupils can use and apply mathematics, science, computing and art through DT 	<ul style="list-style-type: none"> Pupils can learn how to take calculated risks in designing stage
<ul style="list-style-type: none"> Pupils can evaluate and test their ideas and products against a design criteria 	<ul style="list-style-type: none"> Pupils can understand the basic principles of a healthy diet 	<ul style="list-style-type: none"> Pupils understand where food has come from 	

Year 3

<ul style="list-style-type: none"> Pupils can use creativity and imagination to design and make 	<ul style="list-style-type: none"> Pupils can acquire a broad range of subject knowledge and draw on 	<ul style="list-style-type: none"> Pupils can learn how to take risks, becoming resourceful, innovative, 	<ul style="list-style-type: none"> Pupils can critique, evaluate and test their ideas and products and
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products that solve real and relevant problems within a variety of contexts	disciplines such as mathematics, science, engineering, computing and art during the design process	enterprising and capable citizens	the work of others
<ul style="list-style-type: none"> Pupils can evaluate and test their ideas and products against a design criteria 	<ul style="list-style-type: none"> Pupils can generate develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams 	<ul style="list-style-type: none"> Pupils can prepare and cook a range of savoury dishes using a range of cooking techniques 	Pupils can understand the principles of a healthy diet
Year 4			
<ul style="list-style-type: none"> Pupils can use creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts 	<ul style="list-style-type: none"> Pupils can acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art during the design process 	<ul style="list-style-type: none"> Pupils can learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens 	<ul style="list-style-type: none"> Pupils can critique, evaluate and test their ideas and products and the work of others
<ul style="list-style-type: none"> Pupils can evaluate and test their ideas and products against a design criteria 	<ul style="list-style-type: none"> Pupils can generate develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams 	<ul style="list-style-type: none"> Pupils can prepare and cook a range of savoury dishes using a range of cooking techniques 	<ul style="list-style-type: none"> Pupils can understand the principles of a healthy diet
Year 5			
<ul style="list-style-type: none"> Pupils can use creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values 	<ul style="list-style-type: none"> Pupils can acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art in the design process 	<ul style="list-style-type: none"> Pupils can through the evaluation of past and present design and technology develop a critical understanding of its impact on daily life and the wider world 	<ul style="list-style-type: none"> Pupils can critique, evaluate and test their ideas and products and the work of others effectively?
<ul style="list-style-type: none"> Pupils can build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide 	<ul style="list-style-type: none"> Pupils can use increasingly complex mechanical systems in their designs 	<ul style="list-style-type: none"> Pupils can understand and apply the principles of nutrition and learn how to cook using a range of cooking techniques? 	

range of users			
Year 6			
<ul style="list-style-type: none"> Pupils can use creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values of nutrition and learn how to cook using a range of cooking techniques. 	<ul style="list-style-type: none"> Pupils can acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art in the design process? 	<ul style="list-style-type: none"> Pupils can through the evaluation of past and present design and technology develop a critical understanding of its impact on daily life and the wider world. 	<ul style="list-style-type: none"> Pupils can critique, evaluate and test their ideas and products and the work of others effectively?
<ul style="list-style-type: none"> Pupils can 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? 	<ul style="list-style-type: none"> Pupils can use increasingly complex mechanical systems in their designs. 	<ul style="list-style-type: none"> Pupils can understand and apply the principles. 	