



Whole School Overview

Design and Technology

Key Stage One

<p>Through a variety of creative and practical activities pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts. When designing and making pupils should be taught to:</p>			
<p>Design</p> <ul style="list-style-type: none"> design purposeful, functional and appealing products for themselves and other users based on design criteria generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, ICT 	<p>Make</p> <ul style="list-style-type: none"> select from and use a range of tools and equipment to perform practical tasks, e.g. cutting, shaping, joining and finishing select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics 	<p>Evaluate</p> <ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria 	<p>Technical Knowledge</p> <ul style="list-style-type: none"> build structures, exploring how they can be made stronger, stiffer and more stable explore and use mechanisms (e.g. levers, sliders, wheels and axles). In their products
<p>Year 1</p>			
<p>Design</p> <p>Developing planning and communicating ideas</p>	<p>Make</p> <p>Working with tools, equipment. materials and components to make quality products</p>	<p>Evaluate</p> <p>Evaluating processes and products</p>	
<p>Pupils should</p> <ul style="list-style-type: none"> think of some ideas of their own explain what they want to do. use pictures and words to plan. 	<p>Pupils should</p> <ul style="list-style-type: none"> explain what they are making select and talk about which tools they are using. 	<p>Pupils should</p> <ul style="list-style-type: none"> describe how something works <p>talk about their own work and things that other people have done</p>	
<p>Outcomes</p>			
<p>Cooking and Nutrition</p>	<p>Textiles</p>	<p>Mechanisms</p>	
<p>Pupils can</p> <ul style="list-style-type: none"> use the basic principles of a healthy and varied diet to prepare dishes. understand where food comes from. 	<p>Pupils can</p> <ul style="list-style-type: none"> design purposeful, functional appealing products for themselves and others users based on design criteria 	<p>Pupils can</p> <ul style="list-style-type: none"> Design and make a product that moves 	

Specific Knowledge, Understanding and Skills		
Pupils should be taught to: <ul style="list-style-type: none"> • cut food safely • describe the texture of food • wash their hands and make sure surfaces are clean – basic hygiene • know that all food comes from plants and animals • design purposeful, functional appealing products for themselves and other users based on design criteria 	Pupils should be taught to: <ul style="list-style-type: none"> • describe how different textiles feel • make a product from textiles by gluing or joining together • construct a product using different materials • maintain a tidy working area • evaluate the model and make it stronger, if it needs to be 	Pupils should be taught to: <ul style="list-style-type: none"> • make simple plans before constructing e.g. drawings, arranging pieces of construction before building • select appropriate resources and tools for their building project • make a product that moves and say why they have chosen the moving parts • cut materials using scissors • describe the materials using different words • say why they have chosen the moving parts • discuss their ideas for constructing their product • evaluate the model and make it stronger, if it needs to be
Project Ideas		
Design a smoothie/vegetable soup.	Design a toy	Build a castle
Year 2		
Design Developing planning and communicating ideas	Make Working with tools, equipment. materials and components to make quality products	Evaluate Evaluating processes and products
Pupils should: <ul style="list-style-type: none"> • think of ideas and plan what to do next • choose the best tools and materials and give a reason why these are best • describe their design using pictures, diagrams, models and words 	Pupils should: <ul style="list-style-type: none"> • join things (materials/ components) together in different ways? 	Pupils should: <ul style="list-style-type: none"> • say what went well with their work? • say, If they did it again, what would they want to improve?
Outcomes		
Cooking and Nutrition	Textiles	Mechanisms

<p>Pupils can:</p> <ul style="list-style-type: none"> describe the properties of the ingredients they are using explain what it means to be hygienic prepare a simple dish safely and hygienically 	<p>Pupils can:</p> <ul style="list-style-type: none"> design purposeful, functional appealing products for themselves and others users based on design criteria decide how to join the textiles together 	<p>Pupils can:</p> <ul style="list-style-type: none"> design and make a product that moves
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Specific Knowledge, Understanding and Skills

<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> understand which ingredients complement one another use a variety for cooking tools to peel, grate, chop in a safe way talk about the different food groups – links with Science 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> measure textiles in a model or structure join textiles together to make something in different ways use appropriate tools to cut textiles explain why they chose a certain textile? Use joining, folding or rolling to make materials stronger. 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> join materials together as part of a moving product add some kind of design to their product join materials together as part of a moving product make sensible choices as to which material to use for their constructions develop their own ideas from initial starting points incorporate some type of movement into models consider how to improve their construction add some kind of design to their product
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Project Ideas

<p>Challah bread – links with R.E</p>	<p>Design and make a puppet</p>	<p>Design and make a Tudor house</p>
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Key Stage Two

Through a variety of creative and practical activities pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts. When designing and making pupils should be taught to:

Design	Make	Evaluate	Technical Knowledge
<ul style="list-style-type: none"> • 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 • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and ICT 	<ul style="list-style-type: none"> • select from and use a wider range of tools and equipment to perform practical tasks, e.g. cutting, shaping, joining and finishing, accurately • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities 	<ul style="list-style-type: none"> • investigate and analyse a range of existing products • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • understand how key events and individuals in design and technology have helped shape the world 	<ul style="list-style-type: none"> • apply their understanding of how to strengthen, stiffen and reinforce more complex structures • understand and use mechanical systems in their products (e.g. gears, pulleys, cams, levers and linkages) • understand and use electrical systems in their products (e.g. series circuits incorporating switches, bulbs, buzzer and motors (links to Science)) • apply their understanding of computing to program, monitor and control their products (links to maths and science)

Year 3

Design Developing planning and communicating ideas	Make Working with tools, equipment, materials and components to make quality products	Evaluate Evaluating processes and products
<p>Pupils should:</p> <ul style="list-style-type: none"> • show that their design meets a range of requirements • put together a step-by-step plan which shows the order and also what equipment and tools they need • describe their design using an accurately labelled sketch and words • consider if their plan is realistic 	<p>Pupils should:</p> <ul style="list-style-type: none"> • use equipment and tools accurately 	<p>Pupils should:</p> <ul style="list-style-type: none"> • evaluate and change their product to improve their design

Outcomes		
Cooking and Nutrition	Textiles	Electrical and Mechanical Components
<p>Pupils can:</p> <ul style="list-style-type: none"> • select the correct ingredients for a product • understand where food comes from • grow a plant to use as a food product 	<p>Pupils can:</p> <ul style="list-style-type: none"> • select textiles for appearance and their suitability qualities • join different types of textiles in different ways 	<p>Pupils can:</p> <ul style="list-style-type: none"> • Design and make a product that which uses both electrical and mechanical components.
Specific Knowledge and Understanding and Skills		
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • know that food is grown • use equipment safely • understand and describe how combined ingredients come together 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • understand how different textiles can be joined using different methods • understand that textiles can be functional and attractive <p>Mouldable materials</p> <ul style="list-style-type: none"> • select the most appropriate materials • use finishing techniques • use a range of techniques to shape and mould 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • select the most appropriate tools and techniques to use • create a use a simple circuit • use a number of components both mechanical and electrical <p>Stiff and flexible materials</p> <ul style="list-style-type: none"> • use the most appropriate materials • work accurately to make cuts and holes • join materials together
Project Ideas		
Year 4		
Design	Make	Evaluate

Developing planning and communicating ideas	Working with tools, equipment, materials and components to make quality products	Evaluating processes and products
Pupils should: <ul style="list-style-type: none"> • have at least one idea about how to create their product take account of the ideas of others when designing • produce a plan and explain it to others • suggest some improvements and say what was good and not so good about their original design 	Pupils should: <ul style="list-style-type: none"> • use equipment and tools accurately 	Pupils should: <ul style="list-style-type: none"> • evaluate and change their product to improve their design
Outcomes		
Cooking and Nutrition	Textiles	Electrical and Mechanical Components
Pupils can: <ul style="list-style-type: none"> • select the correct ingredients for a product • understand where food comes from • grow a plant to use as a food product. 	Pupils can: <ul style="list-style-type: none"> • select textiles for appearance and their suitability qualities • join different types of textiles in different ways 	Pupils can: <ul style="list-style-type: none"> • design and make a product that which uses both electrical and mechanical components. Stiff and flexible materials <ul style="list-style-type: none"> • use the most appropriate materials • work accurately to make cuts and holes • join materials together
Specific Knowledge, Understanding and Skills		
Pupils should be taught to:	Pupils should be taught to:	Pupils should be taught to:

<ul style="list-style-type: none"> • know that food is grown • use equipment safely • understand and describe how combined ingredients come together 	<ul style="list-style-type: none"> • understand how different textiles can be joined using different methods • understand that textiles can be functional and attractive <p>Mouldable materials</p> <ul style="list-style-type: none"> • select the most appropriate materials • use finishing techniques • use a range of techniques to shape and mould 	<ul style="list-style-type: none"> • select the most appropriate tools and techniques to use • create a use a simple circuit • use a number of components both mechanical and electrical <p>Stiff and flexible materials</p> <ul style="list-style-type: none"> • use the most appropriate materials • work accurately to make cuts and holes • join materials together
Project Ideas		
Year 5		
Design Developing planning and communicating ideas	Make Working with tools, equipment. materials and components to make quality products	Evaluate Evaluating processes and products
<p>Pupils should:</p> <ul style="list-style-type: none"> • show that their design meets a range of requirements • put together a step-by-step plan which shows the order and also what equipment and tools they need • describe their design using an accurately labelled sketch and words • consider if their plan is realistic 	<p>Pupils should:</p> <ul style="list-style-type: none"> • use equipment and tools accurately 	<p>Pupils should:</p> <ul style="list-style-type: none"> • evaluate and change their product to improve their design
Outcomes		
Cooking and Nutrition	Textiles	Electrical and Mechanical Components

<p>Pupils can:</p> <ul style="list-style-type: none"> • select the correct ingredients for a product • understand where food comes from • grow a plant to use as a food product. 	<p>Pupils can:</p> <ul style="list-style-type: none"> • select textiles for appearance and their suitability qualities • join different types of textiles in different wa 	<p>Pupils can:</p> <ul style="list-style-type: none"> • design and make a product that which uses both electrical and mechanical components.
Specific Knowledge, Understanding and Skills		
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • know that food is grown • use equipment safely • understand and describe how combined ingredients come together 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • understand how different textiles can be joined using different methods • understand that textiles can be functional and attractive <p>Mouldable materials</p> <ul style="list-style-type: none"> • select the most appropriate materials • use finishing techniques • use a range of techniques to shape and mould 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • select the most appropriate tools and techniques to use • create a use a simple circuit • use a number of components both mechanical and electrical <p>Stiff and flexible materials</p> <ul style="list-style-type: none"> • use the most appropriate materials • work accurately to make cuts and holes • join materials together
Project Ideas		
Year 6		

<p style="text-align: center;">Design</p> <p style="text-align: center;">Developing planning and communicating ideas</p>	<p style="text-align: center;">Make</p> <p style="text-align: center;">Working with tools, equipment, materials and components to make quality products</p>	<p style="text-align: center;">Evaluate</p> <p style="text-align: center;">Evaluating processes and products</p>
<p>Pupils should:</p> <ul style="list-style-type: none"> • show that their design meets a range of requirements • put together a step-by-step plan which shows the order and also what equipment and tools they need • describe their design using an accurately labelled sketch and words • consider if their plan is realistic 	<p>Pupils should:</p> <ul style="list-style-type: none"> • use equipment and tools accurately 	<p>Pupils should:</p> <p style="text-align: center;">evaluate and change their product to improve their design</p>
Outcomes		
Cooking and Nutrition	Textiles	Electrical and Mechanical Components
<p>Pupils can:</p> <ul style="list-style-type: none"> • To select the correct ingredients for a product • To understand where food comes from • To grow a plant to use as a food product. 	<p>Pupils can:</p> <ul style="list-style-type: none"> • To select textiles for appearance and their suitability qualities • To join different types of textiles in different ways 	<p>Pupils can:</p> <p>Design and make a product that which uses both electrical and mechanical components.</p>
Specific Knowledge, Understanding and Skills		
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • know that food is grown • use equipment safely • understand and describe how combined ingredients come together 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • understand how different textiles can be joined using different methods • understand that textiles can be functional and attractive 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • select the most appropriate tools and techniques to use • create a use a simple circuit • use a number of components both mechanical and electrical <p>Stiff and flexible materials</p>

	<p>Mouldable materials</p> <ul style="list-style-type: none">• select the most appropriate materials• use finishing techniques• use a range of techniques to shape and mould	<ul style="list-style-type: none">• use the most appropriate materials• work accurately to make cuts and holes• join materials together
Project Ideas		