

## Design Technology Overview – EYFS, Key Stage 1 and Key Stage 2

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 1
	<b>Reception</b>	All About Me!	Let's Pretend	Animals	Journeys	Traditional Tales	Changes
Key Stage 1	<b>Year 1</b>		Eat more fruit and vegetables (6 hours)		Moving minibeasts (6 hours)		Stable structures (6 hours)
	<b>Year 2</b>		Puppets (6 hours)		Vehicles (6 hours)		Perfect pizzas (6 hours)
Lower Key Stage 2	<b>Year 3</b>		Storybooks (6 hours)		British Inventors (6 hours)		Light up signs (6 hours)
	<b>Year 4</b>		Seasonal stockings (6 hours)		Making mini greenhouses (6 hours)		Seasonal food (6 hours)
Upper Key Stage 2	<b>Year 5</b>		Building bridges (6 hours)		Chinese inventions (6 hours)		Fashion and textiles (6 hours)
	<b>Year 6</b>		Programming pioneers (6 hours)		Bird house builders (6 hours)		Burgers (6 hours)

## Early Years Foundation Stage - Related to Design Technology

### Physical Development

#### ELG Fine Motor Skills

Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all cases.

Use a range of small tools, including scissors, paint brushes and cutlery.

Begin to show accuracy and care when drawing.

### Expressive Arts and Design

#### ELG: Creating with Materials

Children at the expected level of development will:

Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function

Share their creations, explaining the processes they have used

## National Curriculum – Design and Technology

### Purpose of study

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation

### Aims

The national curriculum for design and technology aims to ensure that all pupils:

- 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.

### Cooking and nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

## National Curriculum - Key stage 1

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 [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment]. When designing and making, pupils should be taught to:

### Design

- design purposeful, functional, 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, information and communication technology

### Make

- select from and use a range of tools and equipment to perform practical tasks [for example, 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

### Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

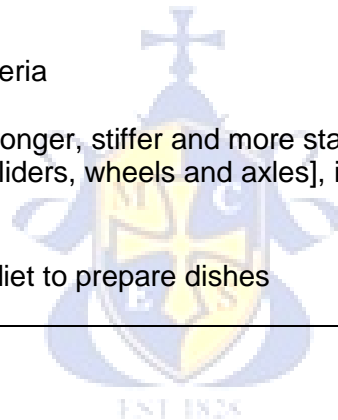
### Technical knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products

### Cooking and nutrition

Pupils should be taught to:

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from



	<b>Autumn</b>	<b>Spring</b>	<b>Summer</b>
<b>Year 1</b>	<p><b>Eat more fruit and veg:</b></p> <ul style="list-style-type: none"> <li>-design purposeful, functional, appealing products for themselves and other users based on design criteria.</li> <li>-generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</li> <li>-select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>-select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> <li>-explore and evaluate a range of existing products</li> <li>-use the basic principles of a healthy and varied diet to prepare dishes</li> <li>-understand where food comes from</li> </ul>	<p><b>Moving minibeasts:</b></p> <ul style="list-style-type: none"> <li>-design purposeful, functional, appealing products for themselves and other users based on design criteria.</li> <li>-generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</li> <li>-select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>-select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> <li>-explore and evaluate a range of existing products</li> <li>- evaluate their ideas and products against design criteria</li> <li>-explore and use mechanisms [for example, levers, sliders, wheels and axles], in their Products</li> </ul>	<p><b>Stable structures</b></p> <ul style="list-style-type: none"> <li>-design purposeful, functional, appealing products for themselves and other users based on design criteria.</li> <li>-generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</li> <li>-select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>-select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> <li>-explore and evaluate a range of existing products</li> <li>-build structures, exploring how they can be made stronger, stiffer and more stable</li> </ul>
<b>Year 2</b>	<p><b>Puppets:</b></p> <ul style="list-style-type: none"> <li>-design purposeful, functional, appealing products for themselves and other users based on design criteria.</li> <li>-generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</li> <li>-select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>-select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> <li>-explore and evaluate a range of existing products</li> <li>- evaluate their ideas and products against design criteria</li> </ul>	<p><b>Vehicles:</b></p> <ul style="list-style-type: none"> <li>-design purposeful, functional, appealing products for themselves and other users based on design criteria.</li> <li>-generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</li> <li>-select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>-select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> <li>-explore and evaluate a range of existing products</li> <li>- evaluate their ideas and products against design criteria</li> <li>-explore and use mechanisms [for example, levers, sliders, wheels and axles], in their Products</li> </ul>	<p><b>Perfect pizzas:</b></p> <ul style="list-style-type: none"> <li>-design purposeful, functional, appealing products for themselves and other users based on design criteria.</li> <li>-generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</li> <li>-select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>-select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> <li>-explore and evaluate a range of existing products</li> <li>- evaluate their ideas and products against design criteria</li> <li>-use the basic principles of a healthy and varied diet to prepare dishes</li> <li>-understand where food comes from</li> </ul>

## National Curriculum - Key stage 2

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 [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

When designing and making, pupils should be taught to:

### Design

- 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 computer-aided design

### Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, 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

### Evaluate

- 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


### Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

### Cooking and nutrition

Pupils should be taught to:

- understand and apply the principles of a healthy and varied diet
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

	<b>Autumn</b>	<b>Spring</b>	<b>Summer</b>
<b>Year 3</b>	<p><b>Storybooks:</b></p> <ul style="list-style-type: none"> <li>-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</li> <li>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> <li>-select from and use a wider range of tools and equipment to perform practical tasks [for example, 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</li> <li>-investigate and analyse a range of existing products</li> <li>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>-understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li> </ul>	<p><b>British Inventors:</b></p> <ul style="list-style-type: none"> <li>-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</li> <li>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> <li>-understand how key events and individuals in design and technology have helped shape the world</li> <li>-apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> </ul> 	<p><b>Light-up signs:</b></p> <ul style="list-style-type: none"> <li>-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</li> <li>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> <li>-select from and use a wider range of tools and equipment to perform practical tasks [for example, 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</li> <li>-investigate and analyse a range of existing products</li> <li>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>-apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>-understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</li> <li>-apply their understanding of computing to program, monitor and control their products</li> </ul>
<b>Year 4</b>	<p><b>Seasonal stockings:</b></p> <ul style="list-style-type: none"> <li>-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</li> <li>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> <li>-select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately ---</li> <li>-select from and use a wider range of materials and components, including construction materials,</li> </ul>	<p><b>Making mini greenhouses:</b></p> <ul style="list-style-type: none"> <li>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</li> <li>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> <li>-select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>-select from and use a wider range of materials and components, including construction materials,</li> </ul>	<p><b>Seasonal food:</b></p> <ul style="list-style-type: none"> <li>-understand and apply the principles of a healthy and varied diet</li> <li>-prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</li> <li>-understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</li> </ul>

	<p>textiles and ingredients, according to their functional properties and aesthetic qualities</p> <ul style="list-style-type: none"><li>-investigate and analyse a range of existing products</li><li>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li></ul>	<p>textiles and ingredients, according to their functional properties and aesthetic qualities</p> <ul style="list-style-type: none"><li>-investigate and analyse a range of existing products</li><li>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li><li>-understand how key events and individuals in design and technology have helped shape the world</li><li>-apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li></ul>	
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	<b>Autumn</b>	<b>Spring</b>	<b>Summer</b>
<b>Year 5</b>	<p><b>Building bridges:</b></p> <ul style="list-style-type: none"> <li>-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</li> <li>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> <li>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>-apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> </ul>	<p><b>Chinese inventions:</b></p> <ul style="list-style-type: none"> <li>-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</li> <li>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> <li>-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</li> <li>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>-understand how key events and individuals in design and technology have helped shape the world</li> <li>-understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li> </ul>	<p><b>Fashion and textiles:</b></p> <ul style="list-style-type: none"> <li>-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</li> <li>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> <li>-select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>-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</li> <li>-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</li> </ul>
<b>Year 6</b>	<p><b>Programming pioneers:</b></p> <ul style="list-style-type: none"> <li>-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</li> <li>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> <li>-select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>-understand how key events and individuals in design and technology have helped shape the world</li> <li>-understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</li> </ul>	<p><b>Birdhouse builders:</b></p> <ul style="list-style-type: none"> <li>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</li> <li>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> <li>-select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>-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</li> <li>-investigate and analyse a range of existing products</li> <li>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> </ul>	<p><b>Burgers:</b></p> <ul style="list-style-type: none"> <li>-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</li> <li>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> <li>-select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>-investigate and analyse a range of existing products</li> <li>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>-understand and apply the principles of a healthy and varied diet</li> <li>-prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</li> </ul>



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