



Tackley CE Primary Schools DT Curriculum overview

Skills Across Key Stages

	3 & 4 year olds will be learning to:	Children in Reception will be learning to:	Early Learning Goal
Communication	<p>Start to develop conversation</p> <p>Identify familiar objects and properties</p> <p>Understand and act on longer sentences</p> <p>Understand simple questions.</p>	<p>Learn new vocabulary</p> <p>Use new vocabulary throughout the day</p> <p>Ask questions to find out more</p> <p>Use new vocabulary in different contexts</p> <p>Connect one idea to another</p> <p>Use talk to work out problems and organise thinking and activities.</p> <p>To explain how things work and why.</p>	<p>Listen attentively and respond to what they hear with relevant questions, comments and actions.</p> <p>Make comments about what they have heard and ask questions to clarify their understanding.</p> <p>Participate in small, group and class discussions</p> <p>Offer explanations for why things might happen.</p>
Maths	<p>Talk about and explore shapes</p> <p>Make comparisons between objects relating to size, length, weight and capacity</p> <p>Select shapes appropriately</p> <p>Combine shapes to make new ones</p>	<p>Select, rotate and manipulate shapes to develop spatial reasoning skills</p> <p>Compose and decompose shapes</p> <p>Compare length, weight and capacity</p>	N/A
Physical Development	<p>Choose the right resources to carry out their own plan.</p> <p>Collaborate with others to manage large items.</p> <p>Use one handed tools and equipment</p> <p>Use a comfortable grip with good control when holding pens and pencils.</p> <p>Show preference for a dominant hand.</p>	<p>Develop their small motor skills so that they can use a range of tools competently, safely and confidently.</p> <p>Combine different movements with ease and fluency.</p>	<p>Use a range of small tools including scissors, paintbrushes and cutlery</p> <p>Begin to show accuracy and care when drawing.</p>
Understanding the World	<p>Talk about their life and previous experiences.</p> <p>Use their senses in hands on exploration and explore collections of materials with similar and different properties.</p> <p>Talk about what they see using a wide range of vocabulary</p> <p>Talk about the differences between materials and the changes they notice.</p>	<p>Explore natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p>	<p>Describe their immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps.</p> <p>Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.</p>

	3 & 4 year olds will be learning to:	Children in Reception will be learning to:	Early Learning Goal
Expressive Arts and Design	Explore different materials and develop their ideas. Develop their ideas and then decide which materials to use to express them. Join different materials and explore different textures.	Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively sharing ideas, resources and skills.	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 use of props and materials, when role playing characters

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.

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

Curriculum Unit by Term

Cycle A	Autumn term	Spring term	Summer term
KS1	Mechanical: Making a moving storybook	Food: Making wraps/sandwiches	Textiles – Making bunting/decorations
Lower KS2	Food: Farm Shop Project (STEM)	Mechanical: Mighty Mascots – pneumatics	Electrical Systems: Night Lights – electrical systems
Upper KS2	Bread Making	Mechanical Systems- Automata Animals	Structures-Freestanding

Cycle B	Autumn term	Spring term	Summer term
KS1	Mechanical: – Making moving models	Textiles/Materials Puppets	Structures: Making flying machines Food: Fruit and Vegetables – making a rainbow smoothie
Lower KS2	Structure: Shelter building	Textiles: – Making a bag	Mechanical: Gears and Pulleys
Upper KS2	Textiles – Making clothing	Structures: African Musical Instruments	CAD: Scratch Project (animation)

What does an EYFS child need to understand in DT?	What does an EYFS child need to know in DT?	How can they show they are effective in DT?
To use safely a variety of materials and tools.	How to use a variety of tools, for eg scissors safely. Which tools to use for different processes and materials. Which materials best fit a design to solve a problem.	To be able to share their creations explaining the processes they have used.
To understand the importance of a healthy diet.	How to eat healthily and different factors that effect their health with regards to food and nutrition.	Talk about food that is good for them and food that is not healthy for them. Make 'good' food choices.
To understand that there are many ways to solve a problem. To be critical thinkers.	How to design a product and adapt their ideas throughout the process. Begin to understand the process of evaluation by highlighting the 'strengths and weaknesses'.	Independently gather resources to design and make a product. Evaluate their work as an on-going process.

EYFS Knowledge and Skills

Curriculum Knowledge Overview by Unit of Work

	DT: Key Stage One			
	Design	Make	Evaluate	Technical knowledge
<p>Mechanical: Making a moving storybook</p> <p>Mechanical: Making a moving model</p>	<p><i>design purposeful, appealing products for other users based on design criteria</i></p> <p><i>generate, develop, and communicate their ideas through talking, drawing, templates</i></p>	<p><i>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, joining and finishing], accurately</i></p> <p><i>select from and use a wider range of materials and components, according to their functional properties and aesthetic qualities</i></p>	<p><i>explore and evaluate a range of existing products</i></p> <p><i>evaluate their ideas and products against design criteria</i></p>	<p><i>explore and use mechanisms [for example, levers, sliders wheels and axles], in their products.</i></p>
	<p>Year 1 – Create simple designs for a product. Use pictures and words to describe what they want to do.</p> <p>Year 2 – Design product for a specific user using drawings and templates.</p>	<p>Year 1 – Use a range of simple tools to cut, join and combine materials and components safely.</p> <p>Year 2 – Safely measure, mark out, cut and shape materials and components using a range of tools.</p>	<p>Year 1 – Ask simple questions about existing products and those that have been made.</p> <p>Year 2 – Investigate and analyse existing products and those that have been made considering a wide range of factors. Evaluate and assess existing products and those that have been made following a design criteria.</p>	<p>Year 1 – Use levers, slides wheels and axels in a product.</p> <p>Year 2 – Explore and use mechanisms in products.</p>

Structure: Making flying machines	<p><i>design purposeful, functional products for other users based on design criteria</i></p> <p><i>generate, develop, model and communicate their ideas through talking, drawing, mock-ups and where appropriate, information and communication technology</i></p>	<p><i>select from and use a wider range of tools and equipment to perform practical tasks [for example, shaping, joining], accurately</i></p> <p><i>select from and use a wider range of materials and components, including construction materials, according to their functional properties and aesthetic qualities</i></p>	<p><i>explore and evaluate a range of existing products</i></p> <p><i>evaluate their ideas and products against design criteria</i></p>	<p><i>build structures, exploring how they can be made stronger, stiffer and more stable</i></p>
	<p>Year 1 – Create simple designs for a product. Use pictures and words to describe what they want to do.</p> <p>Year 2 – Design product for a specific user.</p>	<p>Year 1 – Use a range of simple tools and techniques to shape and join materials and components safely.</p> <p>Year 2 – Safely measure, mark out, and shape materials and components using a range of tools.</p>	<p>Year 1 – Ask simple questions about existing products and those that have been made.</p> <p>Year 2 – Investigate and analyse existing products and those that have been made considering a wide range of factors. Evaluate and assess existing products and those that have been made following a design criteria.</p>	<p>Year 1 – Build structures exploring how they can be made stronger.</p> <p>Year 2 – Investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable.</p>
Textile: Puppets Textile: Bunting/decorations	<p><i>design purposeful, appealing products for other users based on design criteria</i></p> <p><i>generate and communicate their ideas through talking, drawing.</i></p>	<p><i>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</i></p> <p><i>select from and use a wider range of materials and components, including construction/textiles according to their functional properties and aesthetic qualities</i></p>	<p><i>evaluate their ideas and products against design criteria</i></p>	<p><i>build structures, exploring how they can be made stronger, stiffer</i></p>
	<p>Year 1 – Create simple designs for a product. Use pictures and words to describe what they want to do.</p> <p>Year 2 – Design product for a specific user.</p>	<p>Year 1 – Use a range of simple tools and techniques to shape and join materials and components safely.</p> <p>Year 2 – Safely measure, mark out, and shape materials and components using a range of tools.</p>	<p>Year 1 – Ask simple questions about existing products and those that have been made.</p> <p>Year 2 – Investigate and analyse existing products and those that have been made considering a wide range of factors. Evaluate and assess existing products and those that have been made following a design criteria.</p>	<p>Year 1 – Build structures exploring how they can be made stronger.</p> <p>Year 2 – Investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable.</p>
	<p><i>design appealing products for themselves based on design criteria</i></p> <p><i>generate develop and communicate their ideas through talking, drawing.</i></p>	<p><i>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting], accurately</i></p> <p><i>select from and use a wider range of materials and components, including ingredients, according to their functional properties and aesthetic qualities</i></p>	<p><i>explore and evaluate a range of existing products</i></p> <p><i>evaluate their ideas and products against design criteria</i></p>	<p><i>understand where food comes from.</i></p>

Food: Making wraps/sandwiches	<i>use the basic principles of a healthy and varied diet to prepare dishes</i>			
	<p>Year 1 – Begin to discuss what healthy foods are.</p> <p>Year 2 – Understand the need for a variety of food in diet.</p>	<p>Year 1 – Use simple tools with help to prepare food safely.</p> <p>Year 2 – Use a wide range of cooking techniques to prepare food.</p>	<p>Year 1 – Ask simple questions about existing products and those that have been made.</p> <p>Year 2 – Investigate and analyse existing products and those that have been made considering a wide range of factors. Evaluate and assess existing products and those that have been made following a design criteria.</p>	<p>Year 1 – Say where food comes from and give examples of what is grown.</p> <p>Year 2 – Understand that all food has to be grown, farmed or caught.</p>

	DT: Lower Key Stage Two			
	Design	Make	Evaluate	Technical knowledge
Mechanical – Gears and pulleys	<i>use research and develop design criteria</i> <i>generate, develop and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes.</i>	<i>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping,], accurately</i> <i>select from and use a wider range of materials and components, including construction materials,</i>	<i>investigate and analyse a range of existing products</i> <i>evaluate their ideas and products against their own design criteria</i> <i>understand how key events and individuals in design and technology have helped shape the world</i>	<i>understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</i>
Mechanical – Mighty mascots (pneumatics)	Year 3/4 – Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience.	Year 3/4 – Use knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them.	Year 3/4 – Consider how own finished products might be improved and how well they meet the need of the intended user.	Year 3/4 – Understand and use mechanical systems in products.
Structure – Building shelters	<i>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</i> <i>generate and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams</i>	<i>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</i> <i>select from and use a wider range of materials and components, including construction materials, textiles according to</i>	<i>investigate and analyse a range of existing products</i> <i>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</i>	<i>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</i>

		<i>their functional properties and aesthetic qualities</i>	<i>understand how key events and individuals in design and technology have helped shape the world</i>	
	Year 3/4 – Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience.	Year 3/4 – Use techniques that require more accuracy to cut, shape, join and finish own work eg cutting internal shapes or slots in framework.	Year 3/4 – Consider how existing products and own finished products might be improved and how well they meet the need of the intended user.	Year 3/4 – Apply techniques learnt to strengthen structures and explore own ideas.
Textiles – Making a bag	<i>use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals</i>	<i>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</i>	<i>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</i>	<i>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</i>
	<i>generate, develop and communicate their ideas through discussion, annotated sketches, pattern pieces</i>	<i>select from and use a wider range of materials and components, including textiles, according to their functional properties and aesthetic qualities</i>		
	Year 3/4 – Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience.	Year 3/4 – Use knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them.	Year 3/4 – Consider how existing products and own finished products might be improved and how well they meet the need of the intended user.	Year 3/4 – Apply techniques they have learnt to strengthen structures and explore own ideas.
Food – Farm shop project	<i>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</i>	<i>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</i>	<i>investigate and analyse a range of existing products</i>	<i>understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</i>
	<i>generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes.</i>	<i>select from and use a wider range of materials and components, including ingredients, according to their functional properties and aesthetic qualities</i>	<i>evaluate their ideas and products against their own design criteria</i>	
	<i>understand and apply the principles of a healthy and varied diet</i>	<i>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</i>		
	Year 3/4 – Understand what makes a healthy balanced diet and what foods/drinks the body needs to be healthy and active.	Year 3/4 – Read and follow recipes that involves several processes, skills and techniques.	Year 3/4 – Consider how existing products and own finished products might be improved and how well they meet the need of the intended user.	Year 3/4 – Understand seasonality and the advantages of eating seasonal and locally produced food.
	<i>use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals</i>	<i>select from and use a wider range of tools and equipment to perform practical tasks accurately</i>	<i>investigate and analyse a range of existing products</i>	<i>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</i>
	<i>generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes</i>	<i>select from and use a wider range of materials and components, including construction materials, textiles according to</i>	<i>evaluate their ideas and products against their own design criteria</i>	

Electrical systems – Night lights		<i>their functional properties and aesthetic qualities</i>	<i>understand how key events and individuals in design and technology have helped shape the world</i>	
	Year 3/4 – Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience.	Year 3/4 – Use knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them.	Year 3/4 – Consider how existing products and own finished products might be improved and how well they meet the need of the intended user.	Year 3/4 – Understand and use electrical systems in products.
DT: Upper Key Stage Two				
	Design	Make	Evaluate	Technical knowledge
Bread Making	<i>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</i>	<i>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</i>	<i>investigate and analyse a range of existing products</i>	<i>understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</i>
	<i>generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes.</i>	<i>select from and use a wider range of materials and components, including ingredients, according to their functional properties and aesthetic qualities</i>	<i>evaluate their ideas and products against their own design criteria</i>	
	<i>understand and apply the principles of a healthy and varied diet</i>	<i>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</i>		
	Year 5/6 – Confidently plan a healthy meal based on the principles of a healthy and varied diet.	Year 5/6 – Research, plan, prepare and cook a savoury dish applying knowledge of ingredients and technical skills.	Year 5/6 – Use knowledge of famous designs to further explain the effectiveness of existing products and products they have made.	Year 5/6 – Use information on food labels to inform choices.

Mechanical Systems	<i>use research and develop design criteria generate, develop and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes.</i>	<i>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping,], accurately select from and use a wider range of materials and components, including construction materials,</i>	<i>investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria understand how key events and individuals in design and technology have helped shape the world</i>	<i>understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</i>
	Year 5/6 – Use research they have done to inform the design of their innovative products.	Year 5/6 – Use technical knowledge and accurate skill to problem solve during the making process.	Year 5/6 – Use knowledge to explain the effectiveness of products they have made.	Year 5/6 – Understand how to use more complex mechanical systems.
Structure-free standing Structure-African Musical Instruments	<i>use research and develop design criteria generate, develop and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes.</i>	<i>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping,], accurately select from and use a wider range of materials and components, including construction materials,</i>	<i>investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria understand how key events and individuals in design and technology have helped shape the world</i>	<i>understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</i>
	Year 5/6 – Use research they have done to inform the design of their innovative products.	Year 5/6 – Use technical knowledge and accurate skill to problem solve during the making process.	Year 5/6 – Use knowledge to explain the effectiveness of products they have made.	Year 5/6 – Understand how to use more complex mechanical systems.
Textiles – Making clothing	<i>use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals generate, develop and communicate their ideas through discussion, annotated sketches, pattern pieces</i>	<i>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 textiles, according to their functional properties and aesthetic qualities</i>	<i>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</i>	<i>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</i>
	Year 5/6 – Use research they have done into famous designers and inventors to inform the design of their innovative products.	Year 5/6 – Use technical knowledge and accurate skill to problem solve during the making process.	Year 5/6 – Use knowledge of famous designs to further explain the effectiveness of existing products and products they have made.	Year 5/6 – Use a wide range of methods to strengthen, stiffen and reinforce complex structures and can use them accurately and appropriately.
	<i>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 and communicate their ideas through discussion, annotated sketches, prototypes, and computer-aided design</i>	<i>select from and use a wider range of tools and equipment to perform tasks</i>	<i>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</i>	<i>apply their understanding of computing to program, monitor and control their products</i>

Computer Aided Design – Scratch project			<i>understand how key events and individuals in design and technology have helped shape the world</i>	
	Year 5/6 – Use research they have done into famous designers and inventors to inform the design of their innovative products.	Year 5/6 – Use technical knowledge and accurate skill to problem solve during the making process.	Year 5/6 – Use knowledge of famous designs to further explain the effectiveness of existing products and products they have made.	Year 5/6 – Apply knowledge of computing to program, monitor and control a product they have made.

Curriculum Skills Overview by Key Stage

Our DT curriculum builds towards clear end-points. Detailed below is what children will be expected to do by the end of each key stage using key skills.

		By the end of Early Years	By the end of Key Stage One	By the end of Key Stage Two
Designing	Understanding contexts, users and purposes	<ul style="list-style-type: none"> Explore, use and refine a variety of artistic effects to express their ideas and feelings. 	<p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment state what products they are designing and making say whether their products are for themselves or other users describe what their products are for say how their products will work say how they will make their products suitable for their intended users use simple design criteria to help develop their ideas 	<p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment describe the purpose of their products indicate the design features of their products that will appeal to intended users explain how particular parts of their products work In early KS2 pupils should also: gather information about the needs and wants of particular individuals and groups

				<ul style="list-style-type: none"> develop their own design criteria and use these to inform their ideas In late KS2 pupils should also: <ul style="list-style-type: none"> carry out research, using surveys, interviews, questionnaires and web-based resources identify the needs, wants, preferences and values of particular individuals and groups develop a simple design specification to guide their thinking
	Generating, developing, modelling and communicating ideas	<ul style="list-style-type: none"> Return to and build on previous learning refining ideas and developing their ability to represent them. 	<p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> generate ideas by drawing on 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 mockups use information and communication technology, where appropriate, to develop and communicate their ideas 	<p>Across KS2 pupils should:</p> <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 <p>In early KS2 pupils should also:</p> <ul style="list-style-type: none"> generate realistic ideas, focusing on the needs of the user make design decisions that take account of the availability of resources <p>In late KS2 pupils should also:</p> <ul style="list-style-type: none"> generate innovative ideas, drawing on research make design decisions, taking account of constraints such as time, resources and cost
Making	Planning	<ul style="list-style-type: none"> Create collaboratively sharing resources and skills. Develop own ideas and decide which materials to use to express them. 	<p>Across KS1 pupils should:</p> <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 	<p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> select tools and equipment suitable for the task explain their choice of tools and equipment in relation to the skills and techniques they will be using select materials and components suitable for the task explain their choice of materials and components according to functional properties and aesthetic qualities <p>In early KS2 pupils should also:</p> <ul style="list-style-type: none"> order the main stages of making <p>In late KS2 pupils should also:</p> <ul style="list-style-type: none"> produce appropriate lists of tools, equipment and materials that they need formulate step-by-step plans as a guide to making
	Practical skills and techniques	<ul style="list-style-type: none"> Use a range of small tools including scissors, paint brushes and cutlery. Safely use and explore a variety of materials, tools and techniques, 	<p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> follow procedures for safety and hygiene use a range of materials and components, including construction materials and kits, 	<p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> follow procedures for safety and hygiene use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients,

		experimenting with design, colour, texture, form and function.	<p>textiles, food ingredients and mechanical components</p> <ul style="list-style-type: none"> • measure, mark out, cut and shape materials and components • assemble, join and combine materials and components • use finishing techniques, including those from art and design 	<p>mechanical components and electrical components</p> <p>In early KS2 pupils should also:</p> <ul style="list-style-type: none"> • measure, mark out, cut and shape materials and components with some accuracy • assemble, join and combine materials and components with some accuracy • apply a range of finishing techniques, including those from art and design, with some accuracy <p>In late KS2 pupils should also:</p> <ul style="list-style-type: none"> • accurately measure, mark out, cut and shape materials and components • accurately assemble, join and combine materials and components • accurately apply a range of finishing techniques, including those from art and design • use techniques that involve a number of steps • demonstrate resourcefulness when tackling practical problems
Evaluating	Own ideas and products	<ul style="list-style-type: none"> • Share their creations explaining the processes they have used. 	<p>Across KS1 pupils should:</p> <ul style="list-style-type: none"> • talk about their design ideas and what they are making • make simple judgements about their products and ideas against design criteria • suggest how their products could be improved 	<p>Across KS2 pupils should:</p> <ul style="list-style-type: none"> • identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work <p>In early KS2 pupils should also:</p> <ul style="list-style-type: none"> • refer to their design criteria as they design and make • use their design criteria to evaluate their completed products <p>In late KS2 pupils should also:</p> <ul style="list-style-type: none"> • critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make • evaluate their ideas and products against their original design specification
	Existing products	<ul style="list-style-type: none"> • Investigate with support a range of products discussing what products are for and how they work. 	<p>Across KS1 pupils should explore:</p> <ul style="list-style-type: none"> • what products are • who products are for • what products are for • how products work • how products are used • where products might be used • what materials products are made from • what they like and dislike about products 	<p>Across KS2 pupils should investigate and analyse:</p> <ul style="list-style-type: none"> • how well products have been designed • how well products have been made • why materials have been chosen • what methods of construction have been used • how well products work • how well products achieve their purposes • how well products meet user needs and wants <p>In early KS2 pupils should also investigate and analyse:</p>

				<ul style="list-style-type: none"> • who designed and made the products • where products were designed and made • when products were designed and made • whether products can be recycled or reused <p>In late KS2 pupils should also investigate and analyse:</p> <ul style="list-style-type: none"> • how much products cost to make • how innovative products are • how sustainable the materials in products are • what impact products have beyond their intended purpose
	Key events and individuals	<ul style="list-style-type: none"> • Not a requirement for EYFS 	<ul style="list-style-type: none"> • Not a requirement in KS1 	<p>Across KS2 pupils should know:</p> <ul style="list-style-type: none"> • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products
Technical knowledge	Making products work	<ul style="list-style-type: none"> • Explore different materials freely in order to develop their ideas about how they work, how to use them and what to make. • Make imaginative small worlds using blocks and construction kits. 	<p>Across KS1 pupils should know:</p> <ul style="list-style-type: none"> • about the simple working characteristics of materials and components • about the movement of simple mechanisms such as levers, sliders, wheels and axles • how freestanding structures can be made stronger, stiffer and more stable • that a 3-D textiles product can be assembled from two identical fabric shapes • that food ingredients should be combined according to their sensory characteristics • the correct technical vocabulary for the projects they are undertaking 	<p>Across KS2 pupils should know:</p> <ul style="list-style-type: none"> • how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • that materials can be combined and mixed to create more useful characteristics • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking <p>In early KS2 pupils should also know:</p> <ul style="list-style-type: none"> • how mechanical systems such as levers and linkages or pneumatic systems create movement • how simple electrical circuits and components can be used to create functional products • how to program a computer to control their products • how to make strong, stiff shell structures • that a single fabric shape can be used to make a 3D textiles product • that food ingredients can be fresh, pre-cooked and processed <p>In late KS2 pupils should also know:</p> <ul style="list-style-type: none"> • how mechanical systems such as cams or pulleys or gears create movement • how more complex electrical circuits and components can be used to create functional products • how to program a computer to monitor changes in the environment and control their products

				<ul style="list-style-type: none"> • how to reinforce and strengthen a 3D framework • that a 3D textiles product can be made from a combination of fabric shapes • that a recipe can be adapted by adding or substituting one or more ingredients
Cooking and nutrition	Where food comes from	Not applicable for EYFS	<p>Across KS1 pupils should know:</p> <ul style="list-style-type: none"> • that all food comes from plants or animals • that food has to be farmed, grown elsewhere (e.g. home) or caught 	<p>Across KS2 pupils should know:</p> <ul style="list-style-type: none"> • that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world <p>In late KS2 pupils should also know:</p> <ul style="list-style-type: none"> • that seasons may affect the food available • how food is processed into ingredients that can be eaten or used in cooking
	Food preparation, cooking and nutrition.	<p>Basic hygiene and washing hands before cooking and eating.</p> <p>Naming different fruit and vegetables.</p> <p>Knowledge of what is healthy and what is not healthy food and drink.</p> <p>Use a range of small tools including cutlery.</p>	<p>Across KS1 pupils should know:</p> <ul style="list-style-type: none"> • how to name and sort foods into the five groups in The eatwell plate • that everyone should eat at least five portions of fruit and vegetables every day • how to prepare simple dishes safely and hygienically, without using a heat source • how to use techniques such as cutting, peeling and grating 	<p>Across KS2 pupils should know:</p> <ul style="list-style-type: none"> • how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking <p>In early KS2 pupils should also know:</p> <ul style="list-style-type: none"> • that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eatwell plate • that to be active and healthy, food and drink are needed to provide energy for the body <p>In late KS2 pupils should also know:</p> <ul style="list-style-type: none"> • that recipes can be adapted to change the appearance, taste, texture and aroma • that different food and drink contain different substances – nutrients, water and fibre – that are needed for health