



2021-2022 Design and Technology Curriculum - Engage, Challenge, Inspire

EYFS

Nursery and Reception	Children will have opportunities to engage with a wide range of media and materials, and to explore how things work. Children will return to and build on their previous learning, refining ideas and developing their ability to represent them; this can include making imaginative and complex 'small worlds' with blocks and construction kits as well as exploring different materials and their textures freely, including how to join materials, in order to develop their ideas about how to use them and what to make. Children will improve their small motor skills so that they can use a range of tools competently, safely and confidently and create collaboratively by sharing ideas, resources and skills.
ELG	By the end of Reception children will safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. They will be able to share their creations, explaining the processes they have used. Children will be given opportunities to make use of props and materials when role playing characters in narratives and stories.

Year 1

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Topic/Theme		Mechanics: Moving pirate pictures - sliders	Food and nutrition: Superhero smoothies	Textiles: Puppets (links to Science)	Construction: DT day - castle junk modelling	
Key Knowledge		Understand what levers, wheels and winding mechanisms are and how they work Begin to consider the health and safety aspects of a task, suggesting one	Understand the basic principles of a healthy and varied diet to prepare dishes Begin to consider the health and safety aspects of a task, suggesting one	Understand how to shape textiles using templates Begin to consider the health and safety aspects of a task, suggesting one or two ways to work safely	Understand how to use and join materials to make and strengthen products Begin to consider the health and safety aspects of a task, suggesting one	

		or two ways to work safely	or two ways to work safely		or two ways to work safely	
Key Skills		<p>Design products that have a clear purpose and an intended user</p> <p>Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling)</p> <p>Begin to create products with simple levers, wheels and winding mechanisms</p> <p>Evaluate products against their intended purpose</p>	<p>Design products that have a clear purpose and an intended user</p> <p>Measure or weigh using measuring cups or electronic scales</p> <p>Cut, peel or grate ingredients safely and hygienically</p> <p>Use the basic principles of a healthy and varied diet to prepare dishes</p> <p>Evaluate products against their intended purpose</p>	<p>Design products that have a clear purpose and an intended user</p> <p>Shape textiles using templates</p> <p>Evaluate products against their intended purpose.</p>	<p>Design products that have a clear purpose and an intended user</p> <p>Demonstrate a range of cutting and shaping techniques (e.g. tearing, cutting, folding and curling)</p> <p>Evaluate products against their intended purpose</p>	

Year 2

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Topic/Theme	Textiles: Designing and making bog babies		Mechanics: Moving dinosaur pictures - pivots and levers	Food & nutrition; Construction: DT day - chocolate bar making & package design	Construction: DT day - NASA rocket designers	Mechanics: Update design for Turbo dog
Key Knowledge	Understand how to join textiles using running stitch		Develop a deeper understanding of what levers, wheels and winding	Understand where food comes from	Understand how to make and strengthen products from	Develop a deeper understanding of what levers, wheels and winding

	<p>Consider the health and safety aspects of each task, suggesting ways to work safely</p>		<p>mechanisms are and how they work</p> <p>Consider the health and safety aspects of each task, suggesting ways to work safely</p>	<p>Understand the basic principles of a healthy and varied diet</p> <p>Consider the health and safety aspects of each task, suggesting ways to work safely</p>	<p>different materials using drilling, screwing, gluing and nailing</p> <p>Consider the health and safety aspects of each task, suggesting ways to work safely</p>	<p>mechanisms are and how they work</p> <p>Consider the health and safety aspects of each task, suggesting ways to work safely</p>
<p>Key Skills</p>	<p>Design and make products, refining the design as work progresses</p> <p>Demonstrate a range of techniques for colouring and decorating textiles (e.g. dyeing, adding sequins or printing)</p> <p>Evaluate products against their intended purpose and user</p>		<p>Design and make products, refining the design as work progresses</p> <p>Create products with simple levers, wheels and winding mechanisms</p> <p>Evaluate products against their intended purpose and user</p>	<p>Design and make products, refining the design as work progresses</p> <p>Assemble or cook ingredients</p> <p>Evaluate products against their intended purpose and user</p>	<p>Design and make products, refining the design as work progresses</p> <p>Use software to design</p> <p>Cut materials safely using tools provided</p> <p>Measure and mark out to the nearest centimetre</p> <p>Demonstrate a range of joining techniques (e.g. gluing, hinges or combining materials to strengthen)</p> <p>Evaluate products against their intended purpose and user</p>	<p>Design and make products, refining the design as work progresses</p> <p>Model designs using software</p> <p>Cut materials safely using tools provided</p> <p>Measure and mark out to the nearest centimetre</p> <p>Demonstrate a range of joining techniques (e.g. gluing, hinges or combining materials to strengthen)</p> <p>Create products using levers, wheels and winding mechanisms</p> <p>Evaluate products against their</p>

						intended purpose and user
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Year 3 - This is the second year of a rolling programme when classes were combined. In Sept 2022, Year 3 and 4 will be following separate curriculums

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Topic/Theme		<p>Construction: Design and create a pizza box</p> <p>Food and nutrition: Make a pizza</p>		<p>Construction: Design and create a bridge</p>	<p>Textiles: Design and produce a bronze-age bag</p>	
Key Knowledge		<p>Know which techniques are suitable to construct a given product</p> <p>Understand how to measure ingredients to the nearest gram accurately</p> <p>Know how to follow a recipe</p> <p>Understand the key health and safety points associated with each task, and know how to ensure safe working practice for themselves and others</p>		<p>Know which techniques are suitable to construct a given product</p> <p>Understand the key health and safety points associated with each task, and know how to ensure safe working practice for themselves and others</p>	<p>Know ways to join textiles with appropriate stitching</p> <p>Understand the key health and safety points associated with each task, and know how to ensure safe working practice for themselves and others</p>	
Key Skills		Design with purpose by identifying		Design with purpose by identifying	Design with purpose by identifying	

		<p>opportunities to design</p> <p>Disassemble products to understand how they work</p> <p>Assemble or cook ingredients (recognising the need to control the temperature of the oven/hob when cooking)</p> <p>Evaluate products against their intended purpose and user, beginning to use their own design criteria</p>		<p>opportunities to design</p> <p>Begin to develop their own design criteria</p> <p>Cut materials accurately and safely by selecting appropriate tools</p> <p>Select appropriate joining techniques.</p> <p>Choose suitable techniques to construct products</p> <p>Evaluate products against their intended purpose and user, beginning to use their own design criteria</p>	<p>opportunities to design</p> <p>Disassemble products to understand how they work</p> <p>Improve upon existing designs, giving reasons for choices</p> <p>Cut materials accurately and safely by selecting appropriate tools. Join textiles with appropriate stitching</p> <p>Evaluate products against their intended purpose and user, beginning to use their own design criteria</p>	
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Year 4 - This is the second year of a rolling programme when classes were combined. In Sept 2022, Year 3 and 4 will be following separate curriculums

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Topic/Theme		Construction: Design and create a pizza box		Construction: Design and create a bridge	Textiles: Design and produce a bronze-age bag	

		Food and nutrition: Make a pizza				
Key Knowledge		<p>Understand how to prepare ingredients hygienically using appropriate utensils</p> <p>Understand the key health and safety points associated with each task, and know how to ensure safe working practice for themselves and others</p>		<p>Know ways to strengthen materials using suitable techniques</p> <p>Identify some of the great designers in all of the areas of study to generate ideas for designs</p> <p>Understand the key health and safety points associated with each task, and know how to ensure safe working practice for themselves and others</p>	<p>Know ways to join textiles with appropriate stitching</p> <p>Understand the need for a seam allowance</p> <p>Identify some of the great designers in all of the areas of study to generate ideas for designs</p> <p>Understand the key health and safety points associated with each task, and know how to ensure safe working practice for themselves and others</p>	
Key Skills		<p>Develop their own design criteria</p> <p>Strengthen materials using suitable techniques</p> <p>Assemble or cook ingredients (recognising the need to control the temperature of the</p>		<p>Develop their own design criteria</p> <p>Make products by working efficiently (such as by carefully selecting materials)</p> <p>Strengthen materials using suitable techniques</p>	<p>Develop their own design criteria</p> <p>Make products by working efficiently (such as by carefully selecting materials)</p> <p>Select the most appropriate</p>	

		oven or hob, if cooking) Refine work and techniques as work progresses, continually evaluating the product design		Refine work and techniques as work progresses, continually evaluating the product design	techniques to decorate textiles Refine work and techniques as work progresses, continually evaluating the product design	
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Year 5

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Topic/Theme	Mechanisms: Moving toys - cams	Textiles: Design and sew a seasonal decoration			Food and nutrition: Food from the forests	
Key Knowledge	Understand how cams convert rotary motion to linear motion Understand the effect of different-shaped cams on the type of motion created Understand health and safety points associated with each task, and take action so as to ensure safe working	Understand the qualities of materials to be able to choose appropriate tools to cut and shape them Recognise the qualities of materials to create suitable visual and tactile decorative effects Understand health and safety points associated with			Recognise that different foods are in season at different times of the year according to where they grow Know which foods are grown in the UK and which are imported Know some foods that are currently in season	

	<p>practice for themselves and others</p>	<p>each task, and take action so as to ensure safe working practice for themselves and others</p>			<p>Understand health and safety points associated with each task, and take action so as to ensure safe working practice for themselves and others</p>	
<p>Key Skills</p>	<p>Create innovative designs that improve upon existing products</p> <p>Ensure products have a high quality finish, using art skills where appropriate</p> <p>Convert rotary motion to linear using cams</p> <p>Evaluate products against their intended purpose and user as well as their own design criteria, including the environmental impact of their product</p>	<p>Design with the user in mind, motivated by the service/benefits a product will offer</p> <p>Select the most appropriate techniques to decorate textiles</p> <p>Ensure products have a high quality finish, using art skills where appropriate</p> <p>Evaluate products against their intended purpose and user as well as their own design criteria, including the environmental impact of their product</p>			<p>Create innovative designs that improve upon existing products</p> <p>Demonstrate a range of baking and cooking techniques</p> <p>Create and refine recipes, including ingredients, methods, cooking times and temperatures</p> <p>Evaluate products against their intended purpose and user, as well as their own design criteria, including the environmental impact of their product - use these evaluations to suggest further improvements</p>	

Year 6

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Topic/Theme		Structures: Bird houses		Electrical systems: Lighthouses	Food and nutrition: WW2 ration book recipes	
Key Knowledge		<p>Know that different types of wood are used for constructing different products, according to their qualities</p> <p>Understand how to cut materials with precision and refine the finish with appropriate tools (e.g. sanding wood after cutting; a more precise cut after roughly cutting out a shape)</p> <p>Understand suitable techniques for constructing products and strengthening a range of materials</p> <p>Understand health and safety points associated with each task, and take action so as to</p>		<p>Understand the purpose and outcomes of electronic components in an electrical circuit</p> <p>Understand health and safety points associated with each task, and take action so as to ensure safe working practice for themselves and others</p>	<p>Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms)</p> <p>Know how to measure accurately and calculate ratios of ingredients to scale up or down from a recipe</p> <p>Know some foods that are currently in season</p> <p>Understand ways to reduce food waste</p> <p>Understand health and safety points associated with each task, and take action so as to ensure safe working practice for themselves and others</p>	

		ensure safe working practice for themselves and others				
Key Skills		<p>Evaluate the design of current products so as to suggest improvements to the user experience when developing their own design</p> <p>Compile their own design criteria</p> <p>Use prototypes, cross-sectional diagrams and computer-aided designs to represent designs</p> <p>Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filling and sanding)</p> <p>Make products through stages of prototypes, making continual refinements</p> <p>Evaluate products against their</p>		<p>Use prototypes, cross-sectional diagrams and computer-aided designs to represent designs</p> <p>Compile their own design criteria</p> <p>Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips)</p> <p>Make products through stages of prototypes, making continual refinements</p> <p>Use innovative combinations of electronics (or computing) and mechanics in product designs</p> <p>Evaluate products against their intended purpose</p>	<p>Evaluate the design of current products so as to suggest improvements to the user experience when developing their own design</p> <p>Compile their own design criteria</p> <p>Use prototypes, cross-sectional diagrams and computer-aided designs to represent designs</p> <p>Evaluate products against their intended purpose and user as well as their own design criteria, including the environmental impact of their product - use these evaluations to suggest further improvements</p>	

		intended purpose and user as well as their own design criteria, including the environmental impact of their product - use these evaluations to suggest further improvements		and user as well as their own design criteria, including the environmental impact of their product - use these evaluations to suggest further improvements		
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