

Hadley Wood Primary School

Design & Technology Curriculum Overview



Our Vision

...that every child will leave our school **confident** in their own abilities and excited about the future, with the strategies and skills to tackle tasks and situations in a **capable** manner and **caring** about their planet and their fellow humans.

Curriculum Intent:

Design and Technology is an inspiring, rigorous and practical subject. At Hadley Wood Primary School, we value the creative curriculum and believe that it can have a powerful and positive effect on children, helping them to become confident, creative learners who are able to express their individual interests, thoughts and ideas.

We encourage the children to use their creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts considering their own and others' needs, wants and values. We aim to make links to designs and designers throughout history, providing opportunities for children to critically reflect upon and evaluate others designs and the overall effectiveness of the product before evaluating their own. As pupils progress, we support them to be able to think critically and develop a more rigorous understanding of design and technology.

We encourage children to develop as designers by ensuring they have the opportunity to broaden both their technical skills and their knowledge. Teachers plan a sequence of lessons inspired by exciting and engaging topics to ensure they have progressively covered the knowledge, understanding and skills required in the National Curriculum. The skills covered were devised by the Design and Technology Subject Lead – in collaboration with the teaching team – and are based on the National Curriculum objectives and also using the Chris Quigley objectives.

Children engage in a broad range of practical experiences to create innovative designs which solve relevant problems and improve children's ability to control materials, tools and techniques. Teachers implement the iterative design process by encouraging children to design based on prior knowledge, research, design criteria and real problems. Children will evaluate existing products and take risks when making new products, acquiring new skills and selecting from a wide range of materials and components. As part of the process children will be given time to evaluate and improve their products, using a design criteria to guide this reflection. Children will understand how key events and individuals in design and technology have helped to shape the world.

Through DT work in the classroom, the children at Hadley Wood Primary School have the opportunity to develop their skills in mechanisms, structures, textiles, mechanical systems, electrical systems and cooking and nutrition. These areas are developed continuously throughout the school from foundation stage through to year six and the children have the opportunity to revisit skills from previous years before learning new ones. We encourage children to express individuality in their work and to keep their own personalised sketchbooks where they can explore ideas, be inventive and take risks. When children leave Hadley Wood Primary School, we expect them to have a wide range of well-developed skills in the six areas of our curriculum that they can then build on and develop further as they continue in their education.

How we plan for and teach Design and Technology:

At Hadley Wood Primary School, DT is taught for 3 half terms per year with key skills alternating in each year group. Teachers plan sequences of lessons across the half term that will build on and develop the children's skills culminating in a final piece.

The skills and knowledge that children will develop throughout each DT topic are mapped across each year group and across the school to ensure progression. The teaching of DT across the school follows the National Curriculum through the use of Design and Technology Association's 'Projects on a Page' documents. Children design products with a purpose in mind and an intended user of the products. As evidenced within the Long Term Overview below, the coverage of that National Curriculum knowledge and skills is woven through each unit and many of the skills are repeated multiple times across the pupils education, to reinforce confidence with this subject.

Food technology is implemented across the school with children developing an understanding of where food comes from, the importance of a varied and healthy diet and how to prepare this. Each year the children take part in one unit of food technology, researching, designing, preparing and creating food in our dedicated children's kitchen. Children have the opportunity to grow their own fruit, vegetables and herbs at our onsite garden and use these within their cooking where possible.

The teaching of DT follows the research, design, make and evaluate cycle, with technical knowledge and relevant vocabulary shared at each stage. The design process is always linked to real life, relevant contexts to give meaning to the learning. When making their products, the children are given choice and a wide range of tools and materials to choose from. When evaluating, the children are taught to evaluate their own products against the initial design criteria to see how well it has met the needs and wants of the intended user and to identify any changes that could be made.

All units will include the following objectives:

- **Investigative activities** – where children critically evaluate existing products to inform their own design considerations.
- **Focused practical tasks** – where children are given the opportunity to learn and practise new skills and techniques which they can utilise in making products.
- **'Design and make' assignments** – where the children are given the opportunity to be creative, using what they have learned through previous activities.
- **Evaluating an end product** – where children decide if it is fit for its purpose and what changes could be made to improve their design.

What you will see in our Design and Technology lessons:

1. Every lesson is carefully planned around **an enquiry question for children to answer**. By ensuring that these questions spark children's **enquiry and curiosity**, children are engaged in their learning and want to find out the answer. Lessons are purposeful and result in children gaining a new understanding of the world around them.
2. In each lesson the **learning objective** is designed so that children have a powerful understanding of the skills and understanding they are developing in the lesson. **Success criteria** define the features of the learning intention in the context of the activity so that children can identify what they are aiming for and how well they are doing.
3. Learning is effectively sequenced by sharing prior learning **'building blocks'** at the start of each lesson/topic/new concept. We recognise that children are more likely to retain new learning if it connected to prior understanding. Building blocks help pupils of all levels to connect new learning with existing concepts and promote **independence**.
4. Teachers start each lesson with a **discursive statement** to engage pupils and draw links between prior and new learning. Different levels of challenge and **'what if'** challenges help to ensure our children have high **aspirations** of themselves and strive to be the best they can be.
5. Teachers skillfully use the **'Deliberate Mistake'** approach to learning to build pupil **resilience** to failure alongside their ability to work independently to problem solve. This embeds the concept that making mistakes is integral to the learning process.

Design and Technology Long Term Overview: EYFS – Year 6

Development matters				Curriculum provision	Contribution on wider History knowledge and what later content this prepares for
30-50 Months	Understanding the World	People and Communities	<p>Show interest in the lives of people who are familiar to them.</p> <p>Remember and talk about significant events in their own experiences.</p> <p>Recognise and describe special times or events for family or friends.</p> <p>Show interest in different occupations and ways of life.</p> <ul style="list-style-type: none"> • Know some of the things that make them unique, and talk about some of the similarities and differences in relation to friends or family. 	<p>Provide opportunities and activities for children to share significant events in their own lives and those of family and friends e.g. birthdays, Christmas, Diwali through writing stories, postcards and role play.</p> <p>During the 'People who help us' topic children will be talking about the lives of people around them and their roles in society. This provides planned opportunities for children to meet people with different occupations e.g. doctor, vet, dentist, fire fighter, police woman.</p>	<p>Pupils develop an understanding of the passing of time as they look at their own personal history and the lives of others. This builds the foundations when looking at the lives of significant people in Year 1.</p>
		The World	<p>Comment on and ask questions about aspects of their familiar world, such as the place where they live or the natural world.</p> <p>Talk about some of the things they have observed, such as plants, animals, natural and found objects.</p> <p>Talk about why things happen and how things work.</p> <ul style="list-style-type: none"> • Develop an understanding of growth, decay and changes over time. 	<p>Provide opportunities for children to create memories and record these e.g. Autumn Walk and Teddy Bear's Picnic</p> <p>Enable children to use vocabulary related to events in the past e.g. last week, last year, a long time ago.</p> <p>Provide opportunities for children to observe things closely e.g. plants and mini beasts using magnifying glasses, changing weather and seasons.</p>	<p>Opportunities to build memories and revisit these throughout the course of the year through 'do you remember when we did...' will help children relate the passing of time to events that have happened. This will build understanding in preparation for the within living memory toys topic in Year 1.</p> <p>Children will learn core historical vocabulary such as a past, present, passing of time, change. This vocabulary builds cultural capital associated with past historical events for core learning across KS1 and KS2.</p> <p>Exploratory opportunities such as looking at photographs build the fundamental skills of drawing conclusions and making</p>

40-60 Months	Understanding the World	The World	<ul style="list-style-type: none"> Look closely at similarities, differences, patterns and change. 	<p>Enable children to record observations by creating maps, plans and drawings as well as digitally using photos and video.</p>	<p>observations from sources - required for exploring primary and secondary sources across KS1 And KS2.</p>
ELG	Understanding the World	People, Culture and Communities	<ul style="list-style-type: none"> Describe their immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps. Know some similarities and differences between different religious and cultural communities in this country, drawing on their experiences and what has been read in class. Explain some similarities and differences between life in this country and life in other countries, drawing on knowledge from stories, non-fiction texts and (when appropriate) maps 	<p>Provide opportunities for children to discuss similarities and differences e.g. through painting self-portraits, cooking and role play.</p> <p>Use photographs to initiate discussions about a past family holiday or day out. Look at photographs to prompt discussion on how we have changed. What could we do as a baby? What can we do now?</p> <p>Use stories to learn about famous people from the past.</p> <p>Make observations of changes in the world around us. Take photos and observational drawings during our Autumn walk. This will be continued throughout the year as seasons change.</p>	
		The Natural World	<ul style="list-style-type: none"> Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. 	<p>Develop an understanding of time and change over time by exploring the seasonal changes on Autumn Walk</p> <p>Explore muddled bags belonging to characters from traditional tales to introduce the idea of evidence and enable children to answer the question 'How do I know?'</p>	
		Past and Present	<ul style="list-style-type: none"> Talk about the lives of the people around them and their roles in society. Know some similarities and differences between things in the past and 		

			<p>now, drawing on their experiences and what has been read in class.</p> <ul style="list-style-type: none"> • Understand the past through settings, characters and events encountered in books read in class and storytelling. 		
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Year 1	Substantive Knowledge Content based around a Big Question	Recurring themes, ideas and language	Contribution on wider Design and Technology knowledge and what later content this prepares for
Autumn 2	<p>Food: Preparing fruit and vegetables</p> <p>Product: Fruit feast to be shared with parents</p> <p>Understand where a range of fruit and vegetables come from</p> <p>Use a range of utensils to cut, slice, peel, grate and squeeze</p> <p>Understand and use basic principles of a healthy diet</p> <p>Generate ideas based on simple design criteria</p> <p>Evaluate ideas and final product</p>	<p>Pupils begin to understand where fruit and vegetables come from and how some products can be grown at home whilst others must be produced abroad due to climate. They explore the 'tastes' and 'textures' of different fruit and use this experience to agree simple design criteria for a fruit feast that will appeal to the 'end consumer'. Pupils learn how to safely use a range of kitchen 'utensils' and develop their fine motor skills to 'cut', 'slice', 'peel', 'grate' and 'squeeze' fruit. They 'evaluate' their final 'product' with the 'intended user' in mind.</p>	<p>Pupils begin to develop an understanding of where different food originates and why. They connect learning about healthy lifestyles and diet, from other areas of the curriculum, to work in D&T. Pupils begin to understand the importance of using cooking utensils safely and develop their fine motor skills to cut, peel, grate and squeeze fruit. These skills are further developed in Year 3 when they prepare different vegetarian toppings for a pizza and in Year 6 where they make a dish based on Fair Trade Products.</p>
Spring 1	<p>Mechanisms: Sliders and Levers</p> <p>Product: Information book for a Year 1 pupil based on a significant person in history.</p>	<p>Pupils develop an understanding of book designs by comparing and contrasting products over time. They analyse construction methods to gain an understanding of the function of moving parts including 'sliders' and 'levers' and develop the vocabulary to describe these functions including 'pivot', 'left', 'right', 'push', 'pull', 'up' and</p>	<p>Pupils begin to understand the importance of the design process in order to meet a design brief for a specific audience. They develop their understanding of the movement of a variety of mechanisms and the function of a mechanism in a product. Pupils begin to self and peer evaluate their outcomes against the design brief and</p>

	<p>Understand that different mechanisms produce different types of movement</p> <p>Select from and use a wide range of materials and components according to characteristics and use simple cutting, shaping, joining and fastening skills</p> <p>Generate ideas based on simple design criteria</p> <p>Evaluate ideas and final product</p>	<p>'down'. Through focused tasks, pupils select and use tools to 'cut', 'shape' and 'join' paper/card to produce simple 'mechanisms' such as 'flaps', 'sliders' and 'levers', understanding that different mechanisms produce different movement. They 'evaluate' their product in relation to the 'purpose', 'user' and simple 'design criteria'.</p>	<p>make suggested improvements. Through KS1/KS2 pupils continue to build on these skills of planning and evaluation. Pupils' understanding of mechanisms is built on in Year 2 by exploring wheels and axles.</p>
Summer 1	<p>Structures: Freestanding structures</p> <p>Product: Toy chair for a teddy bear</p> <p>Know how to make freestanding structures stronger, stiffer and more stable</p> <p>Select from and use a wide range of materials and components according to characteristics and use simple cutting, shaping, joining and fastening skills</p> <p>Generate ideas based on simple design criteria</p> <p>Evaluate ideas and final product</p>	<p>Pupils explore and develop an understanding of 'freestanding structures' to enable them to plan efficiently to meet the design brief. Fine motor skills are developed as pupils continue to use tools to 'cut' and 'join' their chosen materials together to make a chair for a Teddy. Through focused tasks, they 'fold' paper and card in different ways and are encouraged to find ways to make their structures 'strong' and 'stable'. Pupils test the 'functionality' of their chairs, 'evaluate' the 'product' they have made and make suggestions for improvement.</p>	<p>Pupils continue to understand the importance of the different stages of the design process including exploring existing products to influence initial designs and considering purpose to establish criteria for a successful product. By developing an understanding of the design process, children can select tools and materials effectively and formulate clear plans for construction. This prepares pupils for measuring, cutting and joining materials together effectively when assembling axles in Year 2.</p>
Year 2	Substantive Knowledge Content based around a Big Question	Recurring themes, ideas and language	Contribution on wider Design and Technology knowledge and what later content this prepares for
Autumn 1	<p>Food: Understand the history behind bread</p> <p>Product: Speciality bread to be served to children in the dining hall at lunchtime</p> <p>Select and use appropriate utensils to measure and combine ingredients</p> <p>Evaluate ideas and final product taking into account the views of others when making improvements</p>	<p>Pupils understand where bread first originated from including the historical symbolism and how it has evolved over time. Pupils explore bread, through 'taste test evaluations', understanding how different 'ingredients' are used to create different 'products' and their 'designs' in relation to specific 'audiences'. Through focused tasks, pupils are given opportunities to follow and adapt 'basic recipes', practise 'weighing' accurately and develop 'cutting', 'shaping', 'rubbing' and 'kneading' skills. They explore whether the final</p>	<p>Pupils build on their knowledge of where ingredients come from and the production processes. This unit supports pupil understanding of hygiene, nutrition, healthy eating and a varied diet in preparation for KS2 where children are exposed to creating a wider range of dishes. Pupils develop confidence with using measuring scales accurately, are able to follow recipes step by step and adapt them for an intended audience, This prepares pupils well for designing and making their own</p>

		product has met the ' intended design outcome ' and ' evaluate ' their product critically.	burgers in Year 6 and making dough for pizza bases in Year 3.
Spring 1	Sewing: Puppet of an animal for a hot or cold climate	Pupils learn about the purpose of puppets for entertainment and consider the sort of puppet that should be made and why. They will consider the different ' joining techniques ' and which media and materials they will use. Through focused tasks pupils are given the opportunities to explore different sewing techniques and develop their confidence with the ' running stitch ' and the effectiveness of securing fabric together . Pupils will explore whether the final product has met their ' intended design outcome ' and ' evaluate ' their product critically.	Pupils begin to develop their knowledge of joining different fabrics using sewing techniques and considering the use of different mediums to add detail to their puppets. The skill of sewing prepares the pupils for designing and making a bag for a Bronze Age hunter gatherer and in Year 6 when they complete their "make, do and mend," unit as part of the World War 2 topic.
	Purpose: Puppet for a puppet show to perform to their peers.		
	Understand the purpose, structure and functions of joins		
	Cut and join fabrics with simple techniques		
	Follow a design to make a product, joining fabrics with simple stitches		
	Evaluate the products against the design criteria		
Spring 2	Mechanisms: Wheels and axles	Pupils evaluate a range of products with ' wheels ' and ' axles ' before looking at the ' purpose ' and ' key features ' of an ambulance . They generate simple ' design criteria ' and develop their own ideas for making a toy ambulance through talking and drawing. Through focused tasks, pupils learn how to ' assemble fixed and free axles '. They explore the use of a range of materials for different parts of their product, considering ' function ' and ' strength ' and how to ' measure ', ' cut ' and ' join materials together effectively.	Pupils build their skills to understand the importance of how to create mechanisms and measure accurately in preparation for the Year 4 unit on shelters. In Year 5 pupils consolidate their understanding of mechanisms and are encouraged to independently select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement, where they are given the creative freedom to design their own Viking boat.
	Product: Toy ambulance for a 6-year-old		
	Assemble fixed and free axles; mark out, hold, cut and join materials and components correctly		
	Evaluate ideas and final product taking into account the views of others when making improvements		
Year 3	Substantive Knowledge Content based around a Big Question	Recurring themes, ideas and language	Contribution on wider Design and Technology knowledge and what later content this prepares for
Autumn 1	Mechanical systems: Levers and linkages	Building on knowledge gained of ' sliders ' and ' levers ' in Year 1 and ' wheels ' and ' axles ' in Year 2, pupils evaluate existing moveable books and products to develop their understanding of how ' levers ' and ' linkage mechanisms ' operate and create specific movements. Pupils add to their understanding of mechanisms that cause	Pupils build upon existing knowledge of the design process in relation to analysing products, planning, using accurate diagrams and combining materials to form a final product. They develop their ability to explain why specific mechanisms are most effective and suited to specific products and movements. This unit
	Product: Information book about the Himalayas for a Year 2 pupil		
	Analyse construction methods used to create moveable books, linkages and levers		

	<p>Select and use appropriate materials and equipment to measure, cut, join and assemble components to form a working lever or linkage mechanism</p> <p>Understand the difference between fixed and loose pivots</p> <p>Evaluate the functionality and quality of their product using technical vocabulary to explain</p>	<p>movement, exploring different types of 'joins' and how the application of transference forces can create 'direction' and 'movement'. They identify the necessary 'components' used to form basic levers such as 'pivots', 'outputs', 'guides' and 'inputs'.</p> <p>Applying the prerequisite skills of 'cutting', 'measuring', 'shaping' and 'joining', pupils assemble basic lever and linkage mechanism to create moveable 'pop up' book designs. They continue to develop accuracy and quality through the selection of appropriate tools and materials, and on-going evaluations of functionality against specific design criteria.</p>	<p>prepare pupils for the challenges of designing and making a mechanical system as part of a moon buggy in Year 5.</p>
Spring 2	<p>Textiles: 2-D shape to 3-D product</p> <p>Product: Bag designed for a Bronze Age hunter gatherer to collect their findings</p> <p>Investigate and analyse products related to the final product</p> <p>Select and use a range of tools to join fabric securely</p> <p>Use simple patterns and templates for marking out including seam allowances</p> <p>Apply understanding of how to strengthen and reinforce material</p>	<p>Pupils explore a range of existing bags to determine suitability of material and construction. They compare this with the use of animal hides in the Bronze Age. Through investigating how materials are 'joined' and 'finished' using a 'range of stitches', pupils develop simple design criteria for a product with an end user in mind. They create a simple 'pattern' and select appropriate tools and materials before 'cutting', 'joining' and 'finishing' their final bag. Pupils evaluate the outcome against the intended use.</p>	<p>Building on the skills of stitching, pupils will further develop their understanding of sewing skills in Year 6 to make more complex designs for a Make Do and Mend project.</p>
Summer 2	<p>Food: Understand and apply the principles of a healthy and varied diet</p> <p>Product: Pizza inspired by the local target audience</p> <p>Investigate and analyse a range of existing pizzas in order to develop design criteria</p>	<p>Pupils learn about the origins of pizza before investigating and evaluating a range of existing pizzas for taste and texture. They carry out and record market research using IT tools to determine the design criteria most suitable for the target audience. Pupils select and explain their use of ingredients and the tools and equipment required to prepare toppings. They continue to develop a range of food preparation skills such as 'peeling', 'grating' and 'cutting'</p>	<p>When added to the knowledge learned in Year 4, 5 and 6 about preparing food safely and hygienically, pupils will leave school armed with specific examples of food preparation skills that lead to successful cooking. Investigating the origins of pizza will help pupils appreciate how food has developed and been influenced by a variety of cultures and places. In learning about selecting and using appropriate utensils and equipment to prepare and combine ingredients,</p>

	Select appropriately from a range of utensils	and slicing' using the 'bridge' and 'claw' techniques. Pupils evaluate the final product with reference to the design criteria and the opinion of others.	pupils are prepared to carry out more accurate making and measuring in Year 4, 5 and 6. Learning about where food comes from and how it influences modern recipes, enables children to start asking questions about what new recipes were influenced by – crucial for work on Fair Trade recipes for food in Year 6.
	Continue to develop food preparation skills		
Year 4	Substantive Knowledge Content based around a Big Question	Recurring themes, ideas and language	Contribution on wider Design and Technology knowledge and what later content this prepares for
Autumn 2	<p>Structures: Shelters</p> <p>Product: Design and make a shelter to create an earthquake proof building</p> <p>Investigate and analyse different materials used to build shelters</p> <p>Select and use a range of tools to join materials securely</p> <p>Evaluate the final product for functionality</p>	Pupils explore the importance of the safety features of an earthquake shelter and how the materials use can provide protection during an earthquake. Pupils choose appropriate tools to join materials securely and measure materials accurately. They will test their products to ensure the safety and security of their final product and evaluate the functionality.	This unit prepares the children for continuing to develop their material selection skills and develop measuring and cutting skills. This prepares pupils for making Viking Long Boats in Year 5 and provides cross curricular links to Geography and Science in upper KS2.
Spring 1	<p>Food: Design and create a new type of chocolate bar</p> <p>Product: A chocolate bar inspired by Charlie and the Chocolate Factory for a target audience</p> <p>Investigate and analyse a range of existing chocolate bars in order to develop a design criteria</p> <p>Research and analyse the nutritional value of different types of chocolate bars</p> <p>Develop a recipe and consider the tools needed to create the chocolate bar.</p> <p>Design a wrapper that appeals to the target audience</p>	Pupils take inspiration from their history topic on the Mayans and the book Charlie and the Chocolate factory to design a chocolate bar that appeal to the target audience , considering their likes and dislikes as well as the nutritional value of the products used e.g., 70% cocoa versus white chocolate. They will develop the recipe and consider the tools needed to cut or melt ingredients and how this will be combined within the chocolate bar. The pupils will then consider how best to package the chocolate bar to attract sales from their target audience and consider the costs involved before deciding on a price to ensure profit. They will evaluate the success of their chocolate bar, through taste testing and	Pupils use the knowledge developed in this unit to prepare them to design a burger in Year 5 taking into account the nutritional content of different food choices. This also supports the pupils in Year 6 to design a dish based on Fair Trade produce.

	Evaluate the success of the final product	showcasing their designs to their target audience.	
Spring 2	Electrical systems: Simple circuits and switches	Pupils develop an understanding of board game designs by comparing and contrasting products and analysing construction methods .	Pupils continue to understand the importance of the different stages of the design process, exploring existing products to influence initial designs and considering purpose to establish criteria for a successful product. Based on an understanding of construction techniques from previous years pupils become more aware of the range of techniques to accurately assemble, join and combine materials. Pupils will develop their understanding of electronic circuits and specific components in Year 5.
	Product: Children's board game to enhance knowledge of the Ancient Egyptians	Through an evaluation of how products meet a user's needs, pupils identify strengths and areas for development that influence their own designs. They continue to broaden their understanding of 'electricity' in science in order to assemble 'basic circuits' as part of their design. They identify the 'components' required for a 'switch' in order to produce a working product and make design choices to reflect this.	
	Explore a range of board games and how they have developed over time		
	Investigate the use of simple circuits to enhance the appeal of board games	By identifying the main stages of making their product, pupils select appropriate tools and techniques. Refining skills related to construction, children 'measure', 'mark out', 'cut' and 'shape' a range of materials, using appropriate tools, equipment and techniques . To complete their board game products they 'join' and 'combine' materials and components accurately in 'temporary' and 'permanent' ways , enabling them to make continuous choices related to a final outcome.	
	Construct a circuit with basic components, join and combine materials according to their functional properties and aesthetic qualities		
Year 5	Substantive Knowledge Content based around a Big Question	Recurring themes, ideas and language	Contribution on wider Design and Technology knowledge and what later content this prepares for
Autumn 2	Mechanical systems: Pulleys or gears	Building on previously taught skills, precise 'measuring', 'cutting' and 'joining' skills are developed to create a fairground ride with a specific audience in mind. Pupils further develop their understanding of circuits from Year 4 to allow their fairground rides to move on their own. Through focused tasks, they learn about different sized 'gears', investigate 'direction' and 'speed of rotation', and build working circuits . Pupils	This unit consolidates previous experiences of simple mechanical systems (Year 2) as well as work incorporating simple electrical circuits and switches (Year 4).
	Product: Fairground Ride		
	Design and make a mechanical system to make a fairground ride move		

	Design and make a wooden construction to support a mechanical system	develop 'measuring', 'marking', 'cutting', 'shaping' and 'joining' skills using a range of tools as appropriate.	
	Use sawing, cutting, drilling, gluing and sanding	Finally, pupils critically evaluate the 'quality of their product, the 'manufacture', 'functionality', 'innovation' and 'fitness for purpose' , by comparing it to the original design specification.	
Spring 2	Food: Celebrating culture and seasonality	Throughout the D&T curriculum in KS2, pupils learn the skills of product design, including extending the range, and evaluating products suggesting improvements. In this unit, pupils 'research' the origins of the burger and its impact on American culture. They 'analyse' the findings of research into the 'nutritional value' of a range of burgers, as well as carrying out 'sensory evaluations' . From this, pupils design their own burger 'recipe' , communicating their intentions through 'exploded diagrams' . They select and use 'utensils' and 'equipment' to accurately 'measure' and 'combine' appropriate ingredients, 'shape a patty' and finally 'cook' their product. Pupils 'evaluate' their burger against their design specification, with the intended 'user' in mind.	When added to the knowledge that children gain in Years 4, 5 and 6 about preparing food safely and hygienically , pupils will leave school armed with specific examples of food preparation skills that lead to successful cooking. This unit also builds on the childrens' knowledge of healthy diets and prepares them to design and cook a recipe based on Fair Trade products in Year 6.
	Product: Burger as a new item on the school dinner menu		
	Research who invented the burger and investigate the impact of burgers on American culture		
	Research and analyse the nutritional value of various types of burgers		
	Choose a burger recipe according to sensory research		
	Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients		
	Evaluate the final product using a design specification		
Summer 2	Structure: A floating boat	Pupils research and consider the structure of a Viking Long Boat , including how it robustly sailed on rough seas for long distances. They design a floating structure based on the original style and consider how to best attach a sail and oars to promote movement. Pupils 'measure', 'mark out', 'cut' and 'shape' a range of materials, using appropriate tools, equipment and techniques. To complete their Viking Long Boat they 'join' and 'combine' materials. The boats are then tested to ensure they meet the design specifications.	This unit provides further consolidation of pupils cutting and joining skills and science knowledge of materials. This will provide pupils with the knowledge needed for the Year 6 prop design unit.
	Product: Viking Long Boat		
	Research the structure and materials used in a Viking Long Boat		
	Design a floating structure		
	Select appropriate tools and materials to build the structure		
	Build and create the boat, using accurate measuring and joining skills		
	Evaluate the final product using a design specification		

Year 6	Substantive Knowledge Content based around a Big Question	Recurring themes, ideas and language	Contribution on wider Design and Technology knowledge and what later content this prepares for
Autumn 2	<p>Textiles: Combining different fabric shapes</p> <p>Product: Cushion linked to 'Make Do and Mend' campaign of WW2</p> <p>Disassemble a cushion to investigate and evaluate how a cushion is made</p> <p>Communicate design ideas using a diagram and step by step planning</p> <p>Develop skills of threading a needle, joining textiles and using a range of stitches</p> <p>Select from and use a range of tools and equipment to make a cushion that is accurately assembled and well finished</p> <p>Evaluate the final product for functionality and aesthetics</p>	<p>This unit, to create a cushion, builds on sewing skills learned in Year 3: making a bag for a Bronze Age hunter gatherer. Having developed an understanding of 'Make Do and Mend' through work in history, pupils consider how to 'repurpose' and 'recycle materials'. Through focus tasks, they learn to 'measure' and 'cut fabric', 'pin', 'sew' and 'join' materials accurately using a variety of 'stitches'. They consider a range of ways of 'decorating' their cushion. Pupils evaluate their final product for 'functionality' and 'aesthetics'.</p>	<p>In KS3 children continue to design, make and evaluate. Through a variety of creative and practical activities, pupils are taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They work in a range of domestic and local contexts. This unit engages the fashion context.</p>
Spring 1	<p>Food: Understand the processes behind creating dishes showcasing Fair Trade produce</p> <p>Product: Make a dish based on Fair Trade Products</p> <p>Explore and make links to foods using different fair trade products</p> <p>Make choices about ingredients through evaluation and testing</p> <p>Use a variety of tools and equipment for spreading, grating and cutting</p>	<p>Pupils consolidate their understanding of recipe design and ingredient choice to research and create a dish which "heroes" Fair Trade produce and consider the impact on the farming communities that produce these products. Pupils research and design a recipe, making choices about ingredients though evaluation and testing. Using the skills gained throughout school they prepare the ingredients using a variety of tools and decide how best to cook the dish.</p>	<p>At KS3, as part of their work with food, pupils are 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</p>
Summer 2	Prop design		

<p>This unit is specifically related to the production. Some lessons will be edited when the production is finalised</p>	<p>Product: Create a prop for the end of year production</p>	<p>Building on the construction skills learned in year 1: Freestanding structures: Design, make and evaluate a chair suitable for a soft toy, Year 2: Wheels and Axles: Design, make and evaluate an ambulance which can move and Year 5: Joins to make a moon buggy, children are introduced to the design of props to be used as part of the end of year production. They will design and create their product, making conscious decisions about choices of structures and tools. Some pupils may wish to use knowledge of circuits and components within their props.</p>	<p>This unit prepares children for skills such as selecting from and using specialist tools, techniques, processes, equipment and machinery precisely. This also enables children to select from and use a wider, more complex range of materials taking into account their properties.</p>
	<p>Research the history of stage props</p>		
	<p>Prop design including materials choice and specific joins</p>		
	<p>Select from a range of tools and equipment to make a prop that is well assembled, robust, portable and well finished</p>		
	<p>Evaluate the final product for functionality and aesthetics</p>		