



Design & Technology Progression Overview

	Cooking and Nutrition	Mechanisms	Structures	Textiles	Electrical Systems	Digital World
Year 3	Eating Seasonally Spring 1	Pneumatic Toys Autumn 2	Castles Summer 1	Cross-stitch and appliqué Summer 2	-	Electronic Charms Spring 2
Year 4	Adapting a recipe Spring 2	Slingshot Cars Summer 1	Pavilions Summer 2	Fastenings Autumn 1	Torches Autumn 2	-
Year 5	Developing a recipe Summer 1	Pop-up Books Autumn 2	Bridges Autumn 1	-	Doodlers Summer 2	Monitoring Devices Spring 1
Year 6	Come Dine With Me Summer 2	Automata Toys Summer 1	Playgrounds Autumn 1	-	Steady-hand Games Spring 2	Navigating the World Autumn 2

Design & Technology National Curriculum Statements

Strand	Statement	National Curriculum Content
Design	DS1	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.
	DS2	Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design.
Make	MS1	Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.
	MS2	Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.
Evaluate	ES1	Investigate and analyse a range of existing products.
	ES2	Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
	ES3	Understand how key events and individuals in design and technology have helped shape the world.
Technical Knowledge	TS1	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
	TS2	Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages).
	TS3	Understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors).
	TS4	Apply their understanding of computing to program, monitor and control their products.
Food-specific statements	FS1	Understand and apply principles of a healthy and varied diet.
	FS2	Prepare and cook variety of predominantly savoury dishes using a range of cooking techniques.
	FS3	Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Please see the next page for the plan of where these statements will be covered in our curriculum.





Design & Technology Coverage Overview

	Unit Title	Design		Make		Evaluate			Technical Knowledge				Food-specific		
		DS1	DS2	MS1	MS2	ES1	ES2	ES3	TS1	TS2	TS3	TS4	FS1	FS2	FS3
Year 3	Autumn 2 Context: Pneumatic Toys	✓	✓	✓	✓	✓	✓	✓		✓					
	Spring 1 Context: Eating Seasonally		✓	✓	✓								✓	✓	✓
	Spring 2 Context: Electronic Charms														
	Summer 1 Context: Castles	✓	✓	✓	✓	✓	✓		✓						
	Summer 2 Context: Cross-stitch and appliqué ★	✓	✓	✓	✓		✓								
Year 4	Autumn 1 Context: Fastenings	✓	✓	✓	✓	✓	✓								
	Autumn 2 Context: Torches	✓	✓	✓	✓	✓	✓	✓			✓				
	Spring 2 Context: Adapting a Recipe ★	✓	✓	✓	✓	✓	✓							✓	
	Summer 1 Context: Making a Slingshot car	✓	✓	✓	✓	✓	✓	✓		✓					
	Summer 2 Context: Pavilions	✓	✓	✓	✓	✓	✓		✓						
Year 5	Autumn 1 Context: Bridges	✓	✓	✓	✓	✓	✓		✓						
	Autumn 2 Context: Pop-Up Book	✓	✓	✓	✓	✓	✓			✓					
	Spring 1 Context: Monitoring Devices ★	✓	✓				✓	✓	✓			✓			
	Summer 1 Context: Developing a recipe	✓	✓	✓	✓	✓	✓	✓				✓	✓	✓	✓
	Summer 2 Context: Doodlers	✓		✓		✓	✓		✓		✓				
Year 6	Autumn 1 Context: Playgrounds	✓	✓	✓	✓	✓	✓		✓						
	Autumn 2 Context: Navigating the World	✓	✓	✓			✓					✓			
	Spring 2 Context: Steady-hand Game	✓	✓	✓	✓	✓	✓	✓			✓				
	Summer 1 Context: Automata Toys	✓	✓	✓		✓	✓	✓		✓					
	Summer 2 Context: Come Dine With Me ★	✓	✓	✓	✓		✓						✓	✓	✓



★ Ambitious Learners

Every half term, the children participate in the Ranvilles SMSC 'Big Debate', which brings together threads from different curriculum subjects to create a line of enquiry, which, when evaluated by the children, strengthens and connects the children's knowledge and understanding. This star represents topics that would make a significant contribution to the 'Big Debate'.





Focus The contextual focus for the pupils' learning.	Purpose The importance of the topic in our curriculum.	Our SMSC 'Big Debate' Links <i>The purple 'Ambitious Learners' star illustrates where there are planned focus links to support the children's knowledge and understanding in exploring 'The Big Debate'.</i> 			
<u>Autumn 2</u> Context: Pneumatic Toys		In order to develop the children's knowledge and understanding in the purpose and actions of pneumatic systems, before applying this to their own design.		<i>Making a positive contribution in the world is your responsibility, not mine.</i>	
Step 1	Step 2	Step 3	Step 4		
To understand how pneumatic systems work.	To design a toy that uses a pneumatic system.	To create a pneumatic system.	To test and finalise ideas against design criteria.		
<u>Spring 1</u> Context: Eating Seasonally – seasonal tarts		In order to explore healthy lifestyle choices with a particular focus to healthy, seasonal ingredients, with the children testing out various toppings for their tart before creating their own healthy, seasonal dish.		<i>What we have achieved in this century is more significant than the past.</i>	
Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
To explain why food comes from different places around the world.	To explain the benefits of seasonal foods.	To develop cutting and peeling skills.	To evaluate seasonal ingredients.	To design a mock-up using criteria.	To evaluate a dish.
<u>Spring 2</u> Context: Electronic Charms Unit under review				<i>What is more important, physical, social, emotional or mental well-being?</i>	
Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
<u>Summer 1</u> Context: Castles		In order to develop the children's design and making skills in the context of castles, linking to their knowledge of 3D shape in maths.		<i>Embracing diversity enhances understanding and appreciation of the world.</i>	
Step 1	Step 2	Step 3	Step 4		
To recognise how multiple shapes (2D and 3D) are combined to form a strong and stable structure.	To design a castle.		To construct 3D nets.	To construct and evaluate my final product.	
<u>Summer 2</u> Context: Cross-stitch and appliqué Context: Egyptian collars 		In order for the children to use and apply their knowledge of Ancient Egyptian culture gained in the parallel history unit to use the skills of appliqué and cross-stitch to create a final product.		<i>I'm Ok – You're OK! Differences are good.</i>	
Step 1	Step 2		Step 3		Step 4
To learn how to sew cross-stitch and to appliqué.	To develop and use a template.		To assemble fabric parts into a fabric product.	To decorate fabric using appliqué and cross-stitch.	



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Year 4	<u>Autumn 1</u> Context: Fastenings – making a book sleeve	In order to develop the children's knowledge and understanding of fastenings for a practical, everyday purpose.	<i>Identity and self-worth are influenced more by change than by context and culture.</i>			
	Step 1	Step 2	Step 3	Step 4		
	To explain the advantages and disadvantages of different types of fastening type.	To design a product to meet design criteria. Context: my book sleeve	To make and test a paper template.	To assemble a book jacket.		
	<u>Autumn 2</u> Context: Torches	In order to develop the children's knowledge and understanding of the purpose of electrics and electrical devices, applying these successfully to their own product.	<i>Being powerful is more important than being different.</i>			
	Step 1	Step 2	Step 3	Step 4		
	To learn about electrical items and how they work.	To analyse and evaluate electrical products.	To design a product to fit a set of specific user needs.	To make and evaluate a torch.		
	<u>Spring 2</u> Context: Adapting a recipe – biscuits 	In order to develop an understanding in the importance of budgeting, and use this budget effectively to adapt a recipe for biscuits that suit the purpose.	<i>We have the right to learn from our mistakes without being judged.</i>			
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
	To make and evaluate a torch.	To prepare and cook a dish.	To select ingredients and follow a budget.	To take inspiration from existing products.	To make and test a prototype biscuit.	To evaluate a final product.
	<u>Summer 1</u> Context: Making a Slingshot Car	In order to use and apply the children's knowledge of forces to design and assemble a successful and speedy slingshot car.	<i>Our behaviour should always positively reflect how we value others.</i>			
	Step 1	Step 2	Step 3	Step 4		
	To build a car chassis.	To design a shape that reduces air resistance.	To make a model based on a chosen design.	To assemble and test my completed product.		
<u>Summer 2</u> Context: Pavilions	In order to give the children knowledge and experience in designing and creating a structure / frame and express themselves as individuals according to the pavilion they create.	<i>We are all responsible for our environment and natural world to ensure lives are impacted positively.</i>				
Step 1	Step 2	Step 3	Step 4			
To create a range of different shaped frame structures.	To design a structure.	To build a frame structure.	To add cladding to a frame structure.			



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Year 5	<u>Autumn 1</u> Context: Bridges	In order to build on the children's knowledge regarding structure through increasing complexity to build simple truss bridges that can support a weight.	<i>Belonging - we should all be free to move between countries.</i>			
	Step 1	Step 2	Step 3	Step 4		
	To explore how to reinforce a beam (structure) to improve its strength.	To build a spaghetti truss bridge.	To build a wooden truss bridge.	To complete, reinforce and evaluate my truss bridge.		
	<u>Autumn 2</u> Context: Pop-up Book	In order for the children to express their own individuality and interests through the creation of their own, unique pop-up book.	<i>Being remembered for making a difference is more important than making a difference.</i>			
	Step 1	Step 2	Step 3	Step 4		
	To design a pop-up book.	To follow my design brief to make my pop up book.	To use layers and spacers to cover the working of mechanisms.	To create a high-quality product suitable for a target user.		
	<u>Spring 1</u> Context: Monitoring Devices 	In order to give the children an introduction to computer-aided design (CAD), where children can express their own interests and design simple CAD products.	<i>Making a difference to the world is critical for the future.</i>			
	Step 1	Step 2	Step 3	Step 4		
	To carry out research to develop design criteria.	To write a program to monitor the ambient temperature, including an alert.	To generate creative and unique microbit case, stand or housing ideas.	To learn about and practise 3D CAD skills.		
	<u>Summer 1</u> Context: Developing a recipe – spaghetti bolognese	In order to give the children knowledge and experience in the design process for a food product, including recipe adaptations, preparing the ingredients, making the product and developing appropriate branding / labelling.	<i>Being financially safe is just as important as being emotionally safe.</i>			
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
	To understand how ingredients are reared and processed.	To make adaptations to design a recipe.	To evaluate nutritional content.	To practise food preparation skills.	To design a product label.	To follow and make an adapted recipe.
	<u>Summer 2</u> Context: Doodlers	In order to develop a doodler, powered by an electrical circuit that children have designed, to create a unique product based on their own interests.	<i>Learning together and from our mistakes leads to significant personal growth.</i>			
	Step 1	Step 2	Step 3	Step 4		
To understand how motors are used in electrical products.	To investigate an existing product to determine the factors that affect the product's form and function.	To apply the findings from research to develop a unique product.	To develop a DIY kit for another individual to assemble their product.			



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Year 6	<u>Autumn 1</u> Context: Playgrounds	In order to express their own interests and personalities through the design and creation of a miniature playground, using and applying the children's knowledge of structure to a range of purposes.	<i>It is important that some personal information is in the public domain.</i>			
	Step 1	Step 2	Step 3	Step 4		
	To design a playground with a variety of structures.	To build a range of structures.	To improve and add detail to structures.	To create a surrounding landscape.		
	<u>Autumn 2</u> Context: Navigating the World	Building on from their introduction to Computer Aided Design (CAD) in Year 5, children research, design and create a CAD product to navigate the world in their own style, expressing their own interests and personalities.	<i>Change always has a positive impact.</i>			
	Step 1	Step 2	Step 3	Step 4	Step 5	
	To write a design brief and criteria based on a client request.	To write a program to include multiple functions as part of a navigation device.	To develop a sustainable product concept.	To develop 3D CAD skills to produce a virtual model.	To present a pitch to 'sell' the product to a specified client.	
	<u>Spring 2</u> Context: Steady-Hand Game	In order to use and apply the children's knowledge of electrical systems to design and create their own steady-hand game.	<i>Together we can make our world more sustainable for everyone.</i>			
	Step 1	Step 2	Step 3	Step 4		
	To research and analyse a range of children's toys.	To design a steady hand game.	To construct a stable base.	To assemble electronics and complete their electronic game.		
	<u>Summer 1</u> Context: Automata Toys – cam toys	In order to use and apply the children's knowledge of frames and structures and taking it a step further by using cams to create an automata toy, whereby elements of the toy move, rise or fall based on the design of the cam.	<i>Fair trade is fair.</i>			
	Step 1	Step 2	Step 3	Step 4		
	To prepare wood for assembly by measuring, marking and cutting each piece.	To assemble the automata frame components and supports with the help of an exploded diagram.	To explore the relationship between cam profiles and follower movement to inform a design decision.	To apply the housing and finishing touches to the automata frame.		
<u>Summer 2</u> Context: Come Dine With Me 	In order to use and apply the children's knowledge of cooking and hygiene throughout Key Stage 2, children will design and create their own three-course meal with healthy ingredients.	<i>Every individual can leave a positive legacy.</i>				
Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	
To explain the use of complementary flavours.	To research and design a three-course meal.	To explain recipe choices.	To apply culinary skills and knowledge. Context: starters	To apply culinary skills and knowledge. Context: main	To apply culinary skills and knowledge. Context: dessert	