



SANDY LANE PRIMARY SCHOOL

DESIGN AND TECHNOLOGY CURRICULUM



Designing



Making



Evaluating



Technical
Knowledge



Textiles



Cooking &
Nutrition

Intent

Design and Technology is the marrying of both problem-solving thought process and practical skills. At Sandy Lane Primary School, children are given opportunities to develop both of these abilities in a variety of contexts. Children learn to think about and to solve problems, both as individuals and as part of a team and while doing so they develop practical, technical and creative skills.

Our pupils will be designers. They will explore their ideas within a variety of contexts, considering their own and others' needs, wants and values and the practical applications of their designs in a learning environment where it is safe to experiment, safe to fail, re-design and improve. To do this, children will select appropriate tools, technologies and materials, test and evaluate their own and others' work, reflect on how outcomes could be improved, learn about the importance of nutrition, food hygiene and safety and understand how design and technology has shaped the world we live in.

Children receive high quality academic learning experiences which is enriched with our 'Pupil Offer' which provides many rich and relevant experiences beyond the classroom.

Implementation

Our D&T curriculum is delivered through a well-structured, progressive scheme of work that ensures continuity and progression in knowledge, skills, and understanding. We use a spiral curriculum on a two-year rolling programme, allowing children to revisit key concepts while developing increasing levels of mastery. Teaching follows the iterative design process of research, planning, designing, making, and evaluating, fostering resilience, critical thinking, and problem-solving skills.

D&T is taught in a cross-curricular manner where appropriate, ensuring strong links with science, mathematics, computing, and art. Through this approach, children apply their knowledge to real-world contexts, enhancing their understanding and engagement.

Children experience a broad range of D&T projects, covering:

- Mechanisms and mechanical systems
- Structures and materials
- Electrical systems
- Textiles
- Cooking and nutrition

Each unit is carefully planned to develop technical knowledge, hands-on skills, and evaluative thinking. We provide opportunities for children to use a variety of tools, materials, and techniques safely and effectively, promoting independence and confidence in their practical abilities.

Impact

At the end of each phase pupils will have had the opportunity to develop all of our design technology concepts, embedding and developing the skills within these concepts throughout the years. Children look forward to 'Magic Mondays'; it is seen as a high profile and important part of our school week. They are proud of their design work and their sketch books and are able to talk about the progress they have made using their sketch books to help them. They place value on the whole process of developing skills and knowledge in Magic Mondays and not just the finished high-quality final product. Children are reflective designers and are open and accepting of ways they can improve their work through evaluating both their own designs/products of others. We want our children to become resilient with their technology work but also take risks and experiment with different techniques that could be used. Children will develop their own preferences of different ways products can be produced and be able to give reasons for using different techniques for different reasons using their developing technical vocabulary. Children will have developed knowledge of a broad range of crafts people and designers and be able to discuss work produced by them. High quality comes are displayed proudly around school. Teachers assess children's learning in every lesson and give feedback, support and challenge where appropriate. Design Technology is discussed in Phase and Leadership Curriculum Impact Meetings and parents are kept informed of their child's progress at parents' evenings, through school reports and work is celebrated through School Ping.

PROGRESSION

Progression Map

The Sandy Lane Primary School Design and Technology progression map outlines the key knowledge, skills, and vocabulary that children develop in Design and Technology from Key Stage 1 through Lower Key Stage 2 and Upper Key Stage 2 . It ensures a structured approach to designing, making, evaluating, and applying technical knowledge over time.

Progression Overview

1. KS1: Focuses on exploration and basic making skills. Children begin designing simple products, exploring materials, and understanding basic mechanisms.
2. LKS2: Introduces more purposeful designing and making, with increasing accuracy in measurement, cutting, and joining. Pupils explore electrical components and food preparation.
3. UKS2: Encourages independence and technical accuracy, incorporating mechanisms, electrical systems, and sustainable materials. Pupils apply more critical evaluation skills and may use digital design tools.

Our structured progression ensures that pupils develop the skills, creativity, and knowledge to become confident and resourceful problem-solvers, preparing them for secondary school and real-world applications of Design and Technology.

Vocabulary Progression



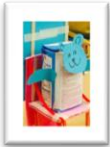







Vocabulary progression: Vocabulary progression supports our pupils to develop a deeper understanding of D&T concepts, allowing them to express their ideas confidently and apply knowledge effectively in practical activities.


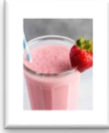







Strand	KS1	Vocabulary	LKS2	Vocabulary	UKS2	Vocabulary
Designing	<ul style="list-style-type: none"> - Generate ideas based on simple criteria. - Draw or model their ideas using basic techniques (e.g., sketches, templates). - Describe what they want to create and how it works. 	<i>idea, plan, draw, label, template, model</i>	<ul style="list-style-type: none"> - Develop designs with a purpose and user in mind. - Use annotated sketches, diagrams, and prototypes to communicate ideas. - Research existing products for inspiration. 	<i>purpose, user, criteria, evaluate, refine, prototype, sketch</i>	<ul style="list-style-type: none"> - Create detailed and functional designs - Use technical drawings and cross-sectional diagrams. - Justify design choices based on function, aesthetics, and sustainability. 	<i>annotated diagram, cross-section, modification, specification, CAD (Computer-Aided Design)</i>
Making	<ul style="list-style-type: none"> - Select from a range of materials and tools. - Use simple cutting, shaping, and joining techniques. - Follow basic safety rules when handling tools. 	<i>cut, join, attach, fold, bend, fix, tools, materials, shape</i>	<ul style="list-style-type: none"> - Choose appropriate tools and materials based on function. - Measure, cut, and join materials accurately. - Begin to incorporate mechanical and 	<i>measure, accuracy, saw, file, drill, fasten, reinforce, mechanism</i>	<ul style="list-style-type: none"> - Work with precision and accuracy. - Use a wider range of materials (e.g., textiles, electrical components, mechanisms). - Apply advanced skills like reinforced 	<i>Making: precision, components, solder, structure, durable, sustainable, mechanism, textile, reinforce</i>

			electrical components.		joins and more complex structures.	
Evaluating	<ul style="list-style-type: none"> - Talk about their product and how it works. - Identify what went well and suggest improvements. 	<i>Evaluating: like, improve, test, change, strong, weak</i>	<p>Compare their work to existing products.</p> <ul style="list-style-type: none"> - Test and refine their designs based on feedback. - Consider how well their product meets the original purpose. 	<i>analyse, compare, improve, function, product, design process</i>	<ul style="list-style-type: none"> - Critically analyse their own and others work. - Suggest refinements to improve functionality, aesthetics, and sustainability. - Evaluate products based on durability, efficiency, and cost-effectiveness. 	<i>Evaluating: aesthetic, efficiency, durability, prototype, critique, consumer, ergonomic, ethical</i>
Technical Knowledge	<ul style="list-style-type: none"> - Understand simple structures and how they can be made stronger. - Explore how wheels, axles, and hinges work. - Know that some materials are stronger or more flexible than others. 	<i>wheels, axles, hinge, structure, stable, build, materials</i>	<ul style="list-style-type: none"> - Understand and use simple mechanisms (e.g., levers, sliders, gears, pulleys). - Explore electrical systems (e.g., simple circuits in models). 	<i>lever, pulley, gear, circuit, electrical, conduct, insulate, frame, tension</i>	<ul style="list-style-type: none"> - Apply knowledge of mechanical and electrical systems to design complex models. - Use computer-aided design (CAD) where appropriate. - Understand how structures and materials impact sustainability. 	<i>Technical Knowledge: circuit, motor, electrical system, hydraulic, pneumatic, renewable, biodegradable</i>
Textiles	Use simple techniques like	<i>Cut, glue, weave, fabric</i>	Sew simple stitches to join materials.	<i>weave, sew, stitch, thread, needle</i>	Use advanced stitching techniques and decorative	<i>Design, decorate, running stitch</i>

	weaving, cutting, and gluing fabric				elements in textile designs.	
Cooking & Nutrition	<ul style="list-style-type: none"> - Identify where food comes from. - Use basic food preparation techniques (e.g., cutting, mixing). - Understand the importance of hygiene in cooking. 	<i>ingredients, mix, cut, chop, healthy, taste, smell, grow</i>	<ul style="list-style-type: none"> - Understand seasonality and food sources. - Follow recipes and measure ingredients accurately. - Explain the benefits of a balanced diet. 	<i>balanced diet, seasonality, fresh, processed, source, portion, nutrients</i>	<ul style="list-style-type: none"> - Adapt recipes for different dietary needs. - Understand food processing and its impact on health and sustainability. - Experiment with cooking techniques and flavour combinations. 	<i>allergens, food groups, preservation, metabolism, fortification, sustainability, organic</i>

LONG TERM OVERVIEW

YEAR A	Autumn		Spring		summer
KS1	<p>Mechanisms Design and make a pull along toy: How do you make a moving vehicle?</p> 		<p>Textiles Make a puppet – Textiles What makes a puppet move?</p> 		<p>Structures Making baby bears chair – Structure and building? Can you make a string chair for baby bear?</p> 
LKS2	<p>Cooking and Nutrition Healthy winter soup What makes soup healthy?</p> 		<p>Textiles Sewing a travel pouch for Greece Will my pouch keep my money safe?</p> 		<p>Structures 3D shoebox Diorama Making Bolton Abbey</p> 
UKS2	<p>Mountains David Casper Friedrich Textiles and Stitching</p> 		<p>Alberto Giacometti Anatomy Sculpture</p> 	<p>Viking Longboats Levers, pulleys and gears</p> 	<p>Islamic Food Cooking and Nutrition</p> 

YEAR B	Autumn		Spring	summer
KS1	<p>Mechanisms Make a moving monster – Fixing and fastenings Can you make your monster move?</p> 		<p>Cooking and Nutrition Make a smoothie What would be your perfect smoothie?</p> 	<p>Structures Making a lighthouse – Structures How would you light a lighthouse?</p> 
LKS2	<p>Mechanisms Pneumatic Structures Saltaire Mill Moving Chimney</p> 			<p>Textiles Simple sampler with numerals of age</p>  <p>Cooking and Nutrition Roman picnic/ Mediterranean diet</p> 
UKS2	<p>Rockets Design, make, evaluate</p> 	<p>Scrappy Quilts Textiles</p> 		<p>Death Masks</p> 

ASSESSMENTS

KSI	WTS	%	EXS	%	GDS	%
Designing	Needs adult guidance to generate basic ideas and describe purpose.		Develops simple ideas from given criteria and can describe who the product is for.		Independently generates creative ideas and explains their purpose in detail.	
Making	Selects materials with help; needs support with cutting and joining.		Uses simple tools safely and assembles materials with basic techniques.		Works independently, selecting appropriate tools and making neat, functional products.	
Evaluating	Describes likes and dislikes but struggles to suggest improvements.		Evaluates finished work against simple criteria and suggests changes.		Gives detailed evaluations, considering function and improvements based on feedback.	
Technical Knowledge	Constructs simple models with support but lacks stability. Uses sliders and levers with help.		Builds simple structures with an understanding of how to strengthen them. Uses simple mechanisms (e.g., wheels, sliders, levers) to create movement.		Creates well-structured models using various strengthening techniques. Combines mechanisms creatively and explains their function in designs.	
Textiles	Joins fabrics using glue or basic stitches but needs guidance.		Uses simple stitches (e.g., running stitch) to join fabrics securely.		Demonstrates increasing accuracy in stitching and fabric joining.	

Cooking and Nutrition	Identifies basic foods but needs support when preparing food.		Prepares simple dishes and understands the importance of healthy eating.		Explains food groups and makes choices based on nutrition and taste	
LKS2	WTS	%	EXS	%	GDS	%
Designing	Generates ideas with help but struggles to explain reasoning.		Develops clear design ideas using sketches and models, considering the user.		Creates detailed plans, incorporating research and a strong understanding of user needs.	
Making	Uses tools with some support; joins materials but lacks precision.		Selects appropriate tools and materials, assembling with increasing accuracy.		Uses a range of materials confidently, ensuring precision and high-quality finishes.	
Evaluating	Gives basic evaluations but struggles to link to product function.		Evaluates designs against criteria, suggesting improvements.		Critically evaluates and refines designs, testing and adjusting as needed.	
Technical Knowledge	Builds simple structures but struggles to reinforce them. Uses simple linkages but struggles with precision. Builds basic circuits with errors.		Strengthens structures using techniques like folding, layering, and joining. Creates moving models using linkages, levers, and pivots. Creates circuits using bulbs and buzzers, understanding open/closed circuits.		Designs and builds strong, stable structures with well-thought-out reinforcement. Applies mechanical systems to solve functional problems in designs. Incorporates circuits effectively into designs and explains how they work.	
Textiles	Uses basic stitches but struggles with neatness.		Uses a variety of stitches (e.g., backstitch, overstitch) to join fabric securely.		Creates well-constructed textile products, showing accuracy in stitching and design.	

Cooking and Nutrition	Follows a simple recipe but needs guidance in technique.		Uses a range of techniques to prepare food and understands nutrition.		Adapts recipes for specific dietary needs and explains the impact of food choices.	
KS2	WTS	%	EXS	%	GDS	%
Designing	Struggles to generate original ideas and needs support to plan.		Develops innovative ideas based on research and explains design decisions.		Produces highly detailed design plans, incorporating user needs and real-world considerations.	
Making	Uses tools and materials but lacks accuracy in assembly and finish.		Selects and uses tools with precision, producing functional products.		Demonstrates high-level craftsmanship, ensuring quality and attention to detail.	
Evaluating	Evaluates work but struggles to justify changes and improvements.		Tests and refines designs, considering function, aesthetics, and sustainability.		Justifies design choices with research, refining products based on thorough evaluation.	
Technical Knowledge	Constructs basic frameworks but struggles to make them stable. Uses gears and pulleys with errors. Uses basic circuits but struggles with troubleshooting.		Designs and builds strong structures, applying scientific principles. Applies gears, pulleys, and cams effectively in designs. Integrates circuits with switches, motors, and LEDs.		Creates innovative structures using engineering techniques and advanced materials. Designs complex mechanical systems with precision, incorporating multiple components. Designs and constructs advanced circuits, applying knowledge of voltage and resistance.	
Textiles	Joins fabrics but struggles with accuracy in cutting and sewing.		Uses patterns, a range of stitches, and finishing techniques.		Designs and produces high-quality textile products, showing attention to detail.	

Cooking and Nutrition	Prepares food but struggles with consistency and explanation.		Plans and prepares dishes with a strong understanding of seasonality and sustainability.		Designs and adapts recipes with confidence, understanding food science principles.	
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