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Sandy Lane Primary School

Design and Technology Curriculum



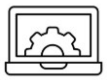
Designing



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 be 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

EYFS: Children begin by exploring materials, tools, and simple construction through play, developing early design thinking, creativity, and fine motor skills.

KS1: Focuses on exploration and basic making skills. Children begin designing simple products, exploring materials, and understanding basic mechanisms.

LKS2: Introduces more purposeful designing and making, with increasing accuracy in measurement, cutting, and joining. Pupils explore electrical components and food preparation.

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.

	EYFS ELG:
Expressive Arts and Design: Creating with Materials. Physical Development: Fine Motor	Children at the expected standard can: • safely explore and use a variety of materials, tools and techniques to create their own models and products. • talk about their ideas, choose appropriate materials, and explain how they have made their creation. • use a range of small tools, such as scissors, glue spreaders and utensils, with increasing control and coordination. to share and describe what they have made, explaining the process used and beginning to suggest simple improvements to their work.

Skills

Progression Overview	In EYFS, Design and Technology skills develop through exploration, play and purposeful making within continuous provision. Children begin by exploring a range of materials and construction resources, learning how to manipulate and join them using simple tools such as scissors, glue and tape. As they gain confidence, they begin to plan what they want to create, selecting materials with a purpose and explaining their ideas. Through opportunities such as junk modelling, construction play and simple cooking activities, children develop their ability to design, make and talk about their creations. By the end of Reception, children are able to independently create models using a range of materials, explain how they made them and begin to evaluate what they have done, suggesting simple improvements. These early experiences build the foundation for the structured design–make–evaluate process that pupils will develop further in Key Stage 1.	
Vocabulary Progression	Vocabulary in EYFS Design and Technology develops from simple action-based language to more specific design and evaluation terms. Initially, children use basic words related to making and building such as build, make, cut and stick. As they engage more frequently with construction and creative activities, they begin to use words that describe materials and processes such as join, materials, structure and design. Adults model and reinforce this vocabulary during play, encouraging children to explain their ideas and describe how their models work. By the end of Reception, children are introduced to more reflective and descriptive vocabulary including plan, improve, stable and ingredients during cooking and modelling activities. This progression supports children in articulating their ideas and prepares them for the more formal technical vocabulary used in Design and Technology in Key Stage 1.	
Strand	Provision	Vocabulary
Design	-Drawing and planning models in the creative area -Designing models before junk modelling -Talking about what they want to make -Small world and construction planning	design, plan, idea, choose, build, make, materials, create
Make	-Junk modelling station -Construction blocks, Lego, clever sticks, hexeflex -Using scissors, glue, tape, hole punches	cut, stick, join, tape, glue, fold, attach, build, fix

	-Building models with different joining techniques	
Evaluate	-Talking about finished models during carpet time -Adult questioning during play -Peer discussions about creations -Show and tell for models	like, improve, change, better, strong, works, better next time
Technical Knowledge	-Exploring wheeled toys and vehicles -Building bridges and towers -Investigating hinges, sliders, wheels -Water and sand structures	wheel, turn, move, push, pull, stay, balance, model
Cooking and Nutrition	-Tasting different flavours -Touching/smelling/tasting a variety of foods -Making fruit salads, sandwiches, wraps, smoothies -Mixing ingredients -Exploring healthy foods	mix, chop, spread, cut, healthy, fruit, vegetables, ingredients

Strand	KS1	Vocabulary	LKS2	Vocabulary	UKS2	Vocabulary
Designing	- Generate ideas based on simple criteria.	idea, plan, draw, label,	- Develop designs with a purpose and user in mind.	purpose, user, criteria,	- Create detailed and functional designs	annotated diagram,

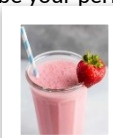
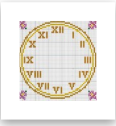
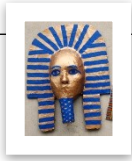
	- Draw or model their ideas using basic techniques (e.g., sketches, templates). -Describe what they want to create and how it works.	template, model	- Use annotated sketches, diagrams, and prototypes to communicate ideas. -Research existing products for inspiration.	evaluate, refine, prototype, sketch	- Use technical drawings and cross-sectional diagrams. - Justify design choices based on function, aesthetics, and sustainability.	cross-section, modification, specification, CAD (Computer-Aided Design)
Making	- Select from a range of materials and tools. - Use simple cutting, shaping, and joining techniques. - Follow basic safety rules when handling tools.	cut, join, attach, fold, bend, fix, tools, materials, shape	- Choose appropriate tools and materials based on function. - Measure, cut, and join materials accurately. - Begin to incorporate mechanical and electrical components.	measure, accuracy, saw, file, drill, fasten, reinforce, mechanism	- Work with precision and accuracy. - Use a wider range of materials (e.g., textiles, electrical components, mechanisms). - Apply advanced skills like reinforced joins and more complex structures.	Making: precision, components, solder, structure, durable, sustainable, mechanism, textile, reinforce
Evaluating	- Talk about their product and how it works. - Identify what went well and suggest improvements.	Evaluating: like, improve, test, change, strong, weak	Compare their work to existing products. - Test and refine their designs based on feedback. - Consider how well their product meets	analyse, compare, improve, function, product, design	- Critically analyse their own and others work. - Suggest refinements to improve functionality, aesthetics, and	Evaluating: aesthetic, efficiency, durability, prototype, critique,

			the original purpose.	process	sustainability. - Evaluate products based on durability, efficiency, and cost-effectiveness.	consumer, ergonomic, ethical
Technical Knowledge	- 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.	wheels, axles, hinge, structure, stable, build, materials	-Understand and use simple mechanisms (e.g., levers, sliders, gears, pulleys). - Explore electrical systems (e.g., simple circuits in models).	lever, pulley, gear, circuit, electrical, conduct, insulate, frame, tension	- 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.	Technical Knowledge: circuit, motor, electrical system, hydraulic, pneumatic, renewable, biodegradable
Textiles	Use simple techniques like weaving, cutting, and gluing fabric	Cut, glue, weave, fabric	Sew simple stitches to join materials.	weave, sew, stitch, thread, needle	Use advanced stitching techniques and decorative elements in textile designs.	Design, decorate, running stitch
Cooking & Nutrition	- Identify where food comes from. - Use basic food preparation techniques (e.g., cutting, mixing).	ingredients, mix, cut, chop, healthy,	- Understand seasonality and food sources. - Follow recipes and measure ingredients	balanced diet, seasonality, fresh,	- Adapt recipes for different dietary needs. - Understand food processing and its impact on health	allergens, food groups, preservation, metabolism,

	- Understand the importance of hygiene in cooking.	taste, smell, grow	accurately. - Explain the benefits of a balanced diet.	processed, source, portion, nutrients	and sustainability. - Experiment with cooking techniques and flavour combinations.	fortification, sustainability , organic

Long Term Overview

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

	David Casper Friedrich Textiles and Stitching 		Anatomy Sculpture 	Levers, pulleys and gears 	Cooking and Nutrition 
Year b	Autumn		Spring		summer
KS1	**Mechanisms** Make a moving monster – Fixing and fastenings Can you make your monster move? 		**Cooking and Nutrition** Make a smoothie What would be your perfect smoothie? 		Structures Making a lighthouse – Structures How would you light a lighthouse? 
LKS2	**Mechanisms** Pneumatic Structures Saltaire Mill Moving Chimney 				**Textiles** Simple sampler with numerals of age  **Cooking and Nutrition** Roman picnic/ Mediterranean diet 
UKS2	Rockets Design, make, evaluate	Scrappy Quilts Textiles			Death Masks 

Assessments

KS1	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.		Creates well-structured models using various strengthening techniques. Combines mechanisms creatively and explains their function in designs.	

			Uses simple mechanisms (e.g., wheels, sliders, levers) to create movement.			
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.		Strengthens structures using techniques like folding, layering, and joining. Creates moving models using linkages, levers, and pivots.		Designs and builds strong, stable structures with well-thought-out reinforcement. Applies mechanical systems to solve functional problems in designs.	

	Builds basic circuits with errors.		Creates circuits using bulbs and buzzers, understanding open/closed circuits.		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.		Designs and builds strong structures, applying scientific principles. Applies gears, pulleys, and cams effectively in designs.		Creates innovative structures using engineering techniques and advanced materials. Designs complex mechanical systems with precision,	

	Uses basic circuits but struggles with troubleshooting.		Integrates circuits with switches, motors, and LEDs.		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.	