DESIGN & TECHNOLOGY

Our curriculum Champions have been created to inspire and motivate the children to find out more and be interested in Design and Technology. The champion for Design and Technology is Technologist Tia and she is seen around school on displays and in curriculum assemblies.

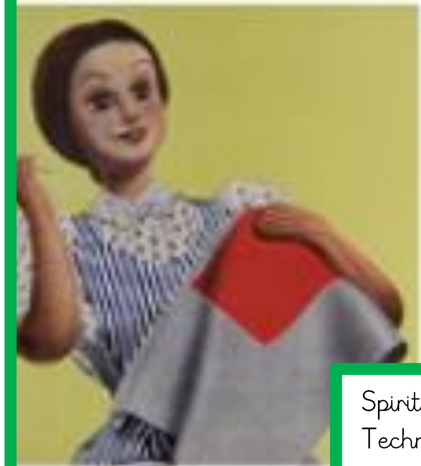
Intent

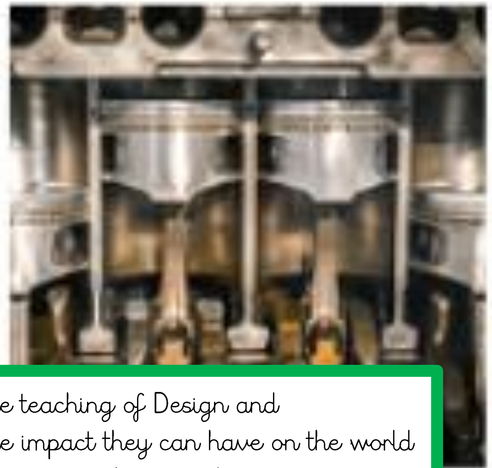
It is the intent of Cawston Grange Primary School for Design and Technology to be an inspiring, creative subject that prepares children for the rapidly changing world around them. From opportunities to take risks, design, create and evaluate their products in the Early Years Foundation Stage, to developing these skills and knowledge even further in KS1 and KS2. We intend for all children to combine their technical and practical skills with an understanding of aesthetic, social and environmental issues when creating a purposeful product for a particular person or group. By providing a rich curriculum that includes diverse designers, creators and products from multiple different places around the world, our pupils will gain a deep understanding and respect for a wide variety of cultures. Children are encouraged to draw on their knowledge of literacy, mathematics, science, computing, art and their understanding of the world around them to select and use appropriate materials and techniques in designing and making their products. As we live in a diverse and ever-changing world, our Design and Technology projects allow children to be creative and reflective thinkers when designing products that can make an impact on their own lives and the lives of people within their community.

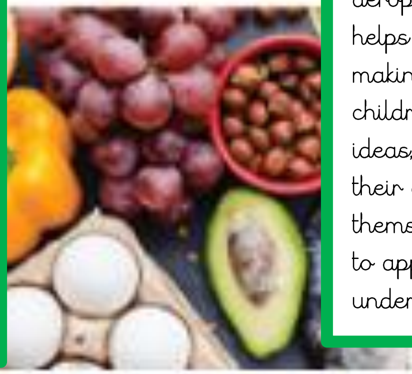
Implementation

In the Foundation Stage, pupils explore Design and Technology through the Expressive Arts and Design and Physical Development strands of the Early Learning Goals (ELGs), delivered through the Cornerstones curriculum. Children are given rich, practical opportunities to develop their curiosity and problem-solving skills as they explore different materials, tools, and construction techniques. Through hands on experiences, they begin to investigate how things are made, how they work, and how they can be improved. The Cornerstones projects support children in designing, building, and evaluating simple structures and models, encouraging creativity, resilience, and early technical understanding—laying a strong foundation for progression in Design and Technology throughout their primary education.

In Key Stage 1 and 2, the school uses the National Curriculum and Cornerstones as the basis of its curriculum planning. We use Cornerstones to ensure progression and coverage of skills and knowledge, ensuring that all children can and do make progress. Teachers are encouraged to adapt lessons to meet the needs of their cohort and add bespoke lessons using their own creativity and teaching ideas.







Spiritual, Moral, Social and Cultural Development – The teaching of Design and Technology projects allow children to really consider the impact they can have on the world around them. Everything man-made has been designed, from toothpaste tubes to aeroplanes. This gives pupils every-day context and purpose for their D&T projects, which helps them to take pride in their work and understand the value of analysing, designing, making and evaluating a product. D&T schemes of work are usually designed to support children's social development as they can work as part of a team, collaborating, sharing ideas, and learning to respect other people's ideas. Pupils also are taught about respecting their community, environment and wider world, including taking responsibility for safety of themselves and others. Through a wide range of D&T projects and contexts, children learn to appreciate the value of differences and similarities between cultures, and develop an understanding of the needs of individuals and larger groups.

British Values

Our teaching of Design and Technology actively promotes British values by encouraging pupils to think creatively, work collaboratively, and respect the ideas and contributions of others. Through designing and making products for real purposes and users, children learn to take responsibility for their own work, consider the needs of others, and reflect on the impact of their designs. They explore the work of a diverse range of designers and inventors from the UK and around the world, developing an appreciation of innovation, heritage, and cultural diversity. DT lessons provide opportunities for pupils to make choices, solve problems, and evaluate outcomes, supporting the development of individual liberty, mutual respect, and tolerance. By working in teams and taking on different roles, pupils gain an understanding of cooperation and fairness—key principles within a democratic society.

Enrichment opportunities

These opportunities are carefully mapped out so that children regularly experience trips or visits linked to the Design and Technology Curriculum. These experiences allow children to delve deeper into a topic area, therefore broadening their knowledge and understanding.









Impact

The most effective way of assessing children's work in Design and Technology is through formative assessments during the D&T lessons. We assess by making informal judgements as we observe and discuss technical concepts with them during lessons. During all stages of the D&T process, teachers ask questions to deepen pupils' learning and encourage them to evaluate their designs/creations throughout each stage, not only at the end of a scheme of work. Marking of work should be purposeful and informative for the individual child about how well they are doing in D&T and what they need to do to progress further. Each class teacher will refer regularly to the knowledge organisers, giving children time to read them and test their own knowledge and use of vocabulary. Each year group has a set of sticky knowledge questions to be asked frequently to ensure that this knowledge sticks. Teachers will create their own knowledge organiser / sticky knowledge quizzes. Teachers will adapt their questioning for different abilities, using Walk Thru techniques in order to question and assess all children.

Teachers will add each Design and Technology lesson (whether this be a Cornerstones lesson or Teacher created lesson) to the Cornerstones timetable. At the end of each lesson, they will select that the lesson has been taught. This then allows the subject champion to check coverage and progression of what has been taught throughout the school.

Teachers can use the Knowledge and Skills criteria in Cornerstones to assess children working at, below and above the stages expected stage for their Year group. Children's annual school reports indicate the attainment that children have made each year.

The design and technology projects are well sequenced to provide a coherent subject scheme that develops children's designing, planning, making and evaluating skills. Each project is based around a design and technology subject focus of structures, mechanisms, cooking and nutrition or textiles. The design and technology curriculum's electronic systems and IT monitoring and control elements are explicitly taught in our science projects to ensure the links between the subjects are highlighted. Where possible, meaningful links to other areas of the curriculum have been made. For example, the cooking and nutrition project Eat the Seasons is taught alongside the geography project Sow, Grow and Farm. All the projects follow a structure where children are introduced to key concepts and build up knowledge and skills over time, using a more comprehensive range of equipment and building, cutting, joining, finishing and cooking techniques as they progress through school. All projects contain focused, practical tasks in the Develop stage to help children gain the knowledge and skills needed to complete their Innovate tasks independently. Throughout Key Stages 1 and 2, children build up their knowledge and understanding of the iterative design process. They design, make, test and evaluate their products to match specific design criteria and ensure they fit their purpose. Throughout the projects, children are taught to work hygienically and safely.

EYFS

The DT curriculum begins as soon as the children start school in the EYFS. Learning in DT links to the EYFS Statutory Educational Programme: Expressive Art and Design. The activities and enhanced provision in our early years curriculum provide children with the opportunity to construct and create with a range of materials. They are encouraged to work collaboratively and use a range of small and large-scale construction kits to create models. They are introduced to a range of joining techniques throughout Reception, and various projects provide the opportunity to explore products to inspire their own designs. Through the curriculum, they build essential knowledge and understanding that they will apply in DT in KS1.

Key Stage 1

In the autumn term of Year 1, children begin to learn about structures in the project Shade and Shelter before designing and making a shelter. In the spring term project Taxi! they learn the term 'mechanism' and assemble and test wheels and axles. In the summer term, children begin to learn about food sources in the project Chop, Slice and Mash and use simple preparation techniques to create a supermarket sandwich. In the autumn term of Year 2, children learn more about food in the project Remarkable Recipes, where they find out about food sources, follow recipes and learn simple cooking techniques. In the spring term project Beach Hut, children develop their knowledge of structures further, learning to cut, join and strengthen wood for the first time. In the summer term, children begin to develop their understanding of textiles in Cut, Stitch and Join. They learn to sew a simple running stitch, use pattern pieces and add simple embellishments. They also continue to learn about mechanisms in the project Push and Pull by using sliders, levers and linkages in products.

Lower Key Stage 2

In the autumn term of Year 3, children continue to learn about food, understanding the concept of a balanced diet and making healthy meals in the project Cook Well, Eatwell. In the spring term project Making it Move, children extend their understanding of mechanisms by exploring cams and using joining and finishing techniques to make automaton toys. In the summer term project Greenhouse, they continue to develop their knowledge of structures, using triangles and braces for strength. They design and build a greenhouse, using their understanding of opacity and transparency and the needs of plants from science learning to inform their design.

In the autumn term of Year 4, children continue to develop their understanding of food in the project Fresh Food, Good Food. They learn about food safety and preservation technologies before designing and making packaging for a healthy snack. During the spring term project Functional and Fancy Fabrics, children continue to explore textiles, learning about the work of William Morris before designing, embellishing and finishing a fabric sample. In the summer term project Tomb Builders, they build on their knowledge of mechanisms, learning about six simple machines and using their knowledge to create a lifting or moving device prototype. They also explore and use electrical systems and IT monitoring and control in the science project Electrical Circuits and Conductors for the first time.

Upper Key Stage 2

In the autumn term of Year 5, children deepen their understanding of mechanisms by studying pneumatic systems in the project Moving Mechanisms. They learn about the forces at play and create a prototype for a functional, pneumatic machine. In the spring term project Eat the Seasons, children continue to explore food and nutrition, learning about seasonal foods and the benefits of eating seasonally. In the summer term, they learn more about structures in the project Architecture, studying the history of architecture and developing new ways to create structural strength and stability. They use computer-aided design and consolidate their making skills to produce scale models. They also explore the electrical conductivity of materials before making products incorporating circuits in the science project Properties and Changes of Materials. In the autumn term of Year 6, children learn about processed and whole foods in the project Food for Life, creating healthy menus from unprocessed foods. In the spring term project Engineer, children consolidate their knowledge of structures, joining and strengthening techniques and electrical systems by completing a bridge-building challenge. In the summer term project Make Do and Mend, they extend their knowledge of textiles by learning new stitches to join fabrics and using pattern pieces to create a range of products.

Phase	Area of Design and Technology	Vocabulary
EYFS	Designing	design, plan, make, build, create, choose, join
	Making	cut, stick, fold, shape, join, fix, materials
	Evaluating	like, dislike, change, improve
	Materials & Tools	wood, fabric, card, paper, glue, tape, scissors
	Cooking & Nutrition	mix, stir, healthy, fruit, vegetables
Key Stage 1	Designing	design brief, user, purpose, model, template
	Making	measure, assemble, construct, join, mechanism
	Evaluating	evaluate, test, strengths, weaknesses, improve
	Technical Knowledge	axle, wheel, lever, slider, pivot, structure, stable
	Cooking & Nutrition	ingredients, recipe, hygiene, nutrition, prepare
Lower Key Stage 2	Designing	prototype, innovation, function, criteria, annotated design
	Making	accurate, strengthen, reinforce, assemble, construct
	Evaluating	modify, refine, effectiveness, functionality
	Technical Knowledge	gears, pulleys, levers, pneumatics, electrical circuit, components, structure, frame
	Cooking & Nutrition	balanced diet, nutrients, carbohydrates, protein, dairy, hygiene, seasonality
Upper Key Stage 2	Designing	specification, design criteria, research, user needs, sustainability, product development
	Making	precision, measurement, fabrication, finishing, programming, control
	Evaluating	justify, analyse, performance, durability, sustainability, cost effectiveness
	Technical Knowledge	mechanical system, electrical system, motor, cam, pulley system, automation, control system
	Cooking & Nutrition	food groups, nutrition values, processing, sourcing, preparation techniques, cross-contamination