

Our Design Technology Curriculum

Newcomen Primary School

**‘Design is not just what it
looks like and feels like.
Design is how it works.’**

- Steve Jobs



NEWCOMEN

scientia potentia est

Newcomen Primary School is committed to safeguarding and promoting the welfare of children and expects all staff, volunteers, and visitors to share this commitment. All children are provided with equal opportunities and equal access to the curriculum. At Newcomen Primary, we are committed to ensuring equality of opportunity for all pupils, staff, parents and carers irrespective of race, gender, disability, belief, sexual orientation, age or socio-economic background. This document is a statement of our Intent for, and the Implementation and Impact of the teaching and learning of Design Technology and Food and Nutrition.

Intent

Design technology, which includes food and nutrition, is one of the foundation subjects and introduces children to a wide variety of skills and knowledge they will carry forward through life. At Newcomen Primary, we want our children to embrace their potential to be designers, architects and chefs and give them the passion, knowledge, and skills in all these areas and embody our 'Believe, Achieve, Succeed' ethos.

By providing an ambitious, exciting and rigorous curriculum that is appropriate for our children, we will ensure pupils are able to meet not only the requirements of the National Curriculum but readiness for the next stage of their education by providing a programme of study that builds effectively through their time with us.

By the time our children leave school, our aim is for them to have an embedded knowledge of the design process, a range of competent skills using a variety of tools and materials, the ability to evaluate their work and breadth of knowledge in technical systems. They will understand and use a bank of technical terminology and gain an awareness of where their food comes from and the principles of a healthy diet alongside a range of cooking techniques. Learning how to cook is a crucial skill that enables pupils to feed themselves and others affordably and well, now and in later life. Our pupils embrace challenge and take satisfaction and pride in gaining new skills that will scaffold their lifelong learning.

Our Aims:

- To promote interest and enthusiasm for this inspiring and practical subject
- To give children real-life practical skills that equip them to be capable citizens
- To teach a wide range of technical knowledge and vocabulary
- To develop children's ability to meet a design brief
- To embrace innovation, resourcefulness and risk-taking within the design process
- To promote and support the links to maths, art, science and computing within design technology
- To support rigorous self-evaluation and evaluation of others in all projects
- To understand the basic principles of food production, seasonality, a healthy diet and a range of cooking skills
- To ensure an entitlement for all pupils

- To ensure the highest expectations for and from all
- To promote continuity, coherence and challenge across school
- To promote a passion for lifelong learning.

Through our study of Design Technology, our Intent is for our children to:

- Be curious about how things are made and how they work
- Build on core skills each year
- Be able to apply cross-curricular knowledge to their design technology projects
- Be original, imaginative, Independent and resilient designers
- Build, understand and use an expanding technical vocabulary
- Develop and innovate designs based on self-assessment
- Use a range of equipment effectively to cut, staple, shape, join and finish
- To gain a range of technical knowledge such as adapting structures, understanding and using mechanical systems
- Take ownership of and pride in finished products they can explain and rationalise to different audiences.
- Have an awareness of food sustainability, eating seasonally and the processes of growth to plate
- Be able to employ a range of cooking techniques
- Know the constituents of a healthy and varied diet
- All be able to access the curriculum.



Instilling a love of cooking in pupils will open a door to one of the great expressions of human creativity.



Cultural Capital

Cultural capital is the accumulation of the knowledge, behaviours and skills that children can draw upon to succeed in later life. The aim of the design technology curriculum is to give our children a solid foundation to help them become effective and knowledgeable citizens. Opportunities are provided to consider sustainability of materials, what we grow locally, including our school kitchen garden and orchard as well as tasting and appreciating food from other cultures. Children will study a variety of structures from around the world from Brighton Pavilion, Chengyang Bridge, Château de Suscinio, to our local Tees Transporter Bridge and begin to think about how culture may inform design.

Early Years

In Early Years, the emphasis is put on learning and developing skills through exploration and play. Children in Nursery are given the opportunity to experiment with early design technology skills using a wide variety of reclaimed materials and different joining methods. During independent and adult supported activities children begin to select materials and explore successful methods of attaching such as glue, glue stick and tape. Children are encouraged to discuss the materials they choose and talk about what they are doing and their intentions. Fine motor skills are constantly developed as children begin to use a variety of tools such as scissors and mark making equipment. Our early designers take great pride in their space rockets, racing cars and homes for various fairy tale characters and can often be seen excitedly presenting their creations to their adults at home time.



As children move to Reception, earlier skills are built upon and refined. Where there is still emphasis on learning through exploration, children will begin to choose appropriate materials for a given purpose and are encouraged to justify their choices. Children have the opportunity to expand their skills in cutting and joining as fine motor ability improves and the range of equipment they are exposed to is widened. Imagination and technical skill grow together as they build giants' castles, enclosures for animals, lighthouses, a wide variety of vehicles, and bridges for Billy Goats to cross. Satisfaction and pride are always evident as ability develops.

Children start to learn where their food comes from, what constitutes a healthy diet and can practise early cooking and baking skills which link to topic work; for example, baking gingerbread men and loaves of bread during work on traditional tales and thinking of exciting ways to use the apples from our orchard in recipes. The natural enthusiasm and joy young children take in eating food they have prepared themselves is central to teaching food and nutrition in our Foundation Stage and is wonderful to see!

Implementation

Inclusion

Newcomen Primary School is committed to ensure that all children achieve their full potential. Through observation, assessment and teacher knowledge, children presenting with barriers to their learning are quickly identified and school is committed to closing any gaps in achievement. Each child is unique and within every school there will always be a number of children, who for a variety of reasons, are classed as having special educational needs or disabilities (SEND). The school identifies children with a suspected Special Educational Need early so the interventions are swift and immediate.

All children receive quality first teaching and activities are differentiated appropriately. Every teacher at Newcomen is a teacher of every child in our school, including those with SEND. Children with identified needs will have support within lessons and have tasks broken down into manageable steps where necessary.



Assessment, Recording and Reporting

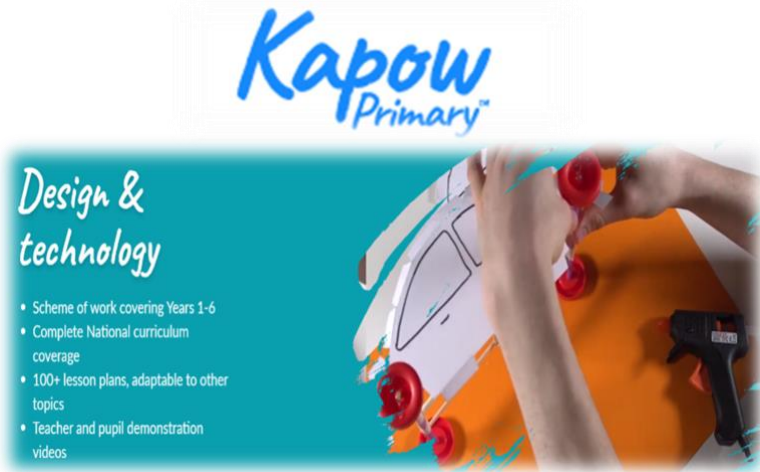
Assessments are undertaken in line with our school assessment policy. Teachers use effective assessment for learning to review prior attainment and ensure that pupils clearly understand the next steps in their learning. Assessment for design technology and food and nutrition is based on the objectives and expectations of the National Curriculum. The objectives for each key stage are based on the statutory programmes of study. Completed projects are celebrated, displayed throughout the school and via the school social media.

Staff Development

All staff members keep up to date with subject knowledge and use quality resources to support their delivery of an ambitious and stimulating curriculum. All teachers and support staff attend all staff training.



Resources and Accommodation



At Newcomen Primary, from Key Stage 1 onwards, we teach the design technology curriculum using the online platform Kapow. This comprehensive, exciting, and rigorous scheme of work developed by specialist teachers, provides expert support to all members of staff and pupils alike and ensures full coverage of national Curriculum requirements including design, evaluation, and technical knowledge. Through bite-size videos, concise instructions and definitions and regular quizzes, all teachers have the confidence to deliver excellence in the subject. The scheme is regularly updated to ensure it is relevant, fresh and is constantly improved. Carefully constructed to build on previous learning, the scheme incorporates all principles of instruction to ensure success, presenting new learning in small, manageable steps alongside practise and scaffolding of new skills, and regular reviews. The engagement, dedication and skill shown by the children in these lessons is truly inspiring.

Each unit of work is carefully resourced to ensure that pupils are able to complete projects with the equipment and knowledge they need to be successful. Children will be instructed to use a range of tools safely and effectively from sewing needles and saws to glue guns and electrical circuits. Our children relish the challenge and satisfaction of learning such a variety of new skills and all children will leave Newcomen with embedded, real-life .



Design Technology Overview

<p><u>Year 1</u> Food – Fruit and vegetables Mechanisms – making a moving story book Structures – Constructing a windmill Textiles – Puppets Mechanisms – Wheels and axles</p>	<p><u>Year 2</u> Food – A balanced diet Mechanisms – Fairground wheel Structures – Baby Bear’s chair Textiles – Pouches Mechanisms – Making a moving monster</p>
<p><u>Year 3</u> Food – Eating seasonally Mechanical systems – Pneumatic toys Structures – Constructing a castle Textiles – Cushions Electrical systems – Static electricity</p>	<p><u>Year 4</u> Food – Adapting a recipe Mechanical systems – Making a slingshot car Structures - Pavilions Textiles - Fastenings Electrical systems - Torches</p>
<p><u>Year 5</u> Food – What could be healthier? Mechanical systems – Pop-up book Structures - Bridges Textiles – Stuffed toys Electrical systems – Electronic greetings cards</p>	<p><u>Year 6</u> Food – Come dine with me Mechanical systems – Automata toys Structures - Playgrounds Textiles - Waistcoats Electrical systems – Steady hand game</p>

The introduction of a school kitchen garden enables our children to be instrumental in the journey from seed to table and introduce them to the concept of seasonable and sustainable food. Children are able to join the Gardening Club to work on all aspects of raising food, from planting seeds, transferring and nurturing seedlings, planting out and ultimately harvesting their produce. Soft fruits and vegetables will be used in our school dinners and the impressive school apple orchard will be utilised in the Apple Orchard Challenge competition where each year group gets to research, develop, and make their own apple recipes.

Monitoring and Evaluation

The Head Teacher, members of the SMT and the lead teacher for Design Technology will monitor design technology. Year groups will moderate their assessment to ensure consistency and children's successive teachers will have the necessary information to take children to the next level of their design technology journey.



Home School Partnership

All parents will have access to the curriculum overview and the curriculum map on the school website. The curriculum map shows the half-termly projects for each year group. Design and cooking end pieces will be shared and celebrated via the school social media platform. Children are encouraged to share their projects from home and demonstrate how their learning has informed their self-chosen design and cooking endeavours

Impact

We are committed to ensuring that all pupils can become imaginative and technically competent designers. They will build on core technical ability and knowledge as they move up through school and gain meaningful, real-life skills they can take forward to secondary school and beyond.

We know our children embrace new challenges and will be fully engaged in this ambitious and wide-reaching curriculum. We look forward to nurturing a future generation of designers and chefs and are proud to have the opportunity to be part of this journey.

