



Newall Green Primary School

Aiming High To Reach Our Goals

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Design & Technology Curriculum

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All policies can be found on the school web page.	
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Intent

The Design and Technology curriculum that we teach has been planned to develop the five key skills for life of: Problem solving, Teamwork, Self-management (initiative, organisation, accountability) Self-belief (confidence, resilience, positive attitude) and Communication.

Design and Technology is an inspiring and practical subject. It encourages children to learn to think and solve problems both as individuals and as members of a team. At Newall Green Primary School, we encourage children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. We aim to, wherever possible, link work to other subjects such as: mathematics, geography, history, science, computing and art. The children are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness, and are encouraged to become innovators.

At Newall Green Primary School we follow the National Curriculum for Design and Technology ([National Curriculum - Design and technology key stages 1 to 2 \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/362222/national-curriculum-design-and-technology-key-stages-1-to-2.pdf)) as well as the PlanBee Design and Technology scheme of work.

Aims

The national curriculum for design and technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

EYFS – Design & Technology

There are many opportunities for design and technology related activities in all areas of learning in the EYFS. Specifically, design and technology links with ‘Expressive Arts and Design’ as detailed in the EYFS framework. However, the subject links with all 3 *prime areas* and all 4 *specific areas* which are listed below:

The prime areas are:

- communication and language
- physical development
- personal, social and emotional development

The specific areas are:

- literacy
- mathematics
- understanding the world
- expressive arts and design

At Newall Green Primary School, we provide children with opportunities every day to work with different materials, building and constructing and selecting various tools to shape, assemble and join the materials that they are using. Children are directed on how to use new tools safely and appropriately and given freedom to create for various audiences. Children are also taught explicit skills including how to join different materials. We encourage children to develop their problem-solving skills within design and technology so they build, evaluate and improve their models. We use tools and techniques such as scissors, punches, threading, sewing and hammering to develop children’s fine motor skills. Children are also given opportunities to explore healthy eating and sample different foods. We ensure there is a balance between independent and adult-led activities.

Each classroom in nursery and reception has a ‘creative’ workshop area which children have access to during continuous provision. Children are provided with a range of materials to develop their ideas about how to use them and what to make. They also have

access to construction areas where children can use a wide variety of construction kits to build, join, stack, balance and adapt their own constructions. In the outdoor areas, children have access to a wide variety of large-scale resources such as crates, tubes and planks giving them the opportunity to design, make, adapt, problem solve, modify and put structures to the test alongside their peers.

Key stage 1

When designing and making, pupils should be taught to:

Design

- design purposeful, functional, appealing products for themselves and other users based on design criteria
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Make

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

Technical knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable
 - explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.
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Key stage 2

When designing and making, pupils should be taught to:

Design

- 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
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make

- select from and use a wider range of tools and equipment to perform practical tasks
- [for example, cutting, shaping, joining and finishing], accurately
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Evaluate

- investigate and analyse a range of existing products
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- understand how key events and individuals in design and technology have helped shape the world

Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

Cooking and nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

Key stage 1

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.

Key stage 2

- understand and apply the principles of a healthy and varied diet
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Implementation: PlanBee Design and Technology Scheme

The topics to be covered in each year group are shown at the end of this document. As long as they are taught by the end of the academic year, teachers can apply them in any order which fits best around other topics. The topics are to be covered over a half-term. Below, you will also find the progression of skills document from Y1 to Y6.

Impact

At Newall Green Primary School we inspire all pupils to be creators and innovators with a passion for bringing about change to make the world a better place. We give them the fundamental practical and thinking skills that they need to succeed in design and technology lessons in high school and in STEM careers in the future. We also ensure our children are conscious thinkers that consider other people's needs and viewpoints when they are designing and creating new products. Further to this, we embed skills of reflection, where children evaluate every product they make and look to the future in what they could do differently.

We monitor progress in design and technology across the school every term through analysing data and learning walks. We are particularly proud that girls attain equally to, and in some cases higher than, boys in our school and that learners with EAL and SEND also make progress in the subject. Skills are revisited throughout the year groups and key subject knowledge is built upon to ensure a deep understanding for pupils within this subject area.

The curriculum is adapted based on feedback from both teachers and pupils, ensuring that key skills are taught and progression is enabled, whilst also maintaining engaging topics for the children which are age appropriate and suit the particular needs of each class.

Complete DT Overview: Year 1 to Year 6



	Autumn Term	Spring Term	Summer Term
Year 1	Eat More Fruits and Vegetables	Moving Minibeasts	Stable Structures
Year 2	Puppets	Vehicles	Perfect Pizzas
Year 3	Storybooks	British Inventors	Light-Up Signs
Year 4	Seasonal Stockings	Making Mini Greenhouses	Seasonal Food
Year 5	Building Bridges	Chinese Inventions	Fashion and Textiles
Year 6	Programming Pioneers	Bird House Builders	Burgers

Objective	Year 1			Year 2		
	Eat More Fruit & Veg	Moving Minibeasts	Stable Structures	Puppets	Vehicles	Perfect Pizzas
design purposeful, functional, appealing products for themselves and other users based on design criteria						
generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology						
select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]						
select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics						
explore and evaluate a range of existing products						
evaluate their ideas and products against design criteria						
build structures, exploring how they can be made stronger, stiffer and more stable						
explore and use mechanisms [for example, levers, sliders, wheels and axles], in their Products						
use the basic principles of a healthy and varied diet to prepare dishes						
understand where food comes from						

