

Design and Technology Progression

Purpose of Study:

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

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.

Key Reception Year Education programmes/ Development Matters	NC Key Objectives Coverage in KS1	NC Key Objectives Coverage in LKS2	NC Key Objectives Coverage in UKS2
The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].	
• Creating and thinking critically – children have and develop their own ideas, make links between ideas and develop strategies for doing things.	<u>Design</u> • 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	<u>Design</u> • 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, prototypes and pattern pieces	<u>Design</u> • 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
• Use a range of small tools, including scissors, paintbrushes and cutlery.	<u>Make</u>	<u>Make</u>	<u>Make</u>

● Create collaboratively, sharing ideas, resources and skills.	● 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	● select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] ● 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	● 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
● Return to and build on their previous learning, refining ideas and developing their ability to represent them.	<u>Evaluate</u> ● explore and evaluate a range of existing products ● evaluate their ideas and products against design criteria	<u>Evaluate</u> ● 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	<u>Evaluate</u> ● 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
	<u>Technical knowledge</u> ● 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.	<u>Technical knowledge</u> ● apply their understanding of how to strengthen, stiffen and reinforce structures ● 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.	<u>Technical knowledge</u> ● 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] ● apply their understanding of computing to program, monitor and control their products.
	<u>Food Technology</u> As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. 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.		
● Manage their own needs. ● Know and talk about the different factors that support their overall health and wellbeing. e.g. healthy eating.	● use the basic principles of a healthy and varied diet to prepare dishes ● understand where food comes from.	● understand and apply the principles of a healthy and varied diet	● 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.