




Elton Primary School and Nursery
Design Technology Overview from 2024

	Elton Primary School and Nursery Design Technology Overview from 2024					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	<ul style="list-style-type: none"> • Notice patterns with strong contrasts and be attracted by patterns resembling the human face. • Start to make marks intentionally. • Explore paint, using fingers and other parts of their bodies as well as brushes and other tools. • Express ideas and feelings through making marks, and sometimes give a meaning to the marks they make. • Start to develop pretend play, pretending that one object represents another. For example, a child holds a wooden block to her ear and pretends it's a phone. • Explore different materials, using all their senses to investigate them. Manipulate and play with different materials. • Use their imagination as they consider what they can do with different materials. • Make simple models which express their ideas. 					
Reception		Textiles: Bookmarks Pupils develop and practise threading and weaving techniques using various materials and objects. They look at the history of the bookmark from Victorian times versus modern-day styles. The pupils apply their knowledge and skills to design and sew their own bookmarks.			Cooking and nutrition: Soup In this unit, children explore the differences between fruits and vegetables using their senses (taste, texture, smell etc.). They listen to the story 'The best pumpkin soup' and discuss the key ingredients the characters used before developing a class-based vegetable soup recipe.	Structures: Boats In this unit, children explore what is meant by 'waterproof', 'floating' and 'sinking', then experiment and make predictions with various materials to carry out a series of tests. They learn about the different features of boats and ships before investigating their shape and structures to build their own.

Key Stage 1

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].

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

Year 1

Mechanisms: Making a moving story book

Explore slider mechanisms and the movement they output, to design, make and evaluate a moving storybook from a range of templates.

Textiles: Puppets

Explore methods of joining fabric. Design and make a character-based hand puppet using a preferred joining technique, before decorating.

Cooking and nutrition: Smoothies

Our refreshed Y1 cooking and nutrition unit including opportunities for children to learn food preparation skills and greater emphasis on taste testing and ingredient choices.

Year 2				Structures: Baby Bear's chair Explore stability and methods to strengthen structures, to understand Baby Bear's chair weaknesses and develop an improved solution for him to use.	Mechanisms: Making a moving monster Explore levers, linkages and pivots through existing products and experimentation, use this research to construct and assemble a moving monster.	Cooking and nutrition: Balanced diet Our refreshed Y2 cooking and nutrition unit including opportunities for children to learn about the importance of a balanced diet and use that knowledge to create a tasty wrap.
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Key Stage 2

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].

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

<p>Year 3</p>		<p>Digital world: Wearable technology An alternative to the Electronic charm unit, including a greater focus on evaluation, use of the virtual micro:bit and new video content.</p>		<p>Structures: Constructing a castle Identify and learn about the key features of a castle, before designing and making a recycled-material castle (structure).</p>	<p>Textiles: Cross-stitch and appliqué Learn and apply two new sewing techniques – cross-stitch and appliqué. Utilise these new skills to design and make a cushion or Egyptian collar.</p>	
<p>Year 4</p>		<p>Mechanical systems: Making a slingshot car Using a range of materials, design and make a car with a working slingshot mechanism and house the mechanism using a range of nets.</p>	<p>Electrical systems: Electric poster Our new electric poster unit introduces children to various forms of ‘Information design’ before they are briefed to develop an electric museum display based on the Romans.</p>			<p>Cooking and nutrition: Adapting a recipe Our refreshed Y4 cooking and nutrition unit including opportunities for children to learn a basic biscuits recipe and adapt it to suit a target audience.</p>
<p>Year 5</p>		<p>Mechanical systems: Pop-up book Create a functional four-page pop-up storybook design, using lever, sliders, layers and spacers to create paper-based mechanisms.</p>	<p>Digital world: Monitoring devices Apply Computing knowledge and understanding to program a Micro:bit animal monitoring device. Develop 3D CAD skills by learning</p>			<p>Cooking and nutrition: Developing a recipe Our refreshed Y5 cooking and nutrition unit including opportunities for children to learn</p>

			how to navigate the Tinkercad interface and essential tools to combine multiple objects.			a simple bolognese recipe and adapt it to improve nutritional content.
Year 6		Structures: Playgrounds Research existing playground equipment and their different forms, before designing and developing a range of apparatus to meet a list of specified design criteria.	Textiles: Waistcoats Using a combination of textiles skills such as attaching fastenings, appliqué and decorative stitches, children design, assemble and decorate a waistcoat for a chosen purpose.		Electrical systems: Steady hand game Understand what is meant by fit for purpose design and form follows function. Design and develop a steady hand game using a series circuit, including housing and backboard.	