



Design and Technology

Vision

“Design is intelligence made visible” – Alina Wheeler

At Fairfield Primary School, our D&T curriculum is designed to interest and motivate our children and promote high aspirations. We want all of our pupils to follow their **DREAM** by equipping them with the knowledge and confidence to **BELIEVE** in their designs and ability to **ACHIEVE** their goal through the development of their creative, technical and practical expertise.

Design & Technology is to... create something...for someone...with some purpose (www.data.org.uk)

D&T encourages children's creativity and encourages them to think about important issues considering their own and others' needs, wants and values. We believe it is imperative that our pupils are inspired to learn to think and intervene creatively to solve real and relevant problems, in a variety of contexts, both as individuals and in groups resulting in the acquisition of new knowledge and skills. Our D&T curriculum builds upon this new learning, strengthening pupil's abilities' and confidence in expressing themselves creatively. At Fairfield Primary, pupils have the opportunity to develop their skills and knowledge in design, structures, mechanisms, electrical control and a range of materials, including food, where children can develop their love for cooking by applying the principles of nutrition to prepare healthy and tasty snacks, including some cultural, traditional foods. They learn how to take risks, becoming resourceful, innovative and enterprising. Pupils acquire a broad range of subject-knowledge as projects are cross curricular and draw on other subjects taught e.g. maths, computing, science 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 and risk-takers. They understand the contribution that high-quality design and technology has on the creativity, culture, wealth and well-being of a nation.

Wherever possible, appropriate educational visits will take place to enhance learning.



'Tell me and I forget - Show me and I may remember - Let me do it and I learn.' (Prue Leith, Leith's School of Food and Wine As quoted in National Curriculum Document, page 14)



*Tell me and I forget, teach me and I may remember,
involve me and I learn. - Benjamin Franklin*



Design & Technology - Curriculum Map

	Autumn	Spring	Summer
Nursery & Reception	<p>The EYFS framework is structured very differently to the national curriculum as it is organised across seven areas of learning rather than subject areas. The aim of this document is to help subject leaders to understand how the skills taught across EYFS feed into national curriculum subjects. This document demonstrates which statements from the 2020 Development Matters are prerequisite skills for DT within the national curriculum. The table below outlines the most relevant statements taken from the Early Learning Goals in the EYFS statutory framework and the Development Matters age ranges for Three and Four-Year-Olds and Reception to match the programme of study for DT.</p> <p>The most relevant statements for DT are taken from the following areas of learning: • Physical Development • Expressive Arts and Design</p>		
End Points	<p><u>Personal, Social and Emotional Development</u></p> <ul style="list-style-type: none"> • Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them. <p><u>Physical Development</u></p> <ul style="list-style-type: none"> • Use large-muscle movements to wave flags and streamers, paint and make marks. • Choose the right resources to carry out their own plan. • Use one-handed tools and equipment, for example, making snips in paper with scissors. <p><u>Understanding the World</u></p>		



- Explore how things work.

Expressive Arts and Design

- Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park.
- Explore different materials freely, in order to develop their ideas about how to use them and what to make.
- Develop their own ideas and then decide which materials to use to express them.
- Create closed shapes with continuous lines, and begin to use these shapes to represent objects.

Early Learning Goals (ELG)

Physical Development - Fine Motor Skills

- Use a range of small tools, including scissors, paintbrushes, and cutlery.

Expressive Arts and Design - Creating with Material

- Safely use and explore a variety of materials, tools, and techniques, experimenting with colour, design, texture, form, and function.
- Share their creations, explaining the process they have used.



Reception End Points	<p><u>Physical Development</u></p> <ul style="list-style-type: none">• Progress towards a more fluent style of moving, with developing control and grace.• Develop their small motor skills so that they can use a range of tools competently, safely, and confidently.• Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor. <p><u>Expressive Arts and Design</u></p> <ul style="list-style-type: none">• Explore, use, and refine a variety of artistic effects to express their ideas and feelings.• Return to and build on their previous learning, refining ideas and developing their ability to represent them.• Create collaboratively, sharing ideas, resources, and skills.
EYFS Skills	<p><u>Personal, Social and Emotional Development</u></p> <ul style="list-style-type: none">• Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them. <p><u>Physical Development</u></p> <ul style="list-style-type: none">• Use large-muscle movements to wave flags and streamers, paint and make marks• Choose the right resources to carry out their own plan.• Use one-handed tools and equipment, for example, making snips in paper with scissors. <p><u>Understanding the World</u></p> <ul style="list-style-type: none">• Explore how things work.



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Physical Development

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Expressive Arts and Design



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- Return to and build on their previous learning, refining ideas and developing their ability to represent them.
- Create collaboratively, sharing ideas, resources, and skills.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Mechanisms – Sliders & Movers Moving Pictures		Structures – Freestanding Structures Joining Materials		Food – Preparing Fruit & Vegetables Fruit Kebabs	
End Points	<ul style="list-style-type: none"> • Design purposeful, functional, appealing products for themselves and other users based on design criteria. • Select from and use a range of tools and equipment to perform practical tasks (cutting, shaping, joining, and finishing) • Explore and use mechanisms (e.g. levers and sliders) • Explore and evaluate a range of existing products. 		<ul style="list-style-type: none"> • Generate, develop, model, and communicate their ideas through talking, drawing, templates, mock-ups (from Lego) and where appropriate information and communication technology. • Build structures, exploring how they can be made stronger, stiffer, and more stable. • Evaluate their ideas and products against criteria. • Select from and use a wide range of materials and components including textiles 		<ul style="list-style-type: none"> • Use the basic principles of a healthy and varied diet to prepare dishes. • Understand where food comes from. • Explore and evaluate a range of existing products. <p style="text-align: right;">TESCO – Farm to Fork?</p>	
Year 2	Textiles – Templates & Joining Materials Puppets		Food – Preparing Fruit & Vegetables Healthy Pizza		Mechanical Systems – Wheels & Axles Lighthouses	



<p>End Points</p>	<ul style="list-style-type: none"> • Design purposeful, functional, appealing products for themselves and other users based on design criteria. • Select from and use a wide range of materials and components including textiles. • Generate, develop, model, and communicate their ideas through talking, drawing, templates, mock-ups and where appropriate information and communication technology. 	<ul style="list-style-type: none"> • Use the basic principles of a healthy and varied diet to prepare dishes. • Understand where food comes from e.g. importing and exporting, trade. • Explore and evaluate a range of existing products. <p>TESCO – Farm to Fork?</p>	<ul style="list-style-type: none"> • Explore and use mechanisms for example wheels and axles. • Design purposeful, functional, appealing products for themselves and other users based on design criteria. • Select from and use a range of tools and equipment to perform practical tasks
<p>Skills KS1</p>	<p>See also: DT skills progression document.</p> <p>Design</p> <ul style="list-style-type: none"> • 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. <p>Make</p> <ul style="list-style-type: none"> • 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. <p>Evaluate</p>		



	<ul style="list-style-type: none"> • Explore and evaluate a range of existing products. • Evaluate their ideas and products against design criteria. <p>Technical Knowledge</p> <ul style="list-style-type: none"> • 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. <p>Cooking and nutrition</p> <ul style="list-style-type: none"> • Use the basic principles of a healthy and varied diet to prepare dishes. • Understand where food comes from. 		
<p>Year 3</p>	<p>Food – Healthy & Varied Diet</p> <p>Sandwich Making</p>	<p>Making Structures – Shell Structures</p> <p>Photo Frames</p>	<p>Mechanical Systems – Pneumatics</p> <p>Moving Monsters</p>
<p>End Points</p>	<ul style="list-style-type: none"> • Understand and apply the principles of a healthy and varied diet. • Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught, and processed. • Investigate and analyse a range of existing products. 	<ul style="list-style-type: none"> • Generate, develop, model, and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, patterns pieces and computer aided design. • Apply their understanding (Structures – Freestanding Structures Y1) of how to strengthen, stiffen and reinforce more complex structures. 	<ul style="list-style-type: none"> • 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. • Understand and use mechanical systems in their products. • Understand how key events and individuals in design and technology have helped shape the world.



		<ul style="list-style-type: none"> Investigate and analyse a range of existing products. 	
Year 4	Electrical Systems – Simple Circuits & Switches Torches	Food – Healthy & Varied Diet Baking Bread	Making Structures – Levers & Linkages Bridges
End Points	<ul style="list-style-type: none"> Understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers, and motors). Apply their understanding of computing to programme, monitor and control their products. Apply their understanding (Structures – Freestanding Structures Y1) of how to strengthen, stiffen and reinforce more complex structures. 	<ul style="list-style-type: none"> Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught, and processed. 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. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. 	<ul style="list-style-type: none"> Understand and use mechanical systems in their products. Generate, develop, model, and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, patterns pieces and computer-aided design. Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining, and finishing), accurately.
Year 5	Structures – Frame Structures Shelter Designers	Mechanical Systems – CAMS Moving Monsters	Food – Celebrating Culture & Seasonality Greek Food



End Points	<ul style="list-style-type: none"> • Understand how key events and individuals in design and technology have helped shape the world. • Generate, develop, model, and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, patterns pieces and computer aided design. • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. • Investigate and analyse a range of existing products. 	<ul style="list-style-type: none"> • Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers, and linkages). • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. • Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining, and finishing), accurately. 	<ul style="list-style-type: none"> • 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. <p style="text-align: center;">Athens Greek restaurant Stockton</p>
Year 6	<p style="text-align: center;">Textiles – Combining Different Fabrics</p> <p style="text-align: center;">Aprons for the Work House</p>	<p style="text-align: center;">Electrical Systems – More Complex switches & Circuits</p> <p style="text-align: center;">Electrical Toys</p>	<p style="text-align: center;">Mechanical Systems – Pulleys or Gear Structures</p>
End Points	<ul style="list-style-type: none"> • Use research and develop design criteria to inform the design of innovative, functional, appealing 	<ul style="list-style-type: none"> • Understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers, and motors). 	<ul style="list-style-type: none"> • Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers, and linkages).



	<p>products that are fit for purpose, aimed at particular individuals or groups.</p> <ul style="list-style-type: none"> • Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining, and finishing), accurately. • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work 	<ul style="list-style-type: none"> • Apply their understanding of computing to programme, monitor and control their products. • Apply their understanding (Structures – Freestanding Structures Y1) of how to strengthen, stiffen and reinforce more complex structures. 	<ul style="list-style-type: none"> • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. • Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining, and finishing), accurately.
<p>Skills KS2</p>	<p>See also: DT skills progression document</p> <p><u>Design</u></p> <ul style="list-style-type: none"> • 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, patterns pieces and computer-aided design. <p><u>Make</u></p> <ul style="list-style-type: none"> • 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. <p><u>Evaluate</u></p> <ul style="list-style-type: none"> • 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 programme, monitor and control their products.

Cooking and nutrition

- 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.

