

DT

Knowledge Sequencing Document

	DT
Curriculum Drivers:	Reading Force for positive change
Intent	To inspire children to think creatively, design and make products that solve real and relevant problems. Design and technology is sequenced and linked across the school with a focus on designing, making and evaluating. From nursery to year six, through innovative design, children will create products that have a positive impact on the school, the community and the wider world.
	DT
Knowledge Threads	The areas of learning in DT are sequenced and linked through the study of: Mechanisms, electrical control, food and nutrition, textiles, structures and child initiated.
Mechanisms	Movement, sliders, leavers, wheels, axles, pneumatics devices, linkage, pulleys and gears
Electrical control	Circuits, switches, computer control, components, monitoring
Food and Nutrition	Growing process, fruits and veg, fresh and processed ingredients, food preparation and hygiene, cooking, adapting recipes, nutrition
Textiles	Templates, joining techniques, 2D and 3D shapes and products, pattern pieces, computer aided design
Structures	Free standing, shell structures, packaging, frame structures, computer aided design
Child Initiated	There must be enough scope in the medium term planning to allow children's interests and enquiry to be explored although all knowledge threads and scientific skills are covered
DT Skills	The Big DT Ideas
• Designing	Understand contexts, users and purposes. Generate, develop, model, communicate and innovate ideas.
• Making	Planning and developing practical skills and techniques. Knowing about inventors, designers, chefs and manufacturers and their products
• Evaluating	Evaluate existing products, own ideas and products. To know key events and individuals.

DT National Curriculum 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.

DT Knowledge Progression						
Knowledge Threads	Across every year group the following knowledge threads will be explored and children will be encouraged to use DT skills and make products that solve real and relevant problems. Knowledge Threads: mechanisms, electrical control, food and nutrition, textiles, structures and child initiated.					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery			People Who Help Us		In the Garden	
			Textiles (Cutting and joining)		Structures (Freestanding structure)	
Reception			Amazing People		Tales from Around the World	
			Structures (Frame structures)		Food (Celebrating culture and seasonality)	
Y1			Great Fire of London		Secret Garden	There's No Place Like Home
			Mechanisms (Levers and Sliders)		Food (Preparing fruit and vegetables)	Structures (Freestanding structures)
Y2			Kings and Queens		Reduce ,reuse, recycle	A Pirate's Life For Me
			Mechanisms (Wheels and Axles)		Textiles (Templates and Joining)	Food (Preparing fruit and vegetables)
Y3			May the force be with you		Let it grow	Groovy Greeks
			Mechanisms (Pneumatics)		Food (Healthy and varied Diet)	Structures (Shell structures using CAD)
Y4			Invaders & Settlers: Anglo-Saxons & Vikings	Buzzers, Bulbs and Batteries		Dem Bones Dem Bones
			Textiles (2D shape to 3D product)	Electrical Systems (Simple circuits and switches)		Mechanisms (Levers and Linkages)

Y5	Food Glorious Food	Early Civilizations		Earth and Space		
	Food (Celebrating culture and seasonality)	Structures (Frame structures)		Electrical Systems (Monitoring and control)		
Y6			World War 2	World War 2		Fit and Fabulous
			Textiles (using CAD)	Textiles (using CAD)		Mechanisms (Cams)

Reception		
Learning Journey	EYFS Framework Content	Key Vocabulary
<i>Amazing People</i>	Structures: Frame structures	Aeroplane, structure, flying, drones, joining, cutting, make, wings, propeller
Year Group Links: Nursery: Freestanding structure	<u>Fine Motor Skills:</u> <ul style="list-style-type: none"> Use a range of small tools, including scissors and paint brushes Begin to show accuracy and care when drawing <u>Creating with Materials:</u> <ul style="list-style-type: none"> 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; 	
Knowledge Threads		
Mechanisms	Wheels and axles needed for take-off and landing an aeroplane	
Electrical control	Look at flying machines- e.g. electric drones	
Food and nutrition	Link to food hygiene: aprons, hair nets (food served on a plane)	
Textiles	Silk, nylon used in hot air balloons, various fabrics used to produce: parachutes, seat belts	
Structures	Design and build their own flying machine based on Amelia Earhart & Rosie Revere Engineer	
Child Initiated	Asking questions and encouraging children to find links	

Year 2		
Learning Journey	National Curriculum Content	Key Vocabulary
<p><i>Kings and Queens</i></p> <p>Year Group Links: Yr1: Levers and sliders</p>	<p>Mechanisms: wheels and axles</p> <p><u>Design</u></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><u>Make</u></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><u>Evaluate</u></p> <ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria <p><u>Technical knowledge</u></p> <ul style="list-style-type: none"> explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products 	<p>vehicle, wheel, axle, holder, chassis, body, cab</p> <p>assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism</p> <p>names of tools, equipment and materials used</p> <p>design, make, evaluate, purpose, user, criteria, functional</p>
Knowledge Threads		
Mechanisms	Pulley, wheelbarrow, revolting doors, door knob. Building a vehicle that can carry something: dog toys for Miss Ross Miss Mill's baby toys that have wheels and an axle	
Electrical control	Electric fans, London eye, electric cars	
Food and nutrition	Pizza cutter,	
Textiles	Bobbin wider, clutch in a sewing machine	
Structures	London eye, windmill	
Child Initiated	Asking questions and encouraging children to find links	

Year 4		
Learning Journey	National Curriculum Content	Key Vocabulary
<p><i>Invaders & Settlers:</i> <i>Anglo-Saxons & Vikings</i></p> <p>Year Group Links: Nurs: Cutting and joining Yr2: Templates and joining</p>	<p>Textiles: 2d shapes to 3d products</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, pattern 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 	<p>fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern, pieces</p>
Knowledge Threads		
Mechanisms	Sewing machine needle	
Electrical control	Sewing machines,	
Food and nutrition	Tabards/ aprons,	
Textiles	Based upon Anglo Saxon & Viking clothing/ tabards for different roles/ groups of people – fashion show	
Structures	Free standing drawing board, mannequins/ tailor dummy	
Child Initiated	Asking questions and encouraging children to find links	