

DT skills and progression coverage map 2025/2026

This DT skills and progression document is a working document based on overarching Cornerstones themes – the objectives catalogued for each year group are non-negotiable as they describe a sequential progression carefully designed to build substantive and disciplinary concepts. The lesson ideas listed however are suggested. Individual teaching teams may find alternative resources that teach the same objectives appropriately. We operate a Year A/B model where some aspects are taught with an ‘introduce and embed’ model, and some have discrete learning which is bespoke to a particular theme. Disciplinary knowledge in design and technology is the process of enabling children to use their substantive knowledge of products and materials around them to make links between and across different areas of the curriculum

	Skill	YEAR 3/4 (YEAR A)	YEAR 3/4 (YEAR B)	YEAR 5/6 (YEAR B)	YEAR 6 (YEAR A)
Substantive Knowledge	National Curriculum	<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 			
	Planning and designing	<p>Introduce and embed:</p> <ul style="list-style-type: none"> To investigate and analyse existing products. To design a functional product following a design brief and for a particular purpose and user To plan out and order the main stages of making process To research a famous designer or design linked to a project <p>Discrete:</p> <ul style="list-style-type: none"> To create designs using cross-sectional diagrams. (MM) To create designs using exploded diagrams (TB) 	<p>Introduce and embed:</p> <ul style="list-style-type: none"> To investigate and analyse existing products. To design a functional product following a design brief and for a particular purpose and user To plan out and order the main stages of making process To research a famous designer or design linked to a project <p>Discrete:</p> <ul style="list-style-type: none"> To create designs using annotated sketches (FFF) To create designs using simple computer programmes (MIM) 	<p>Introduce and embed:</p> <ul style="list-style-type: none"> To research existing products, conduct market research and use this to inform the design of their own product with a clear purpose and audience To generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams. <p>Discrete:</p> <ul style="list-style-type: none"> To develop a design using prototypes and record the modification of the design at each stage (A) To use computer aided design (A) 	<p>Introduce and embed:</p> <ul style="list-style-type: none"> To research existing products, conduct market research and use this to inform the design of their own product with a clear purpose and audience To generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams. <p>Discrete:</p> <ul style="list-style-type: none"> To design a product that will solve a problem (BA) To design a programmable element to control a product (BA)
	Possible lessons and resources	<p>Cornerstones: Tomb Builders (simple machines) Engage lesson</p>	<p>Cornerstones: Making it move (cam mechanisms) Engage lesson Develop lesson 1 – How cams work</p>	<p>Cornerstones: Architecture (junk modelling with stability) Engage – Architecture over time</p>	<p>Other: Burglar Alarms (School’s own project using micro:bits)</p>

	<p>Develop lesson 1 – Using simple machines</p> <p>Moving Mechanisms (pneumatic systems)</p> <p>Engage lesson</p> <p>Develop lesson 1 – Investigating pneumatics</p> <p>Innovate Lesson 1 - Designing a pneumatic prototype</p>	<p>Lesson 2 – Using different shaped cams</p> <p>Innovate Lesson 1 - Designing an automaton toy</p> <p>Functional and Fancy Fabrics (textiles)</p> <p>Engage lesson</p> <p>Develop lesson 1 – Design features of familiar products</p> <p>Lesson 2 – Significant designer William Morris</p> <p>Lesson 3 – William Morris’ motifs</p> <p>Innovate lesson 1 – Designing a William Morris inspired fabric</p>	<p>Develop Lesson 2- Support, stiffness and stability</p> <p>Develop Lesson 3 – Computer Aided design</p>	
<p>National Curriculum</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 ● 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>Making</p>	<p>Introduce and embed:</p> <ul style="list-style-type: none"> ● To safely measure, mark out, cut, assemble and join with some accuracy ● To make suitable choices from a wider range of tools and unfamiliar materials. <p>Discrete learning:</p> <ul style="list-style-type: none"> ● To use knowledge of techniques and the functional and aesthetic qualities of a wide range of materials when making a product (TB) ● To understand how pneumatic systems create movement (MM) 	<p>Introduce and embed:</p> <ul style="list-style-type: none"> ● To safely measure, mark out, cut, assemble and join with some accuracy ● To make suitable choices from a wider range of tools and unfamiliar materials. <p>Discrete learning:</p> <ul style="list-style-type: none"> ● To use techniques which require more accuracy to cut, shape, join and finish work (FFF) ● To understand how mechanical systems such as cams, levers and linkages create movement (MIM) 	<p>Introduce and embed:</p> <ul style="list-style-type: none"> ● To make careful and precise measurements so that joins, holes and openings are in exactly the right place. ● To select the most appropriate materials for the purpose of the product. <p>Discrete learning:</p> <ul style="list-style-type: none"> ● Select and combine materials with precision, building a framework to support mechanisms (A) 	<p>Introduce and embed:</p> <ul style="list-style-type: none"> ● To make careful and precise measurements so that joins, holes and openings are in exactly the right place. ● To select the most appropriate materials for the purpose of the product. <p>Discrete learning:</p> <ul style="list-style-type: none"> ● To apply their understanding of computing to program, monitor and control their product (BA) ● To include electrical systems in the product (BA)
			<p>Year 5 only:</p> <ul style="list-style-type: none"> ● To select materials and components for functional and aesthetic qualities (PC) ● To build more complex 3D structures and apply their knowledge of strengthening techniques to make them stronger or more stable (E) 	

	Possible lessons and resources	<p>Cornerstones: Tomb Builders Develop Lesson 1 - Making simple machines Innovate – Designing machine prototypes</p> <p>Moving Mechanisms Develop Lesson 2 – Making a pneumatic machine</p>	<p>Cornerstones: Functional and Fancy Fabrics Develop Lesson 4 – Block printing Innovate lesson 2 – Making a William Morris inspired fabric Lesson 5 – Sewing a hem Lesson 6 – Embroidered embellishment – See Art objectives here</p> <p>Making it move Innovate Lesson 2 - Making an automaton toy.</p>	<p>Cornerstones: Architecture (junk modelling with stability) Innovate – Building design</p> <p>Year 5 only Cornerstones: Engineer (bridge building) Innovate lesson 2 – Making a bridge prototype</p> <p>Other: Pencil Case project (School’s own)</p>	<p>Other: Burglar Alarms (School’s own project using micro:bits)</p>
	<p>National Curriculum</p> <p>Evaluating</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 			
	Possible lessons and resources	<p>Cornerstones: Tomb Builders Express lesson</p> <p>Moving Mechanisms Express lesson</p>	<p>Cornerstones: Functional and Fancy Fabrics Express lesson</p> <p>Making it move Express lesson</p>	<p>Cornerstones: Architecture Express lesson</p> <p>Year 5 only Cornerstones: Engineer (bridge building) Express lesson</p> <p>Other: Pencil Case project (School’s own)</p>	<p>Other: Burglar Alarms (School’s own project using micro:bits)</p>

Key Vocabulary – to be displayed, used and understood throughout the theme by all children	<p>Tomb Builders Prototype, Magnitude, force, gears, lever, linkages, wheel, axle, pulley, wedge, screw, fulcrum</p> <p>Moving Mechanisms Compress, system, pneumatic, compressed air, deflate, force, inflate, jack, piston, plunger, pressure</p>	<p>Functional and Fancy Fabrics Block printing, rollers, ink, sample, pinking shears, raw edges, garments, embroidery, embellishments, man-made and natural fabrics, fibres, swatch, William Morris, Arts and Crafts movement, motifs</p> <p>Making it move Cams, dowels, corrugated card, machine, mechanism, sliders, levers, axles, wheels, automaton.</p>	<p>Architecture Barrow, capital, colonnade, concrete, industrial revolution, computer aided design, column.</p>	<p>Burglar Alarms Electrical control systems, output device, circuits, switches, series circuit, parallel circuit, names of switches and components, input device, output device, system, monitor, control, program, flowchart.</p>
			<p>Textiles – Pencil Case project Seam, seam allowance, reinforce, right side, wrong side, hem, template, pattern, pieces, pins, needles, thread, pinking shears.</p> <p>Engineer Iterative design process, deployment, testing, concertina, freestanding, support piers</p>	
	<p>General DT vocabulary Designer, user, purpose, product, function, design, modifications, make, evaluate</p>		<p>General DT vocabulary Designer, user, purpose, product, function, design, modifications, make, evaluate, cross section diagram, exploded diagram</p>	
Food understanding is taught during enrichment provision by a specialist teacher				
National Curriculum	<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. 			
	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Food understanding	<ul style="list-style-type: none"> • To talk about the different food groups and name food from each group • To understand that food has to be grown, farmed or caught in Europe and the wider world • To use a wider variety of ingredients and techniques to prepare and combine ingredients safely 	<ul style="list-style-type: none"> • To understand what makes a healthy and balanced diet, and that different foods and drinks provide different substances the body needs to be healthy and active • To understand seasonality and the advantages of eating seasonal and locally produced food • To read and follow recipes which involve several processes, skills and techniques 	<ul style="list-style-type: none"> • To understand the main food groups and the different nutrients that are important for health • To understand how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable / tasty to eat • To select appropriate ingredients and use a wide range of techniques to combine them 	<ul style="list-style-type: none"> • To confidently plan a series of healthy meals based on the principles of a healthy and varied diet • To research, plan and prepare and cook a savoury dish, applying knowledge of ingredients and technical skills • To use information on food labels to inform choices
See year group assessment sheets for skills, health and safety, nutrition and food awareness coverage				