

Year Group	Autumn	Spring	Summer
Assessment	At the end of each term pupils are expected to know, apply and understand the matters, skills and processes taught in the relevant program of study. At the end of each term teacher assessment will be recorded on the foundation tracker. Teacher assessment at the end of each term is based on classroom observations, design and evaluation work in books and final pieces.		
1	Textiles - joining fabrics and finishing	Structures - cutting, joining and finishing	Mechanisms - slides and levers
2	Cooking and nutrition - prepare a healthy dish	Structures - make freestanding structures stronger, stiffer and more stable	Mechanisms - wheels, axles and axle holders
3	Textiles - patterns	Structures - construct using knowledge of nets of cubes, cuboids and more complex 3D shapes	Mechanisms - lever and linkage mechanisms
4	Textiles - strengthen, stiffen and reinforce existing fabrics.	Cooking and nutrition - prepare a dish using fresh and processed ingredients	Electrical systems - Circuits, Motors and Buzzers
5	Structures - strengthen, stiffen and reinforce 3-D frameworks.	Textiles - mastery of techniques	Mechanisms - gears and pulleys
6	Structures - design and make using a wide range of materials, tools, equipment and techniques	Cooking and nutrition - prepare a bread based dish using utensils and equipment including heat sources	Electrical systems - computing to program monitor and control products

DT Skills

Children, during all units of work, will engage in the 3 National Curriculum strands: design, make and evaluate.				
National Curriculum 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.			
DT skills progression	Year	National Curriculum Objectives	Vocabulary	Suggested Designer(s)
Y1 <u>Textiles</u> <ul style="list-style-type: none"> Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling Understand how simple 3-D textile products are made, using a template to create two identical shapes Explore different finishing techniques Know and use technical vocabulary relevant to the project <u>Structures</u> <ul style="list-style-type: none"> Select and use simple utensils, tools and equipment to perform a job e.g. marking out, cutting, joining and finishing; cut, shape and join paper and card Select from a range of materials according to their characteristics to create a chosen product. Know and use technical vocabulary relevant to the project <u>Mechanisms</u> <ul style="list-style-type: none"> Explore and use sliders and levers 	Y1 & Y2	Design <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 Make <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 Evaluate <ul style="list-style-type: none"> ✓ explore and evaluate a range of existing products ✓ evaluate their ideas and products against design criteria 	By the end of KS1 phase: investigating, planning, design, make, evaluate, user, purpose, ideas, design, criteria, product, function Cooking and nutrition - fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients Structures - cut, fold, join, fix structure, wall, tower, framework, weak,	Y1 Cath Kidston Sir Alec Issigonis Y2 Nadia Hussain Jamie Oliver Ian Callum Baron Karl von Drais James Starley

<ul style="list-style-type: none"> Understand that different mechanisms produce different types of movement. Know and use technical vocabulary relevant to the project. <p>Y2</p> <p><u>Cooking and nutrition</u></p> <ul style="list-style-type: none"> Understand where a range of fruit and vegetables come from e.g. farmed or grown at home Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of The eat well plate Know and use technical and sensory vocabulary relevant to the project <p><u>Structures</u></p> <ul style="list-style-type: none"> Know how to make freestanding structures stronger, stiffer and more stable. Know and use technical vocabulary relevant to the project. <p><u>Mechanisms</u></p> <ul style="list-style-type: none"> Explore and use wheels, axles and axle holders Distinguish between fixed and freely moving axles Know and use technical vocabulary relevant to the project 	<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>Skills for designing, making and evaluating by end of key phase:</p> <p>Designing (ongoing)</p> <ul style="list-style-type: none"> • Design appealing products for a particular user based on simple design criteria. • Generate initial ideas and design criteria through own experiences, explaining what they could make. • Develop and communicate these ideas through talk and drawings and mock ups where relevant. <p>Making (ongoing)</p> <ul style="list-style-type: none"> • Plan by suggesting what to do next. • Select and use tools, equipment, skills and techniques to perform practical tasks, explaining their choices. • Select new and materials, components, reclaimed materials and construction kits to build and create their products. • Use simple finishing techniques suitable for the products they are creating. <p>Evaluating (ongoing)</p> <ul style="list-style-type: none"> • Explore a range of existing products related to their design criteria. 	<p>strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder</p> <p>Mechanisms - slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism names of tools, equipment and materials used</p> <p>Textiles - joining, finishing, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish</p>
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<p>Y3 <u>Textiles</u></p> <ul style="list-style-type: none"> • Develop skills in stitching, cutting and joining. • Understand how to securely join two pieces of fabric together • Stitch, knot and use other manipulative skills. • Name the tools and materials they have used. • Understand the need for patterns and seam allowances. • Know and use technical vocabulary relevant to the project. <p><u>Structures</u></p> <ul style="list-style-type: none"> • Develop and use knowledge of how to construct strong, stiff shell structures • Through use of Information Technology, develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes • Know and use technical vocabulary relevant to the project <p><u>Mechanisms</u></p> <ul style="list-style-type: none"> • Understand and use lever and linkage mechanisms • Distinguish between fixed and loose pivots • Know and use technical vocabulary relevant to the project <p>Y4 <u>Textiles</u></p> <ul style="list-style-type: none"> • Know how to strengthen, stiffen and reinforce existing fabrics • Understand how to securely join two pieces of fabric together • Understand the need for patterns and seam allowances • Know and use technical vocabulary relevant to the project. <p><u>Cooking and nutrition</u></p>	<p>Y3 & Y4</p> <p>Design</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>Make</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>Evaluate</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>Technical knowledge</p> <ul style="list-style-type: none"> ✓ apply their understanding of how to strengthen, stiffen and reinforce more complex structures 	<p>By the end of Lower Key Stage 2 phase:</p> <p>user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, function, planning, design criteria, appealing evaluating, design brief design criteria, innovative, prototype, function, prototype, , innovative, sensory evaluations</p> <p>Cooking and nutrition-</p> <p>name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested</p> <p>healthy/varied diet</p> <p>Structures - shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism,</p>	<p>Y3 Gustav Eiffel Lucian Day JP Blatchley</p> <p>Y4 Sir James Dyson William Morris Ainsley Harriot Gordon Ramsey</p>
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<ul style="list-style-type: none"> • Know how to use appropriate equipment and utensils to prepare and combine food • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught • Know and use relevant technical and sensory vocabulary appropriately. <p><u>Electrical systems</u></p> <ul style="list-style-type: none"> • Understand and use electrical systems in their products linked to science coverage • Apply their understanding of computing to program and control their products • Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> ✓ 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>Cooking and nutrition</p> <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>Skills for designing, making and evaluating by end of key phase:</p> <p>Designing (ongoing)</p> <ul style="list-style-type: none"> • Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s. • Use annotated sketches, prototypes, final product sketches and pattern pieces; communication technology, such as web-based recipes, to develop and communicate ideas. • Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams. <p>Making (ongoing)</p> <ul style="list-style-type: none"> • Plan and order the main stages of making. 	<p>vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision</p> <p>Mechanisms - mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating</p> <p>Electrical systems - series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, control, program, system, input device, output device</p>	
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| | | <ul style="list-style-type: none">• Select from and use a range of appropriate utensils, tools and equipment with some accuracy related to their product.• Select from and use finishing techniques suitable for the product they are creating.• Explain their choice of materials according to functional properties and aesthetic qualities.• Select from and use materials and components, including ingredients, construction and electrical components according to their function and properties. <p>Evaluating (ongoing)</p> <ul style="list-style-type: none">• Investigate and evaluate a range of products including the ingredients, materials, components and techniques that are used.• Test and evaluate their own products against design criteria and the intended user and purpose.• Evaluate their ideas and products against their own design criteria and the views of others and identify the strengths and areas for improvement in their work | | |
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<p>Y5 <u>Structures</u></p> <ul style="list-style-type: none"> Understand how to strengthen, stiffen and reinforce 3-D frameworks Know and use technical vocabulary relevant to the project. <p><u>Textiles</u></p> <ul style="list-style-type: none"> Produce a 3-D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics Understand how fabrics can be strengthened, stiffened and reinforced where appropriate Use joining and finishing techniques Know and use technical vocabulary relevant to the project <p><u>Mechanisms</u></p> <ul style="list-style-type: none"> Understand that mechanical and electrical systems have an input, process and an output Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement Know and use technical vocabulary relevant to the project <p>Y6 <u>Structures</u></p> <ul style="list-style-type: none"> Understand how to strengthen, stiffen and reinforce 3-D frameworks. Know and use technical vocabulary relevant to the project Embed all techniques previously learnt <p><u>Cooking and nutrition</u></p> <ul style="list-style-type: none"> Know how to use utensils and equipment including heat sources to prepare and cook food 	<p>Y5 & Y6</p> <p>Design</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>Make</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>Evaluate</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>Technical knowledge</p> <ul style="list-style-type: none"> apply their understanding of how to strengthen, stiffen and reinforce more complex structures 	<p>By the end of Upper Key Stage 2 phase:</p> <p>design decisions, functionality, authentic, user, purpose, design specification, design brief, innovative, research, evaluate, design criteria, annotate, evaluate, mock-up, prototype, function, user, purpose, prototype, annotated sketch, innovation, research, functional</p> <p>Cooking and nutrition-</p> <p>ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble</p> <p>Structures- frame structure, stiffen,</p>	<p>Y5 Laura Ashley Augustus Pugin Brunel</p> <p>Y6 Paul Hollywood Anna Olsen James Hoban Renzo Piano</p>
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<ul style="list-style-type: none"> • Understand about seasonality in relation to food products and the source of different food products • Know and use relevant technical and sensory vocabulary <p><u>Electrical systems</u></p> <ul style="list-style-type: none"> • Understand and use electrical systems in their products linked to science coverage • Apply their understanding of computing to program, monitor and control their products • Know and use technical vocabulary relevant to the project. 		<ul style="list-style-type: none"> ✓ 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>Cooking and nutrition</p> <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>strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent</p> <p>Mechanisms-pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor, circuit, switch, circuit diagram, annotated drawings, exploded diagrams, mechanical system, electrical system, input, process, output</p> <p>Electrical systems-reed switch, toggle switch, push-to-make switch, push-to-break switch, light dependent resistor (LDR), tilt switch, light emitting diode (LED), bulb, bulb holder, battery, battery holder, USB cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, series circuit, parallel circuit</p>	
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