**Design and Technology - Progression map**

| Skills | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
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| **Designing (generate ideas)** | Design appealing products for a particular user based on simple design criteria.<br><br>Develop and communicate these ideas through talk and drawings and mock ups where relevant. | Generate ideas based on simple design criteria and their own experiences, explaining what they could make.<br><br>Develop, model and communicate their ideas through talking, mock-ups and drawings. | Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s.<br><br>Use annotated sketches, prototypes, final product sketches and pattern pieces; communication technology, such as web based recipes to develop and communicate ideas. | Generate and clarify ideas through discussion with peers to develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups.<br><br>Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.<br><br>Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated | Generate innovative ideas through research including surveys, interviews and questionnaires and discussion with peers to develop a design brief and criteria for a design specification.<br><br>Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.<br><br>Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views. and, where appropriate, | Use research using surveys, interviews, questionnaires and web-based resources. to develop a design specification for a range of functional products.<br><br>Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost.<br><br>Generate and develop innovative ideas and share and clarify these through discussion. Develop and communicate |

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| | | | | sketches, cross-sectional and exploded diagrams. | computer-aided design | ideas through discussion, annotated drawings, exploded drawings and drawings from different views. and, where appropriate, computer-aided design, pictorial representations of electrical circuits or circuit diagrams. |
| **Making** | Select and use simple utensils, tools and equipment to perform a job e.g. peel, cut, slice, squeeze, grate and chop safely; marking out, cutting, joining and finishing; cut, shape and join paper and card.<br><br>Select from a range of ingredients and materials according to their characteristics to create a chosen product. | Plan by suggesting what to do next.<br><br>Select and use tools, equipment, skills and techniques to perform practical tasks, explaining their choices.<br><br>Select new materials, and components, reclaimed materials and construction kits (where appropriate) to | Plan the main stages of making.<br><br>Select from and use a range of appropriate utensils, tools and equipment with some accuracy related to their product.<br><br>Select from and use finishing techniques suitable for the product they are creating. | Order the main stages of making.<br><br>Select and use appropriate tools to measure, mark out, cut, score, shape and combine with some accuracy related to their products.<br><br>Explain their choice of materials according to functional properties and aesthetic qualities. | Produce detailed lists of equipment and fabrics relevant to their tasks.<br><br>Write a step-bystep plan, including a list of resources required.<br><br>Select from and use, a range of appropriate utensils, tools and equipment accurately to measure and combine appropriate ingredients, | Formulate a stepby-step plan to guide making, listing tools, equipment, materials and components.<br><br>Competently select from and use appropriate tools to accurately measure, mark, cut and assemble materials, and securely connect electrical components to produce reliable, functional products. |

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| | | build and create their products.<br><br>Use simple finishing techniques suitable for the products they are creating. | | Select from and use materials and components, including ingredients, construction and electrical components according to their function and properties. | materials and resources. | Use finishing and decorative techniques suitable for the product they are designing and making. |
| **Evaluating** | Taste, explore and evaluate a range of products to determine the intended user's preferences for the product.<br><br>Evaluate their ideas throughout and finished products against design criteria, including intended user and purpose. | Explore a range of existing products related to their design criteria.<br><br>Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria. | Investigate a range of 3-D textile products, ingredients and lever and linkage products relevant to their project.<br><br>Test their product against the original design criteria and with the intended user.<br><br>Evaluate the ongoing work and the final product with reference to the design criteria and the views of others. | Investigate and evaluate a range of products including the ingredients, materials, components and techniques that are used.<br><br>Test and evaluate their own products against design criteria and the intended user and purpose.<br><br>Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. | Investigate and analyse products linked to their final product.<br><br>Compare the final product to the original design specification and record the evaluations.<br><br>Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.<br><br>Consider the views of others to improve their work | Continually evaluate and modify the working features of the product to match the initial design specification.<br><br>Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.<br><br>Test the system to demonstrate its effectiveness for |

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| | | | | | | the intended user and purpose. |
| Vocabulary | planning, investigating design, evaluate, make, user, purpose, ideas, product, | investigating, planning, design, make, evaluate, user, purpose, ideas, design criteria, product, function | user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, function, planning, design criteria, annotated sketch, appealing | evaluating, design brief design criteria, innovative, prototype, user, purpose, function, prototype, design criteria, innovative, appealing, design brief, planning, annotated sketch, sensory evaluations | design decisions, functionality, authentic, user, purpose, design specification, design brief, innovative, research, evaluate, design criteria, annotate, evaluate, mock-up, prototype | function, innovative, design specification, design brief, user, purpose design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, prototype. |
| Knowledge | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Food** | Understand where a range of fruit and vegetables come from e.g. farmed or grown at home.<br><br>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.<br>Know and use technical and sensory vocabulary | Understand where a range of fruit and vegetables come from e.g. farmed or grown at home.<br><br>Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are | Know how to use appropriate equipment and utensils to prepare and combine food.<br><br>Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. | Know how to use appropriate equipment and utensils to prepare and combine food.<br><br>Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. | Know how to use utensils and equipment including heat sources to prepare and cook food.<br><br>Understand about seasonality in relation to food products and the source of different food products.<br><br>Know and use relevant technical and sensory vocabulary. | Know how to use utensils and equipment including heat sources to prepare and cook food.<br><br>Understand about seasonality in relation to food products and the source of different food products.<br><br>Know and use relevant technical |

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| | relevant to the project. | part of the eat well plate.<br><br>Know and use technical and sensory vocabulary relevant to the project. | Know and use relevant technical and sensory vocabulary appropriately. | Know and use relevant technical and sensory vocabulary appropriately. | | and sensory vocabulary. |
| Vocabulary | *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* | *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* | *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 healthy/varied diet* | *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 healthy/varied diet* | *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* | *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* |
| **Structures** | | Know how to make freestanding structures stronger, stiffer and more stable. | | Develop and use knowledge of how to construct strong, stiff shell structures. | | Understand how to strengthen, stiffen and reinforce 3-D frameworks. |

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| | | Know and use technical vocabulary relevant to the project. | | Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.<br><br>Know and use technical vocabulary relevant to the project. | | Know and use technical vocabulary relevant to the project. |
| Vocabulary | | *cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder* | | *shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, 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,* | | *frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent* |
| **Textiles** | Understand how simple 3-D textile products are made, | | Know how to strengthen, stiffen and | | Produce a 3-D textile product from a | |

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| | using a template to create two identical shapes.<br><br>Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.<br><br>Explore different finishing techniques<br><br>Know and use technical vocabulary relevant to the project. | | reinforce existing fabrics.<br><br>Understand how to securely join two pieces of fabric together.<br><br>Understand the need for patterns and seam allowances.<br><br>Know and use technical vocabulary relevant to the project. | | combination of accurately made pattern pieces, fabric shapes and different fabrics.<br><br>Understand how fabrics can be strengthened, stiffened and reinforced where appropriate.<br><br>Know and use technical vocabulary relevant to the project. | |
| Vocabulary | *joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish* | | *fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance* | | *seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings,* | |
| **Mechanisms/mechanical systems** | Explore and use sliders and levers.<br><br>Understand that different mechanisms produce | Explore and use wheels, axles and axle holders.<br><br>Distinguish between fixed | Understand and use lever and linkage mechanisms. | | Understand that mechanical and electrical systems have an input, process and an output. | |

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| | different types of movement.<br><br>Know and use technical vocabulary relevant to the project. | and freely moving axles.<br><br>Know and use technical vocabulary relevant to the project. | Distinguish between fixed and loose pivots.<br><br>Know and use technical vocabulary relevant to the project. | | 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. | |
| Vocabulary | *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* | *mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating* | | *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* | |
| **Electrical systems** | | | | Understand and use electrical systems in their products linked to science coverage.<br><br>Apply their understanding of computing to program and | | Understand and use electrical systems in their products linked to science coverage.<br><br>Apply their understanding of computing to program, monitor |

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| | | | | control their products.<br><br>Know and use technical vocabulary relevant to the project. | | and control their products.<br><br>Know and use technical vocabulary relevant to the project. |
| Vocabulary | | | | *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* | | *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* |

Key: Autumn term, Spring term and Summer term