 Progression of skills in Design and Technology

Long-Term Overview for DT 2021-2022

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| Year 1 | | Year 2 | | | Year 3 | | | Year 4 | | | Year 5 | | | Year 6 | | |
| Bread Making | Gardening Gloves Creation | Fabric Bunting | Moving Pictures | Sensational Salads | The Great Bread Bake-Off  Catapults | Indian Elephant Cushions | Game Controllers | Let’s go fly a Kite | Mechanical Posters | Edible Garden | Victorian Apron | Mechanisms Moon Buggy | Egyptian Banquet | Marbulous Mazes | Global food | Operation Game |

Breakdown of Skills

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|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| DESIGN  Understanding contexts, users and purposes | * Draw on their own experience to help generate ideas * Suggest ideas and explain what they are going to do * Identify a target group for what they intend to design and make | * Generate ideas by drawing on their own and other people's experiences * Develop their design ideas through discussion, observation , drawing and modelling * Identify a purpose for what they intend to design and make | * Generate ideas for an item, considering its purpose and the user/s * Identify a purpose and establish criteria for a successful product. | * Generate ideas through brainstorming and identify a purpose for their product. | * Generate ideas, considering the purposes for which they are designing. | * Communicate their ideas through detailed labelled drawings. |
| Generating, developing, modelling and communicating ideas | * Model their ideas in card and paper * Develop their design ideas applying findings from their earlier research | * Identify simple design criteria * Make simple drawings and label parts | * Plan the order of their work before starting * Explore, develop and communicate design proposals by modelling ideas * Make drawings with labels when designing | * Make labelled drawings from different views showing specific features * Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail * Evaluate products and identify criteria that can be used for their own designs | * Draw up a specification for their design * Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail * Use results of investigations, information sources, including ICT when developing design ideas | * Develop a design specification * Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways * Plan the order of their work, choosing appropriate materials, tools and techniques |
| MAKING  Planning | * Make their design using appropriate techniques * With help measure, mark out, cut and shape a range of materials * Use tools *eg scissors and a hole punch* safely * Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape * Select and use appropriate fruit and vegetables, processes and tools * Use basic food handling, hygienic practices and personal hygiene * Use simple finishing techniques to improve the appearance of their product | * Begin to select tools and materials; use vocab' to name and describe them * Measure, cut and score with some accuracy * Use hand tools safely and appropriately * Assemble, join and combine materials in order to make a product * Cut, shape and join fabric to make a simple garment. Use basic sewing techniques * Follow safe procedures for food safety and hygiene * Choose and use appropriate finishing techniques | * Select tools and techniques for making their product * Think about their ideas as they make progress and be willing change things if this helps them improve their work * Measure, mark out, cut, score and assemble components with more accuracy * Work safely and accurately with a range of simple tools * Demonstrate hygienic food preparation and storage * Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT | * Select appropriate tools and techniques for making their product * Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques * Use simple graphical communication techniques * Join and combine materials and components accurately in temporary and permanent ways * Measure, tape or pin, cut and join fabric with some accuracy * Sew using a range of different stitches, weave and knit | * Select appropriate materials, tools and techniques * Measure and mark out accurately * Use skills in using different tools and equipment safely and accurately * Weigh and measure accurately (time, dry ingredients, liquids) * Apply the rules for basic food hygiene and other safe practices *e.g. hazards relating to the use of ovens* * Cut and join with accuracy to ensure a good-quality finish to the product | * Select appropriate tools, materials, components and techniques * Assemble components make working models * Make modifications as they go along * Use tools safely and accurately * Construct products using permanent joining techniques * Pin, sew and stitch materials together create a product * Achieve a quality product |
| Practical skills and techniques | * Draw on their own experience to help generate ideas * Suggest ideas and explain what they are going to do * Identify a target group for what they intend to design and make | * Generate ideas by drawing on their own and other people's experiences * Develop their design ideas through discussion, observation , drawing and modelling * Identify a purpose for what they intend to design and make | * Generate ideas for an item, considering its purpose and the user/s * Identify a purpose and establish criteria for a successful product. | * Generate ideas through brainstorming and identify a purpose for their product. | * Generate ideas, considering the purposes for which they are designing. | * Communicate their ideas through detailed labelled drawings. |
| EVALUATING  Own ideas and products | * Evaluate their product by discussing how well it works in relation to the purpose * Evaluate their products as they are developed, identifying strengths and possible changes they might make * Evaluate their product by answering questions about what they have made and how they have gone about it | * Evaluate against their design criteria * Evaluate their products as they are developed, identifying strengths and possible changes they might make * Talk about their ideas, saying what they like and dislike about them | * Evaluate their product against original design criteria *e.g. how well it meets its intended purpose* * Disassemble and evaluate familiar products | * Evaluate their work both during and at the end of the assignment * Evaluate their products carrying out appropriate tests | * Evaluate a product against the original design specification * Evaluate it personally and seek evaluation from others | * Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests * Record their evaluations using drawings with labels * Evaluate against their original criteria and suggest ways that their product could be improved |
| NOTABLE PEOPLE | Mary Berry | Alexander McQueen | Thomas Warburton | The Wright Brothers | Elon Musk | ???? Engineer |
| COOKING AND NUTRITION  Food preparation | With close supervision and physical guidance where necessary:  **Sieve flour, raising agents** and/or spices **together** into a bowl  With **support**, mix, stir and combine **wet** and **dry** ingredients uniformly (e.g. to form a **dough**)  **Peel** fruit using their hands (through snack)  **Tear** food to divide it (e.g. bread)  **Knead** the dough by hand  **Shape** the dough by hand | With close supervision and physical guidance where necessary, know how to:  **Grate** soft food, using a grater (e.g. cheese)  **Peel harder** food (e.g. apple, potato with physical **guidance and support**  **Cut** food into **evenly sized largish** pieces (e.g. cucumber, tomatoes, lettuce)  **Peel soft** vegetables using a peeler (e.g. cucumber) | With close supervision, demonstrate how to:  **Sieve flour, raising agents** and/or spices **together** into a bowl  With **some support**, mix, stir and combine **wet** and **dry** ingredients uniformly (e.g. to form a **dough**)  **Knead** the dough by hand  **Shape** the dough by hand or selecting an appropriate tin | With supervision, demonstrate how to:  **Grate harder** food using a grater (eg apples, carrots)  **Cut** foods into **evenly sized** strips or cubes (e.g. peppers, cheese)  **Begin** to dice foods  **Crush** garlic using a garlic  press with **ease**  **Use** the **claw grip** to cut **harder** foods using a serrated vegetable knife (e.g. carrot)  **Use both** the **bridge hold** and **claw grip** to cut the same food using a serrated vegetable knife (e.g. onion) | With supervision and **greater confidence**:  **Sieve flour, raising agents** and/or spices **together** into a bowl  With **some support**, mix, stir and combine **wet** and **dry** ingredients uniformly (e.g. to form a **dough**) Use the **claw grip** to cut harder foods using a serrated vegetable knife (e.g. carrot)  Use both the **bridge hold** and **claw grip** to cut the same food using a serrated vegetable knife (e.g. onion)  **Peel** harder food using a peeler (e.g. apple, potato)  **Dice** foods and cut them into evenly sized (e.g. garlic, vegetable batons, herbs) | Under supervision with **confidence** and **more independence**:  **Select** the most appropriate cutting method (claw / bridge etc for particular foods)  Apply the **claw grip technique** to **accurately** cut harder foods using a serrated vegetable knife (e.g. carrot)  Use both the **bridge hold** and **claw grip** to cut the same food using a serrated vegetable knife (e.g. onion)  **Peel** harder food using a peeler (e.g. apple, potato)  **Dice** foods and cut them into evenly sized (e.g. garlic, vegetable batons, herbs) |

Breakdown of Vocabulary

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|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| Textiles | **Templates & Joining:**  names of existing products, joining and finishing techniques, tools, fabrics, template, pattern pieces, mark out, join, decorate, finish, features, suitable, design criteria, make, evaluate, purpose | **Templates & Joining:**  names of existing products, joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function | **2D Shape & 3D products:**  fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, templates, stitch, seam, user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern pieces |  | **Combining Different Fabric Shapes:**  seam, seam allowance, right side, wrong side, hem, template, pattern pieces, name of textiles used, pins, needles, thread, pinking shears, iron transfer paper, design criteria, annotate, cross-stitch, sampler, embroidery, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype |  |
| Electrical Systems |  |  | h  **Simple Circuits & Switches:**  series circuit, fault, connection, button / switch, battery, battery holder, wire, insulator, conductor, crocodile clip, control, program, system, input device, output device, user, purpose, function, prototype, design criteria, innovative, appealing, design brief |  |  | **More complex switches & circuits:**  series circuit, parallel circuit, names of switches and components, input device, output device, system, monitor, control, program, flowchart, function, innovative, design specification, design brief, user, purpose |
| Mechanisms |  | **Slider & Leavers:**  slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function |  | **Leavers & Linkages:**  mechanism, lever, linkage, pivot, slot, bridge, user, purpose, function, prototype, design criteria, innovative, appealing, design brief | **Wheels & Axles:**  vehicle, wheel, axle, axle holder, chassis, body, cab, assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism, names of tools, equipment and materials used, design, make, evaluate, purpose, user, criteria, functional |  |
| Structures |  |  | **Freestanding Structures:**  cut, fold, join, fix, structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, wood, plastic, circle, triangle, square, rectangle, design, make, evaluate, user, purpose, ideas, design criteria, product, function |  |  | **Frame Structures:**  **f**rame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent, design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional |

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| Food | **Bread Making**  Ingredients, yeast, dough, flour, savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria | S  Sensational Salads  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,  Worldrl  Hello  Se | **The Great Bread Bake Off**  Name of products, names of equipment, utensils, techniques and ingredients, yeast, dough, flour, wholemeal, unleavened, baking soda, spice, herbs, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, intolerance savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix. | **Edible Garden**  Fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet, planning, design criteria, purpose, user, annotated sketch, sensory evaluations | **Egyptian Banquet**  cook, fresh, savoury, hygienic, edible, texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, roll out, shape, sprinkle, mix, combine, chop, slice, design specification, innovative, research, evaluate, design brief | Global Food  texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist spice, herbs, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality,  Worldrl |