

D&T: Knowledge Progression Map

2024-2025



| | Progression of knowledge and skills (Core content identified in bold) | | | | | | | |
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| ELG NC Objectives | ELG- Fine motor skills <ul style="list-style-type: none"> Hold a pencil effectively in preparation for fluent writing- using the tripod grip in almost all cases. Use a range of small tools, including scissors, paintbrushes and cutlery. Begin to show accuracy and care when drawing. ELG- Creating with materials <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. | Design <ul style="list-style-type: none"> design purposeful, functional, appealing products for themselves and other users based on design criteria 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 Technical knowledge <ul style="list-style-type: none"> build structures, exploring how they can be made stronger, stiffer and more stable Cooking and Nutrition <ul style="list-style-type: none"> use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from. | | | Design <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 Make <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 Evaluate <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 Technical knowledge <ul style="list-style-type: none"> 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. Cooking and nutrition <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 | | | |
| | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Greater Depth |
| Design | I can think of my own ideas and use them in my creations I can plan how best to approach a task | I can make a simple plan before making I can use my own ideas to make something | I can think of an idea and plan what to do next | I can design a product and make sure that it looks attractive | I can use ideas from other people when I am designing I can produce a plan and explain it | I can come up with a range of ideas after collecting information from different sources | I know what a budget is I can use market research to inform my plans and ideas | Present open-ended design challenges that require critical thinking and problem-solving at a |

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| | | I can explain to someone else how I want to make my product | | | | I can produce a detailed, step-by-step plan | <ul style="list-style-type: none"> I can show that I consider culture and society in my plans and designs | <p>higher level. Encourage students to tackle real-world issues, such as sustainable design, accessibility, or social impact projects. Teach students advanced presentation skills, including public speaking, to confidently communicate their design concepts to different audiences. Encourage them to articulate design choices, addressing potential challenges and demonstrating their understanding of the design process.</p> |
| Make | <p>I can select appropriate resources and tools</p> <p>I can explain what I am making</p> <p>I can explain which tools I am using and why</p> <p>I can use tools safely</p> <p>I can use tools to manipulate materials</p> <p>I can make observations about the features of objects</p> <p>I can use my senses to explore and describe objects</p> | <p>I can make a product which moves</p> <p>I can make my model stronger</p> <p>I can choose appropriate resources and tools</p> <p>I can use my own ideas to make something</p> | <p>I can join materials and components in different ways</p> <p>I can measure materials to use in a model or structure</p> | <p>I can follow a step-by-step plan, choosing the right equipment and materials</p> <p>I know how to join components</p> <p>I can make a product which uses mechanical components</p> <p>I can work accurately to measure, make cuts and make holes</p> <p>I can think about my ideas as I make progress and am willing to make changes if this helps me to improve my work</p> | <p>I can present a product in an interesting way</p> <p>I can measure accurately</p> <p>I can persevere and adapt my work when my original ideas do not work</p> | <ul style="list-style-type: none"> I know how to use tools safely I can use a range of tools and equipment competently I can make a prototype before I make a final version I can continuously check that my design is effective and fit for purpose | <ul style="list-style-type: none"> I know how to work safely I can follow and refine my plans | <p>Engage in ambitious and innovative design projects that demonstrate a high level of creativity and technical expertise. Utilize advanced making techniques and tools to create intricate and precise prototypes or final products. Integrate technology, such as microcontrollers or sensors, to add advanced functionality to their designs.</p> |

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| | | | | I can select the most appropriate tools and techniques for a given task I can choose a textile for both its suitability and its appearance | | | | |
| Evaluate | I can identify success and next steps I can say how my outcome could be improved I can change my strategy as needed I can review my activity I can explain how something works | I can describe how something works I can assess how well my product works | I can explain what went well with my work I can explain why I have chosen specific textiles If I did it again, can I explain what I would improve? | I can think about my ideas as I make progress and am willing to make changes if this helps me to improve my work I can prove that my design meets some set criteria I can explain how I could change my design to make it better I can assess how well my product works in relation to the purpose | I can evaluate and suggest improvements for my designs I can explain how I have improved my original design I can assess how well my product works in relation to the design criteria and the intended purpose I can explain how I could improve my design and how my improvement would affect the original outcome I can evaluate products for both their purpose and appearance | I can evaluate appearance and function against original criteria •I can explain how a product will appeal to a specific audience I can suggest alternative plans; outlining the positive features and draw backs •I can evaluate appearance and function against the original design criteria •I can assess how well my product works in relation to the design criteria and the intended purpose and suggest improvements | <ul style="list-style-type: none"> •I show that I can test and evaluate my products •I can explain how products should be stored and give reasons •I can work within a budget •I can evaluate my product against clear criteria •I can justify my plans in a convincing way •Can I test and evaluate my final product - Is it fit for purpose - What would improve it - Would different resources have improved their product •Would they need more or different information to make it even better - Does their product meet all design criteria? | Foster a high level of critical evaluation, where students analyse their designs in detail, considering the impact of their choices on the final product. Teach students how to use feedback and evaluation to refine and iterate their designs, pushing the boundaries of their creativity and problem-solving skills. |
| Technical knowledge | I can explain which tools I am using and why I can use tools safely | I can describe how something works I can describe how my product works I understand how I have been successful and can identify my next steps | I know about different mechanisms I can choose tools and materials and explain why I have chosen them | I can select the most appropriate tools and techniques for a given task I can choose a textile for both its suitability and its appearance I know how to join components | I can measure accurately | •I know how to use tools safely | I know how to work safely | Explore complex food science concepts, such as emulsification and fermentation, and apply them in recipe development. Investigate advanced textile technologies, such as smart textiles and their potential applications in various industries. |

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| | | | | I can make a product which uses mechanical components | | | | Explore sophisticated mechanical principles, such as linkages and pneumatic systems, and apply them in complex mechanisms. |
| Cooking and nutrition | <p>I have own likes/dislikes when it comes to foods.</p> <p>I can begin to understand healthy and unhealthy foods and the need for a balanced diet</p> <p>I know that it's important to have clean hands before touching food</p> <p>I can begin to cut and prepare fruits with support</p> | <p>I can name and sort food into the five groups in the Eatwell Guide</p> <p>I understand that we should eat five portions of fruit and vegetables every day and start to explain why</p> <p>I can use my knowledge of the Eatwell Guide to design and prepare a healthy snack</p> | <p>I can explain where in the world different foods originate from</p> <p>I understand that all food comes from plants or animals</p> <p>I understand that food has to be farmed, grown elsewhere (e.g., home) or caught</p> <p>I can cut food safely</p> <p>I can describe the ingredients I am using</p> <p>I can use my knowledge of healthy eating to design and prepare a healthy snack</p> | <p>I understand how to prepare ingredients using appropriate cooking utensils</p> <p>I can use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking</p> <p>I am starting to independently follow a recipe</p> <p>Understand how to prepare and cook a variety of healthy, predominantly savoury dishes safely and hygienically</p> | <p>I understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</p> <p>I know how to be both hygienic and safe in the kitchen when using food</p> <p>I understand how to prepare and cook a savoury dish safely and hygienically</p> <p>I can think about my ideas as I progress and make changes to improve my work through evaluation</p> | <p>I understand about seasonality, how this may affect the food availability and plan recipes according to seasonality</p> <p>I understand that food is processed into ingredients that can be eaten or used in cooking</p> <p>I can measure accurately and calculate ratios of different ingredients to scale up or down from a recipe</p> <p>I understand how to prepare and cook a savoury dish safely and hygienically</p> <p>I can independently follow a recipe</p> | <ul style="list-style-type: none"> I can explain and give examples of food that is grown, reared and caught in the UK, Europe and wider world I can explain that foods contain different substance such as protein for health, and apply this knowledge to plan recipes I can demonstrate a range of cooking techniques (boiling, griddling, frying) I can evaluate, adapt and refine a recipe by changing more than one ingredient to change appearance, taste, texture or aroma I understand how to prepare and cook a savoury dish safely and hygienically I can independently follow a recipe | <p>Investigate advanced culinary techniques, such as molecular gastronomy or cake decorating.</p> <p>Explore the cultural and historical aspects of food and its impact on societies.</p> |
| Vocabulary | <p>Textiles: Join, sew, stick</p> <p>Mechanisms: Car, wheel, pull, push</p> <p>Structures: Cut, fold, join</p> <p>Food: Cut, taste, fruit, vegetable</p> | <p>Textiles: Pattern, mark out, decorate, running stitch, needle, fabric</p> <p>Mechanisms: Axle, fixed, free, design, make, cutting, joining, hacksaw, vice, dowel, body, cab, shaping</p> | <p>Textiles: Template, quality, suitable, features, dye, overstitch, design, fray, mock-up, seam</p> <p>Mechanisms: Mechanism, lever, slider, slot, pivot, guide/bridge, masking tape, fastener, pull, push, down, straight, work,</p> | <p>Textiles: Fastening, compartment, zip, finishing technique, function, prototype, back stitch, felted, woven, knitted, bonded</p> <p>Electrical Systems: User, fault, toggle switch, insulator, conductor, battery</p> | <p>Textiles: Aesthetics, seam allowance, pinning, embroidery, back stitch, blanket stitch, cross stitch</p> <p>Electrical Systems: Series circuit, connection, push-to-make switch, push-to-break switch, innovative, appealing, control</p> | <p>Textiles: Specification, tacking, working drawing, clasp, pinking shears, design criteria, hem, reinforce, stem stitch, satin stitch, tie dye</p> <p>Electrical Systems: Parallel circuit, light emitting diode, monitor,</p> | <p>Textiles: Applique, annotate, evaluate, innovation, functionality, renewable, authentic, chain stitch</p> <p>Electrical Systems: Light dependent resistor, interface control, micro switch, latching switch</p> <p>Mechanisms: Transmit, annotated drawings,</p> | |

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| | | <p>Structures: Cut, fold, join, fix, weak, strong</p> <p>Food: Fruit, vegetables, soft, juicy, crunchy, sticky, smooth, sharp, crisp, sour hard, flesh, skin, seed pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, tasting, arranging</p> | <p>design, evaluate, purpose</p> <p>Structures: Structure, base, underneath, thicker, thinner, corner, point, straight, curved, rectangle, cube, cuboid, cylinder</p> <p>Food: Texture, taste, appearance, preference, greasy, moist, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested</p> | <p>holder, crocodile clip</p> <p>Mechanisms: Loose pivot, fixed pivot, system, input, process</p> <p>Structures: Shell, structure, net, marking out, material, joining, three dimensional, stiff</p> <p>Food: Texture, taste, appearance, preference, greasy, moist, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested</p> | <p>box, input device, output device, system</p> <p>Mechanisms: Loose pivot, fixed pivot, system, input, process, output, linear, rotary, reciprocating, innovative, appealing, linkage, oscillating</p> <p>Structures: Assemble, prism, vertex, breadth, capacity, scoring, adhesives, reduce, reuse, recycle, corrugating, ribbing, laminating</p> <p>Food: Texture, taste, appearance, preference, greasy, moist, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested</p> | <p>flowchart, design specification, reed switch, tilt switch</p> <p>Mechanisms: Pulley, gear, driver, follower, rotation, motor, belt, spindle, motor, circuit, switch, ratio, transmit, annotated drawings, exploded diagrams, functionality</p> <p>Structures: Reinforce, triangulation, stability, temporary, permanent, prototype, innovation, functional, design brief</p> <p>Food: Ingredients, yeast, dough, wholemeal, unleavened, baking soda, spice, herbs, carbohydrate, sugar, fat, protein, vitamins, nutrients, gluten, allergy, intolerance, savoury, seasonality, pour, mix, kneed, whisk, beat, combine, fold, rubbing in</p> | |
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| Term | Topic Blocks | | | | | | |
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| | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |

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| Autumn | Autumn 2 – Christmas Decorations | Autumn 2- Candy Cane Mouse | Autumn - Christmas card with moving parts | Autumn - Christmas card with lever and linkages | Autumn – Design and make a Christmas bauble | Eggstronauts | Autumn - Christmas toy with mechanisms |
| Spring | | Spring 2- Plant Slider | Spring - fabric bookmark | Spring - | Spring – Design and make a product for a Roman soldier (3-D printer) | Bridge Building | Spring - Sewing project - day of the dead/Maya mask |
| Summer | Summer 2 – Banana Muffins | Summer 2- Dips and Dippers | Summer - food project | Summer- healthy pitta filling | Summer – Create an edible garden platter with a sandwich using butter they have made. | Ancient Egypt - flatbreads | Summer - Cooking project, making pizzas |