

# Progression of Design Technology Skills

## Key Concepts:

	<i>Researching</i>	<i>Exploring</i>	<i>Designing</i>	<i>Making</i>	<i>Evaluating</i>	<i>Vocabulary</i>
Year 3	<p>Identify design problems within their immediate environment (e.g., broken toy, classroom storage).</p> <p>Gather basic information through observation and discussions.</p>	<p>Experiment with a variety of materials and tools safely under adult supervision.</p> <p>Explore simple mechanisms and their functions through play.</p>	<p>Generate basic design ideas through drawing, role-playing, and discussion.</p> <p>Use simple sketches with labels to communicate their ideas.</p>	<p>Select and use tools and materials safely with adult guidance.</p> <p>Develop basic cutting, joining, and shaping techniques for a variety of materials (e.g., card, fabric, wood).</p>	<p>Self-evaluate their creations based on functionality and identify areas for improvement.</p> <p>Offer simple feedback on the work of others, focusing on what they like.</p>	<p>user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, function, planning, design criteria, annotated sketch, appealing</p> <p>equipment, utensils, technique, ingredients, texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, fresh, savoury, hygienic, edible, grown, frozen, tinned, processed</p> <p>fabric, fastening, compartment, button, structure, finishing technique, templates, stitch, seam, seam allowance</p> <p>Frame, structure, three-dimensional, marking out, tabs, adhesives, joining,</p>

						assemble, accuracy, material, stiff, strong
Year 4	<p>Gather information through simple research methods (e.g., asking questions, looking at pictures).</p> <p>Consider the needs of the user for their designs.</p>	<p>Experiment with a wider range of materials and tools with increasing control.</p> <p>Begin to explore basic construction methods (e.g., assembling components, adding fastenings).</p>	<p>Develop design ideas based on user needs and simple design criteria (e.g., is it strong, will it work?).</p> <p>Use sketches with annotations to communicate their ideas more clearly.</p>	<p>Demonstrate controlled use of tools and develop accuracy in cutting and joining techniques.</p> <p>Begin to apply construction methods to create simple functional products.</p>	<p>Self-evaluate their work against design criteria.</p> <p>Offer constructive feedback to peers, focusing on functionality and aesthetics (e.g., does it work well, does it look good?).</p>	<p>evaluating, design brief, design criteria, innovative, prototype, user, purpose, function, appealing, planning, annotated sketch, sensory evaluations</p> <p>products, equipment, utensils, technique, ingredients, texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy, varied, diet</p> <p>shell structure, length, width, breadth, marking out, adhesives, joining, assemble, accuracy, material, stiff, strong</p> <p>series circuit, fault, connection, switch, control, LED, conductor</p>

Year 5	<p>Conduct research using various methods (e.g., internet searches, interviews, questionnaires). Identify and consider different solutions to design problems.</p>	<p>Experiment with a variety of making techniques, including some more advanced ones (e.g., drilling, sawing). Explore how mechanisms can be used in their designs.</p>	<p>Refine design ideas through research and consider a wider range of design criteria (e.g., functionality, aesthetics, sustainability).</p> <p>Present ideas using detailed sketches, annotations, and potentially simple models.</p>	<p>Apply a wider range of making techniques with increasing precision.</p> <p>Develop more complex construction methods to create functional products with a good finish.</p>	<p>Critically evaluate their work, considering design, construction, and user needs.</p> <p>Provide detailed and constructive feedback to peers, including suggestions for improvement in design and construction.</p>	<p>design decisions, functionality, authentic, user, purpose, specification, brief, innovative, research, evaluate, criteria, annotate, mock-up, prototype, evaluate, improve</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>shell structure, stiffen, strengthen, reinforce, stability, shape, join, temporary, permanent</p> <p>axle, motor, circuit, switch, circuit diagram, annotated drawings, exploded diagrams, mechanical system, electrical system, battery, battery holder, wire, insulator</p>
Year 6	<p>Research existing products and identify areas for improvement.</p>	<p>Explore advanced making techniques for different materials and consider their suitability for</p>	<p>Develop innovative and original design solutions, considering user</p>	<p>Independently select and use a variety of advanced making techniques for different materials.</p>	<p>Evaluate the success of their final product against design specifications.</p>	<p>function, innovative, specification, brief, user, purpose, brief, prototype, annotated sketch, purpose, user, research, functional, mock-up, evaluate, improve</p>

	Consider user feedback and the impact of design choices.	specific design purposes.  Research and understand basic mechanical principles (e.g., levers, gears)	feedback and technical feasibility.  Present designs using a variety of techniques (e.g., technical drawings, digital software).	Create high-quality products with a focus on detail, functionality, and aesthetics.	Analyze the work of others, identifying strengths and weaknesses and suggesting improvements in design, construction, and user experience.	ingredients, products, equipment, utensils, technique, texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy, varied, diet, source, origin, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, cook, temperature  cam, pulley, lever, mechanism, rotation, spindle, axle, driver, follower, annotated drawings, exploded diagrams
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## Practical techniques

	<i>Mechanics and Electrics</i>	<i>Textiles</i>	<i>Cooking</i>
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Year 3	<ul style="list-style-type: none"> <li>• Begin to use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product.</li> <li>• Begin to choose suitable techniques to construct products or to repair items.</li> <li>• Begin to strengthen materials using suitable techniques.</li> <li>• Begin to cut materials accurately and safely by selecting appropriate tools.</li> <li>• Begin to measure and mark out to the nearest millimetre.</li> <li>• Begin to apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material.</li> <li>• Begin to select appropriate joining techniques.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and name common textiles and their properties (e.g., cotton, wool, waterproof). Understand the concept of seam allowance.</li> <li>• Select and use appropriate tools and equipment safely (e.g., blunt scissors, fabric glue).</li> <li>• Develop basic cutting and joining techniques (e.g., straight cuts, running stitch).</li> </ul>	<ul style="list-style-type: none"> <li>• Follow simple recipes with adult supervision. Use basic tools safely (e.g., rolling pins, graters). Practice basic cutting techniques on soft ingredients (e.g., chopping fruit). Develop skills in mixing, stirring, and measuring ingredients.</li> <li>• Understand the importance of handwashing before and after food preparation. Identify basic food safety practices (e.g., checking use-by dates, storing food correctly).</li> <li>• Identify the main food groups and their importance in a healthy diet. Explore the concept of portion control and balance.</li> <li>• Describe the taste, texture, and smell of their cooked food. Identify areas for improvement in their own work.</li> <li>• Understand the importance of handwashing before and after food preparation. Identify basic food safety practices (e.g., checking use-by dates, storing food correctly).</li> <li>• Identify the main food groups and their importance in a healthy diet. Explore the concept of portion control and balance.</li> <li>• Describe the taste, texture, and smell of their cooked food. Identify areas for improvement in their own work.</li> </ul>
Year 4	<ul style="list-style-type: none"> <li>• Cut materials accurately and safely by selecting appropriate tools.</li> <li>• Measure and mark out to the nearest millimeter.</li> <li>• Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material.</li> </ul>	<ul style="list-style-type: none"> <li>• Explain the properties of different textiles and their suitability for different purposes. Begin to understand basic textile construction (e.g., woven, knitted).</li> <li>• Demonstrate more precise cutting and joining techniques (e.g., curved cuts, backstitch).</li> </ul>	<ul style="list-style-type: none"> <li>• Independently follow recipes with clear instructions. Demonstrate safe knife skills for chopping and slicing a wider range of ingredients. Explore different heating methods (e.g., grilling, boiling). Develop confidence in whisking, separating eggs, and using graters with care.</li> </ul>

	<ul style="list-style-type: none"> <li>• Select appropriate joining techniques.</li> <li>• Create products with series and parallel circuits.</li> <li>• Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product.</li> <li>• Choose suitable techniques to construct products or to repair items. I can strengthen materials using suitable techniques.</li> </ul>	<ul style="list-style-type: none"> <li>• Explore basic construction methods (e.g., attaching fastenings, simple folds).</li> </ul>	<ul style="list-style-type: none"> <li>• Explain the importance of maintaining a clean and hygienic workspace. Follow clear food safety procedures to prevent contamination (e.g., using separate chopping boards for raw and cooked food).</li> <li>• Explain the benefits of a balanced diet for growth and development. Begin to explore the concept of seasonality and locally sourced produce.</li> <li>• Present their cooked dishes with care and consideration. Offer simple feedback on the work of others.</li> </ul>
Year 5	<ul style="list-style-type: none"> <li>• Begin to cut materials with precision and refine the finish using appropriate tools.</li> <li>• Begin to show an understanding of the qualities of materials to select appropriate tools to cut and shape them.</li> <li>• Begin to develop a range of practical skills to create products.</li> <li>• Use innovative combinations of electronics and mechanisms in product designs.</li> </ul>	<ul style="list-style-type: none"> <li>• Research and compare the properties of natural and synthetic textiles. Evaluate the suitability of materials for a specific design purpose.</li> <li>• Apply a wider range of cutting and joining techniques with accuracy (e.g., French seams, buttonholes).</li> <li>• Develop more complex construction methods (e.g., pockets, lining).</li> </ul>	<ul style="list-style-type: none"> <li>• Adapt and modify recipes for personal preference or dietary requirements. Master more complex knife skills (e.g., dicing, julienne).</li> <li>• Experiment with a wider variety of cooking techniques (e.g., frying, baking, steaming). Develop skills in kneading dough, folding mixtures, and using kitchen appliances safely.</li> <li>• Evaluate potential food safety hazards and take appropriate action to minimize risk.</li> <li>• Demonstrate understanding of safe storage and handling practices for different food types.</li> <li>• Research and discuss the relationship between food and health (e.g., sugar intake, energy levels). Consider different dietary needs and preferences.</li> <li>• Self-evaluate their cooking against success criteria (e.g., taste, texture, appearance). Provide constructive feedback to peers, focusing on taste and presentation.</li> </ul>
Year 6	<ul style="list-style-type: none"> <li>• Cut materials with precision and refine the finish using appropriate tools.</li> </ul>	<ul style="list-style-type: none"> <li>• Explore the impact of textile production on the environment and society.</li> </ul>	<ul style="list-style-type: none"> <li>• Plan and prepare multi-stage dishes independently. Demonstrate a high level of knife safety and precision.</li> </ul>

	<ul style="list-style-type: none"><li>• Demonstrate an understanding of the qualities of materials to select appropriate tools to cut and shape them.</li><li>• Develop a range of practical skills to create products.</li><li>• Convert linear motion to rotary using cams.</li></ul>	<ul style="list-style-type: none"><li>• Consider sustainable and ethical practices in textile choices. Independently select and use a variety of advanced techniques (e.g., applique, embroidery, knitting).</li><li>• Create complex textile products with a high level of finish.</li></ul>	<ul style="list-style-type: none"><li>• Apply advanced cooking techniques (e.g., roasting, poaching, flambéing) with adult guidance. Develop skills in food presentation and plating.</li><li>• Promote safe food hygiene practices within the kitchen environment. Research and discuss the importance of food traceability and sourcing.</li><li>• Plan and prepare meals that are nutritious and meet specific dietary requirements.</li><li>• Critically evaluate the nutritional value of different food choices.</li><li>• Critically analyze their final dish, considering success in cooking techniques and presentation. Offer detailed feedback to peers, including suggestions for improvement in both cooking and presentation skills.</li></ul>
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