

EXPLORE	Disciplinary	Substantive
Y1	<p>Talk about & explore existing products, identifying what is good or could be improved.</p> <p>Express personal opinions on products.</p>	<p>Begin to identify individual features that affect how products work (e.g., wheel size or position).</p> <p>Identify & explore simple mechanisms (e.g., a slider or 2D lever in a moving picture).</p> <p>Appreciate how different plants are grown and some of the different reasons why.</p>
Y2	<p>Evaluate existing products based on use, materials, and how they work.</p> <p>Explain how a product will work in a group discussion.</p> <p>Express likes and dislikes.</p>	<p>Identify several simple features that affect how products work (e.g., wheel size, position).</p> <p>Investigate basic mechanisms (rolling axels).</p>
Y3	Evaluate products considering function and suitability for the user.	<p>Identify mechanisms used in products.</p> <p>Taste test shop-bought ingredients and explain preferences.</p> <p>Recognise the purpose of weaving and looms.</p> <p>Learn about foods from different cultures.</p> <p>Understand & explore how pulleys function (mechanical components).</p> <p>Begin to appreciate how products have evolved over time.</p>
Y4	<p>Evaluate existing products based on design, materials, and function.</p> <p>Evaluate ingredients based on taste, availability & aesthetics.</p>	<p>Understand how mechanisms can be used to store & release energy.</p> <p>Appreciate how products have changed over time & some reasons for this.</p>
Y5	<p>Begin to make clear points considering function, cost, and sustainability.</p> <p>Use exploded diagrams to explore the key parts of existing everyday products.</p>	<p>Consider sustainability of materials and the product life cycle.</p> <p>Learn about key individuals or events in product innovation.</p> <p>Understand how cams & gears function (mechanical components).</p> <p>Begin to consider seasonality and food sourcing.</p> <p>Begin to use logical reasoning to consider why products have evolved over time.</p>
Y6	<p>Evaluate products for function, cost, and sustainability.</p> <p>Use exploded diagrams to explore the key parts of products that they have created & adapted.</p>	<p>Identify hazards and solutions in design.</p> <p>Consider the impact of products beyond intended purpose.</p> <p>Analyse advanced materials and technologies.</p> <p>Understand how mechanisms can be used to store & release energy in different directions.</p> <p>Consider seasonality and food sourcing using comparison of ingredients.</p> <p>Use logical reasoning to consider why products have evolved over time.</p>

DESIGN	Disciplinary	Substantive
Y1	<p>Generate simple ideas through talking, drawing, or ICT.</p> <p>Represent ideas using basic drawings or models.</p> <p>Consider the purpose of a design (e.g., a bag to carry toys).</p>	Recognise different materials and their basic properties.
Y2	<p>Develop ideas through talking, drawing, and ICT.</p> <p>Create simple labelled diagrams.</p> <p>Use mock-ups & templates to visualise ideas.</p> <p>Explore basic joining techniques.</p>	Understand that materials have different properties and are chosen for function.
Y3	<p>Generate multiple ideas for a task.</p> <p>Create detailed sketches with labels.</p> <p>Plan out steps for making a product.</p>	Understand material properties and their functions.
Y4	<p>Create multiple design ideas and refine them.</p> <p>Use sketches and CAD for clarity.</p> <p>Plan the making process and required materials.</p> <p>Develop a simple design criterion as a class.</p>	<p>Begin to explore advanced materials (e.g., conductors and insulators).</p> <p>Begin to appreciate the global impact of using sustainable & recyclable materials.</p>
Y5	<p>Generate multiple ideas based on research.</p> <p>Use CAD or 3D modelling for detailed designs.</p> <p>Develop design criteria considering feedback.</p>	<p>Begin to investigate some benefits of using sustainable materials.</p> <p>Explore & combine advanced materials (e.g., conductors and insulators).</p>
Y6	<p>Generate and refine ideas using research and feedback.</p> <p>Use detailed sketches, CAD, and prototypes.</p> <p>Plan the entire making process, considering challenges.</p>	Investigate different benefits for using sustainable materials.

MAKE	Disciplinary	Substantive
Y1	<p>Begin to join materials using simple techniques.</p> <p>Use familiar tools and equipment safely.</p> <p>Wash hands and clean surfaces.</p> <p>Weigh, measure, mix, and prepare food with support.</p> <p>Create a fixed axle to create a rolling movement.</p>	
Y2	<p>Cut & shape materials with growing accuracy.</p> <p>Join materials using adhesives or stitching.</p> <p>Use different techniques to make products stronger.</p> <p>Use familiar tools with increasing accuracy.</p> <p>Apply running stitch to join fabric.</p> <p>Create a spinning axle for movement.</p>	
Y3	<p>Assemble, join, and combine materials accurately.</p> <p>Measure, mark, and shape materials with increasing accuracy.</p> <p>Strengthen 2D products using cladding and rendering.</p> <p>Create a simple fixed pulley.</p> <p>Prepare, peel, measure, and season ingredients.</p> <p>Create woven fabric using a loom.</p>	
Y4	<p>Select and combine materials to meet design needs.</p> <p>Reinforce structures with cladding and rendering.</p> <p>Measure, mark, cut, and shape materials accurately.</p> <p>Prepare food safely and hygienically.</p> <p>Create a simple circuit for an output (e.g., LED).</p> <p>Create a simple wind-up mechanism from plastic.</p>	<p>Recognise & appreciate some methods & practices to ensure cooking appliances are used safely & efficiently.</p>

Y5	<p>Use various tools and materials to create functional products.</p> <p>Reinforce and strengthen structures.</p> <p>Apply finishing techniques for improved aesthetics.</p> <p>Apply blanket stitch for textiles.</p> <p>Build circuits with switches.</p> <p>Apply more complex mechanisms (motors, gears).</p> <p>Create a cam mechanism with support.</p>	
Y6	<p>Use a variety of tools and materials for robust products.</p> <p>Refine designs through testing and adjustments.</p> <p>Prepare and cook food using different techniques.</p> <p>Build electronic circuits with programmable elements.</p> <p>Apply finishing techniques for function and aesthetics.</p> <p>Create a wind-up mechanism from strong materials (metal).</p>	

EVALUATE	Disciplinary	Substantive
Y1	<p>Talk about own work, linking to what went well.</p> <p>Identify simple ways to improve a product.</p> <p>Express opinions about the work of others.</p>	
Y2	<p>Talk about own work, linking to what they have been asked to do (simple design criteria)</p> <p>Test products to check if they are a success.</p> <p>Explain how a product is successful by linking it to a design criterion.</p>	
Y3	<p>Test products to see if they work as intended.</p> <p>Identify strengths and improvements.</p> <p>Begin to compare the final product with the design brief.</p>	
Y4	<p>Test & refine products to see if they work as intended.</p> <p>Identify strengths and weaknesses in a product.</p> <p>Explain what went well and what could be improved.</p> <p>Use design criteria for product evaluation.</p>	
Y5	<p>Test and refine products to assess & improve effectiveness.</p> <p>Consider functionality, durability, and aesthetics.</p> <p>Collect feedback for improvement.</p> <p>Begin to use their own design criteria for product assessment.</p>	
Y6	<p>Test (including tasting), refine and assess if the product meets their design brief.</p> <p>Identify strengths, weaknesses, and improvements.</p> <p>Gather external feedback.</p> <p>Consider additional ingredients or seasoning for taste.</p>	