

Design Process Progression

Apply this process to all design projects : Skills

	Plan/design	Explore	Communicate	Make/use	Review/evaluate
N	Developing preferences for forms of expression.	Captures experiences and responses with a range of media	Developing preferences for forms of expression.	Realises tools can be used for a purpose.	Beginning to understand 'why' and 'how' questions.
R	Use media and materials in original ways, thinking about uses and purposes.	Experimenting with colour, design, texture, form and function.	Represent ideas, thoughts and feelings through images.	They safely use and explore a variety of materials, tools and techniques.	They answer 'how' and 'why' questions about their experiences and in response to stories or events.
1	Create simple designs for a product.	Select from and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing.	Use pictures and words to describe what he/she wants to do	Use a range of simple tools to cut, join and combine materials and components safely.	Ask simple questions about existing products and those that he/ she has made.
2	Design purposeful, functional, appealing products for himself/herself and other users based on design criteria.	Choose appropriate tools, equipment, techniques and materials from a wide range.	Generate, develop, model and communicate his/her ideas through talking, drawing, templates, mock-ups and, where appropriate, ICT.	Safely measure, mark out, cut and shape materials and components using a range of tools.	Evaluate and assess existing products and those that he/she has made using a design criteria.
3	Use knowledge of existing products to design his/her own functional product.	Make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages using them.	Create designs using annotated sketches, cross-sectional diagrams and simple computer programmes.	Safely measure, mark out, cut, assemble and join with some accuracy	Investigate and analyse existing products and those he/she has made, considering a wide range of factors.
4	Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience	Use his/her knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them.	Create designs using exploded diagrams.	Use technique which require more accuracy to cut, shape, join and finish his/her work e.g. cutting internal shapes, slots in frameworks.	Consider how existing products and his/her own finished products might be improved and how well they meet the needs of the intended user.
5	Use his/ her research into existing products and his/her market research to inform the design of his/her own innovative product.	Produce step by step plans to guide his/her making, demonstrating that he/she can apply his/her knowledge of different materials, tools and techniques.	Create prototypes to show his/her ideas.	Make careful and precise measurements so that joins, holes and openings are exactly in the right place.	Make detailed evaluations about existing products and his/her own considering the views of others to improve his/her work.
6	Use research he/she has done into famous designers and inventors to inform the design of his/her own innovative products.	Apply his/her knowledge of materials and techniques to refine and rework his/her product to improve its functional properties and aesthetic qualities.	Generate, develop, model and communicate his/her ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.	Use technical knowledge and accurate skills to problem solve during the making process.	Use his/her knowledge of famous designs to further explain the effectiveness of existing products and products he/she has made

DT Progression

Knowledge and Understanding

	Structures	Textiles	Mechanical Systems	Electrical Systems	Computing Systems
EYFS	<p>Uses various construction materials. Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces.</p> <p>Constructs with a purpose in mind, using a variety of resources. e.g. Duplo, wooden bricks</p>	<p>Learn to thread and use plastic needles safely</p> <p>Selects appropriate tools and techniques.</p> <p>Using stitches to decorate</p>	<p>Can use split-pins to create simple hinges.</p> <p>Create a moving vehicle using Mobilo.</p> <p>With support begin to incorporate moving parts in to models. For example, use split pins to make body parts move.</p>	<p>Shows an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones. (30-50 statement)</p> <p>(note: electrical systems is not taught until Y4)</p>	<p>Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. (ELG)</p> <p>EXC GLD: Children find out about and use a range of everyday technology. They select appropriate applications that support an identified need.</p>
Y1/2	<p>Build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>Investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable</p>	<p>Cutting pieces of fabric</p> <p>Follow a pattern</p> <p>Joining using running stitch, back stitch and glue</p> <p>Explore use of equipment - metal needles and scissors.</p> <p>Use range of decorative items</p> <p>Use of technical language</p>	<p>Use wheels and axels in a product.</p> <p>Explore and use mechanisms e.g.</p> <ul style="list-style-type: none"> - Use sliders and levers in moving pictures, - Use hinges to make objects move, - Use wheels and axels in designs such as cars - Use winding mechanisms 	<p>To be able to identify some of the basic components that are used frequently in products and understand how these work.</p> <p>(note: electrical systems is not taught until Y4)</p>	<p>Generate, develop, model and communicate ideas through information technology.</p> <ul style="list-style-type: none"> - E.g. using book creator - Create films using iMovie - Take photographs and edit
Y3/4	<p>Strengthen frames using diagonal struts.</p> <p>Apply techniques he/she has learnt to strengthen structures and explore his/her own ideas.</p>	<p>Follow a pattern for a product.</p> <p>Measure, mark out, pin, cut and assemble.</p> <p>Understand use of seam allowance</p> <p>Select from a wider range of stitches including blanket stitch.</p>	<p>Understand how mechanical systems such as levers, linkages, pulleys, gears or pneumatic systems create movement.</p> <p>Understand the terms levers, pulleys and gears</p> <p>Use levers, pulleys or gears to make other components move.</p>	<p>Understand and use electrical systems in products.</p> <p>Create a working circuit with a switch</p> <p>Use appropriate equipment to cut and attach materials (crocodile clips/ twisting wires/ electrical tape)</p> <p>Identify the features of a torch or speaker</p> <p>Understand that a battery contains stored electricity and can be used to power products</p> <p>Know what electrical conductors and insulators are</p>	<p>Create designs using annotated sketches and simple computer programmes.</p> <p>Use input and output toys e.g. furbies, robots etc.</p> <p>Use input devices such as sensors. Switches, buttons</p> <p>Use scratch coding to select, combine and use software and content to accomplish given goals;</p> <p>Extension/ Option Use a Crumble controller to make working models of parts of a product (e.g. lights, sensors and alarms.)</p>
Y5/6	<p>Build more complex 3D structures and apply his/her knowledge of strengthening techniques to make them stronger or more stable.</p> <p>Use a wide range of methods to strengthen, stiffen and reinforce complex structures and use them accurately and appropriately</p>	<p>Design product and create own pattern.</p> <p>Measure, mark out and cut precisely</p> <p>Select from a variety of stitches types to assemble</p> <p>Use finishing techniques to improve performance and appearance of product.</p>	<p>Understand how to use more complex mechanical systems.</p> <p>Understand and develop an understanding of how to use cam mechanisms.</p> <p>Use different cams for different purposes: - Snail, eccentric, round</p> <p>Develop a greater understanding of how pulleys and gears create movement.</p>	<p>Understand how to use more complex electrical systems to add increased functionality to his/her products.</p> <p>Make and test a working circuit including motors</p> <p>Map out where different components of a circuit will go</p> <p>Incorporate a circuit into a base</p> <p>Learning the difference between series and parallel circuits</p>	<p>Create prototypes using 3D design software e.g. Sketch up, Tinker cad</p> <p>Apply knowledge of computing to program, monitor and control the product.</p>

Cooking and Nutrition Progression

	Knowledge and Understanding	Skills
EY	Eats a healthy range of foodstuffs and understands the need for variety in food. Knows the importance of a healthy diet. ELG EXC: Makes healthy choices and knows about healthy eating and exercise.	Tearing Spreading Mixing Kneading
1	Talk about what he/she eats at home and begin to discuss what healthy foods are. Say where some food comes from and give examples of food that is grown. Use simple tools with help to prepare food safely.	Cutting – bridge and claw.
2	Understand the need for a variety of food in a diet. Understand that all food has to be farmed, grown or caught. Use a wider range of cookery techniques to prepare food safely	Coring
3	Talk about the different food groups and name food from each group. Understand that food has to be grown, farmed or caught in Europe and the wider world. Use a wider variety of ingredients and techniques to prepare and combine ingredients safely	Cross contamination
4	Understand what makes a healthy and balanced diet, and that different foods and drinks provide different substances the body needs to be healthy and active. Understand seasonality and the advantages of eating seasonal and locally produced food. Read and follow recipes which involve several process and techniques.	Reducing food waste
5	Understand the main food groups and the different nutrients that are important for health. Understand how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable/ tasty to eat. Select appropriate ingredients and use a wide range of techniques to combine them.	The dining experience
6	Confidently plan a series of healthy meals based on the principles of a healthy and varied diet. Use information on food labels to inform choices. Research, plan and prepare and cook a savoury dish, applying his/her knowledge of ingredients and he/ her technical skills.	Demonstrating skills and knowledge