



Year Group	Skills
Nursery	<p>Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park.</p> <p>Discover different materials freely, in order to develop their ideas about how to use them and what to make. Develop and add to their own ideas and then decide which materials to use to express them.</p> <p>Join different materials and explore different textures.</p>
Reception	<p>Show curiosity about objects, events and people</p> <p>Questions why things happen</p> <p>Engage in open-ended activity thinking of ideas</p> <p>Find ways to solve problems / find new ways to do things / test their ideas</p> <p>Use senses to search the world around them and discover new things.</p> <p>Create simple representations of events, people and objects Planning, making decisions about how to approach a task, solve a problem and reach a goal</p> <p>Checking how well their activities are going</p> <p>Changing strategy as needed</p> <p>Reviewing how well the approach worked</p> <p>Choose the resources they need for their chosen activities</p> <p>Handle equipment and tools effectively</p> <p>Children know the importance for good health of a healthy diet They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology</p>



<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Year 1</p>	<p>Design process</p> <ul style="list-style-type: none">• <u>Design</u> appealing products for a particular user based on simple design criteria.• <u>Prepare</u> initial ideas and design criteria through own experiences.• <u>Organise</u> and <u>explain</u> these ideas through talk and drawings and mock ups where relevant. <p>Make process</p> <ul style="list-style-type: none">• <u>Select</u> and use simple utensils, tools and equipment to <u>perform</u> a job e.g. peel, cut, slice, squeeze, grate and chop safely; marking out, cutting, joining and finishing; cut, shape and join paper and card.• <u>Select</u> from a range of ingredients and materials according to their characteristics to create a chosen product. <p>Evaluate process</p> <ul style="list-style-type: none">• Taste, <u>investigate</u> and evaluate (<u>with reasons</u>) a range of products to determine the intended user's preferences for the product• Evaluate and <u>improve</u> their ideas throughout and finished products against design criteria, including intended user and purpose.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Year 2</p>	<p>Design process</p> <ul style="list-style-type: none">• <u>Gather</u> ideas based on simple design criteria and their own experiences, explaining what they could make.• Develop, <u>construct</u> and communicate their ideas through talking, mock-ups and drawings. <p>Make process</p> <ul style="list-style-type: none">• Plan by suggesting what to do next and <u>develop</u> ideas.• <u>Gather</u> and <u>apply</u> tools, equipment, skills and techniques to perform practical tasks, explaining their choices.• <u>Research</u> new and materials, components, reclaimed materials and construction kits to build and create their products.• <u>Apply</u> simple finishing techniques suitable for the products they are creating. <p>Evaluate process</p> <ul style="list-style-type: none">• <u>Examine</u> a range of existing products related to their design criteria.• <u>Adapt</u> their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.



Year 3

Design process

- **Develop** realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s.
- Use annotated sketches, prototypes, final product sketches and pattern pieces; communication technology, such as web-based recipes, to **develop** and **establish** ideas.

Make process

- **Establish** the main stages of making.
- Select from and use a range of appropriate utensils, tools and equipment with some accuracy related to their product.
- Use and **assess** finishing techniques suitable for the product they are creating.

Evaluate process

- **Evaluate** a range of 3-D textile products, ingredients and lever and linkage products relevant to their project. **Justify** the design choices made.
- **Assess** their product against the original design criteria and with the intended user.
- **Innovate** the ongoing work and the final product with reference to the design criteria and the views of others.

Year 4

Design process

- Generate and **determine** ideas through discussion with peers to develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups.
- Use **annotated** sketches and appropriate information and communication technology, such as web-based recipes, to **devise** and communicate ideas.
- Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, **annotated** sketches, cross-sectional and exploded diagrams.

Make process

- Order and **rank** the main stages of making.
- **Survey** and select appropriate tools to measure, mark out, cut, score, shape and combine with some accuracy related to their products.
- **Outline** their choice of materials according to functional properties and aesthetic qualities.

Evaluate process

- Investigate and **reflect** on a range of products including the ingredients, materials, components and techniques that are used.
- Evaluate and **appraise** their own products against design criteria and the intended user and purpose.
- Evaluate their ideas and products against their own design criteria and **determine** the strengths and areas for improvement in their work.



Year 5

Design process

- [Formulate](#) innovative ideas through research including surveys, interviews and questionnaires and discussion with peers to develop a design brief and criteria for a design specification.
- Design and [implement](#) purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.
- Develop and [translate](#) ideas through discussion, annotated drawings, exploded drawings and drawings from different views. and, where appropriate, computer-aided design.

Make process

- [Formulate](#) a step-by-step plan, including a list of resources required.
- Select from and [execute](#), a range of appropriate utensils, tools and equipment accurately to measure and combine appropriate ingredients, materials and resources.

Evaluate process

- Investigate and [appraise](#) products linked to their final product.
- Compare and [review](#) the final product to the original design specification and record the evaluations.
- Test products with intended user and the quality of the design, manufacture, functionality and fitness for purpose.
- Consider the views of others to [modify](#) their work

Year 6

Design process

- Use research using surveys, interviews, questionnaires and web-based resources. to [employ](#) a design specification for a range of functional products.
- Develop a simple design specification to guide the development of their ideas and products, and [manipulate](#) according to constraints including time, resources and cost.
- Generate and develop innovative ideas and share and [rewrite](#) these through discussion.
- Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams.

Make process

- [Employ](#) a step-by-step plan to guide making, listing tools, equipment, materials and components.
- Competently select from and use appropriate tools to accurately measure, mark, cut and assemble materials, and securely connect electrical components to produce reliable, functional products.
- Use finishing and decorative techniques suitable for the product and [transform](#) as necessary.

Evaluate process

- Continually evaluate and [deconstruct](#) the working features of the product to match the initial design specification.
- Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and [substitute](#) appropriately.
- Test the system to demonstrate its effectiveness for the intended user and purpose.



Subject Skills Ladder

Design Technology

CAT: STEM

End of Year 1	End of Year 3	End of Year 6
<p>Children acquire and apply knowledge and understanding of materials and components, mechanisms and control systems, structures, existing products, quality and health and safety.</p>	<p>D&T brings learning to life. It is a motivating context for discovering literacy, mathematics, science, art, PSHE and ICT. Primary Design and Technology also provides a firm basis for later learning in the subject and a platform for developing skills in literacy and numeracy</p>	<p>Design and Technology education helps develop children's skills through collaborative working and problem-solving, and knowledge in design, materials, structures, mechanisms and electrical control. They are encouraged to be creative and innovative, and are actively encouraged to think about important issues such as sustainability and enterprise</p>