Progression of Skills in Design Technology

DT in the EYFS – prior learning]

Children's experience of DT in the EYFS may have included some or all of the following elements:

- Designing by talking about what they intent to do, are doing and have done
- Saying who and what their products are for
- Drawing what they have made, with some children drawing their ideas before they make
- Opportunities to make their own choices and to discuss the reasons for these
- Learning procedures for safety and hygiene
- Developing practical skills and techniques using a range of materials including food, textiles and construction materials
- Developing their knowledge and understanding in relation to mechanisms, structures, food and textiles
- Exploring the designed and made world through the indoor and outdoor environment, and through role play
- Learning and using appropriate technical vocabulary

Designing	KS1	KS2
Understanding contexts, users and purposes.	Across KS1 pupils should: • Work confidently within a range of contexts, such as imaginary, story based, home, school, gardens, playgrounds, local community, industry and the wider environment. • State what products they are designing and making. • Say whether their products are for themselves or for other users. • Describe what their products are for. • Say how their products work. • Say how they will make their products suitable for intended users. • Use simple design criteria to help develop their ideas.	Across KS2 pupils should: • Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment. • Describe the purpose of their products. • Indicate the design features of their products that will appeal to intended users. • Explain how particular parts of their products work.
Generating, developing, modelling and communicating ideas.	Across KS1 pupils should: • Generate ideas by drawing on their own experiences. • Use knowledge of existing products to help come up with ideas. • Develop and communicate ideas by talking and drawing. • Model ideas by exploring materials, components and construction kits and by making templates and mock ups. • Use information and communication technology, where appropriate, to develop and communicate their ideas.	Across KS2 pupils should: • Share and clarify ideas through discussion. • Model their ideas using prototypes and pattern pieces. • Use annotated sketches, cross sectional drawings and exploded diagrams to develop and communicate their ideas. • Use computer-aided design to develop and communicate their ideas. In early KS2 pupils should also: • Generate realistic ideas, focusing on the needs of the user. • Make design decisions that take account of the availability of resources. In late KS2 pupils should also: • Generate innovative ideas, drawing on research. • Make design decisions, taking account of constraints such as time, resources and cost.
Making	**KS1**	**KS2**
Planning	Across KS1 pupils should: • Plan by suggesting what to do next. • Select from a range of tools and equipment, explaining their choices. • Select from a range of materials and components according to their characteristics.	Across KS2 pupils should: • Select tools and equipment suitable for the task. • Explain their choices of tools and equipment in relation to the skills and techniques they will be using • Select materials and components suitable for the task. • Explain their choice of materials and components according to functional properties and aesthetic qualities. In early KS2 pupils should: • Order the main stages of making. In late KS2 pupils should: • Produce appropriate lists of tools, equipment and materials that they need. • Formulate step by step plans as a guide to making.
Practical skills and techniques	Across KS1 pupils should: • Follow procedures for safety and hygiene. • Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components. • Measure, mark out, cut and shape materials and components. • Assemble, join and combine materials and components. • Use finishing techniques, including those from art and design.	Across KS2 pupils should: • Follow procedures for safety and hygiene. • Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical component and electrical components. In early KS2 pupils should: • Measure, mark out, cut and shape materials and components with some accuracy. • Assemble, join and combine materials and components with some accuracy. • Apply a range of finishing techniques, including those from art and design, with some accuracy. In late KS2 pupils should: • Accurately measure, mark out, cut and shape materials and components. • Accurately assemble, join and combine materials and components. • Accurately apply a range of finishing techniques, including those from art and design. • Use techniques that involve a number of steps. • Demonstrate resourcefulness when tacking practical problems.

Evaluating	KS1	KS2
Own Ideas and Products	Across KS1 pupils should: • Talk about their design ideas and what they are making. • Make simple judgements about their products and ideas against design criteria. • Suggest how their products could be improved.	Across KS2 pupils should: • Identify the strengths and areas for development in their ideas and products. • Consider the views of others, including intended users, to improve their work. In early KS2 pupils should also: • Refer to their design criteria as they design and make. • Use their design criteria to evaluate their completed products. In late KS2 pupils should also: • Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make. • Evaluate their ideas and products against their original design specification.
Existing Products	Across KS1 pupils should explore: • What products are • Who products are for • What products are for • How products work • How products are used • Where products might be used • What materials products are made from • What they like and dislike about products	Across KS2 pupils should investigate and analyse: • How well products have been designed • How well products have been made • Why materials have been chosen • What methods of construction have been used • How well products work • How well products achieve their purposes • How well products meet their user needs and wants In early KS2 pupils should also investigate and analyse: • Who designed and made the products • Where products were designed and made • When products were designed and made • Whether products can be recycled or reused In late KS2 pupils shpuld also investigate and analyse • How much products cost to make • How innovative products are • How sustainable the materials in products are • What impact products have beyond their intended purposes
Key events and individuals	Not a requirement in KS1	Across KS2 pupils should know: • About inventors, designers, engineers, chefs and manufacturers who have developed ground breaking products.
Technical Knowledge	KS1	KS2
Making Products Work	Across KS1 pupils should know: • About the simple working characteristics of materials and components • About the movement of simple mechanisms such as levers, sliders, wheels and axles • How freestanding structures can be made stronger, stiffer and more stable • That a 3D textiles product can be assembled from two identical fabric shapes • That food ingredients should be combined according to their sensory characteristics • The correct technical vocabulary for the products they are undertaking	Across KS2 pupils should know: • How to use learning from science to help design and make products that work • How to use learning from mathematics to help design and make products that work • That materials have both functional properties and aesthetic qualities • That materials can be combined and mixed to create more useful characteristics • That mechanical and electrical systems have an input, process and output. • The correct technical vocabulary for the projects they are undertaking In early KS2 pupils should also know: • How mechanical systems such as levers and linkages or pneumatic systems create movement • How simple electrical circuits and components can be used to create functional products • How to program a computer to control their products • How to make strong, stiff shell structures. • That a single fabric shape can be used to make a 3D textiles product • That food ingredients can be fresh, pre-cooked and processed In late KS2 pupils should also know: • How mechanical systems such as cams or pulleys or gears can create movement • How more complex electrical circuits and components can be used to create functional products • How to program a computer to monitor changes in the environment and control their products • How to reinforce and strengthen a 3D framework • That a 3D textiles product can be made from a combination of fabric shapes • That a recipe can be adapted by adding or substituting one or more ingredients
Cooking and Nutrition	KS1	KS2
Where food comes from	Across KS1 pupils should know: • That all food comes from plants or animals • That food has to be farmed, grown elsewhere (e.g home) or caught	Across KS2 pupils should know: • That food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. In late KS2 pupils should: • That seasons may affect the food available • How food is processed into ingredients that can be eaten or used in cooking
Food preparation, cooking and nutrition	Across KS1 pupils should know: • How to name and sort foods into five groups in the eatwell plate • That everyone should eat at least five portions of fruit and vegetables every day • How to prepare simple dishes safely and hygienically, without using a heating source • How to use techniques such as cutting, peeling and grating	Across KS2 pupils should know: • How to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking In early KS2 pupils should also know: • That a healthy diet is made up from a variety and balance of different food and drink, as depicted in the eatwell plate • That to be active and healthy, food and drink are needed to provide energy for the body In late KS2 pupils should also know: • That recipes can be adapted to change the appearance, taste, texture and aroma • That different food and drink contain different substances – nutrients, water and fibre – that are needed for health