

Skills Progression in Design Technology

	KS1	LKS2	UKS2
Designing: understanding contexts, users and purposes	Work confidently within a range of contexts, e.g. imaginary, story-based, home, school, playgrounds, local community, etc. Say what products they are designing and making Say who the product is for and how they will make it suitable for that user Say what the purpose of the product is and describe how it will work Use simple design criteria to help develop ideas	Work confidently across a range of contexts, e.g. home, school, leisure, culture, enterprise, industry and the wider environment Describe the purpose of products Indicate the design features that will appeal to intended users Explain how particular parts of their products work	
		Gather information about the needs and wants of particular individuals and groups Develop design criteria and use these to inform ideas	Carry out research, using surveys, interviews, questionnaires and web-based resources Identify the needs, wants, preferences and values of particular individuals and groups Develop a simple design specification to guide thinking and planning
Designing: generating, developing, modelling and communicating ideas	Generate ideas by drawing upon own experiences and considering existing products 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 ICT, where appropriate, to develop and communicate ideas	Share and clarify ideas through discussion Model ideas using prototypes and pattern pieces Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate ideas Use computer-aided design to develop and communicate ideas	
		Generate realistic ideas, focusing on the needs of the user Make design decisions that take account of the availability of resources	Generate innovative ideas, drawing on research Make design decisions, taking account of constraints such as time, resources and cost
Making: planning	Plan by suggesting what to do next Select from a range of tools and equipment, explaining choices	Select tools and equipment suitable for the task Explain tool and equipment choices in relation to the skills and techniques that will be used Select materials and components suitable for the task	

	Select from a range of materials and components according to their characteristics	Explain material and component choices according to functional properties and aesthetic qualities	
		Order the main stages of making	Produce appropriate lists of tools, equipment and materials that are needed Formulate step-by-step plans as a guide to making
Making: practical skills and techniques	Follow procedures for safety and hygiene Use a range of materials and components Measure, mark out, cut, shape, assemble, join and combine materials and components Use finishing techniques including those from art and design	Follow procedures for safety and hygiene Use a wider range of materials and components than in KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components	
		Measure, mark out, cut, shape, 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	Accurately measure, mark out, cut, shape, assemble, join and combine materials and components Accurately apply a range of finishing techniques, including those from art and design Demonstrate resourcefulness when tackling practical problems
Evaluating: own ideas and products	Talk about their design ideas and what they're making Make simple judgements about products and ideas against design criteria Suggest how products could be improved	Identify the strengths and areas for development in own ideas and products Consider the views of others, including intended users, to improve work	
		Refer to design criteria whilst designing and making Use design criteria to evaluate a completed piece	Critically evaluate the quality of the design, manufacture and fitness for purpose of own products whilst designing and making Evaluate ideas and products against the original design specification
Evaluating: existing products	Explore what products are; who products are for; what products are for; how products work; how products are used; what materials products are made from; what they like and dislike about products	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; and how well products meet user needs and wants Know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products	

		Investigate and analyse: who designed and made the products; where products were designed and made; when products were designed and made; and whether products can be recycled or reused	Investigate and analyse: how much products cost to make; how innovative products are; how sustainable the materials in products are; and what impact products have beyond their intended purpose
Technical Knowledge	Know about the simple working characteristics of materials and components Know about the movement of simple mechanisms such as levers, sliders, wheels and axles Know how free-standing structures can be made stronger, stiffer and more stable Know that a 3D textiles product can be assembled from two identical fabric shapes Know that food ingredients should be combined according to their sensory characteristics	Know how to use learning from science and mathematics to help design and make products that work Know that materials have both functional properties and aesthetic qualities Know that mechanical and electrical systems have an input, process and output Know the correct technical vocabulary for the projects being undertaken	
		Know how mechanical systems such as levers, linkages or pneumatic systems create movement Know how simple electrical circuits and components can be used to create functional products Know how to program a computer to control products Know how to make strong, stiff shell structures Know that a single fabric shape can be used to make a 3D textiles product Know that food ingredients can be fresh, pre-cooked and processed	Know how mechanical systems such as cams, pulleys or gears create movement Know how more complex electrical circuits and components can be used to create functional products Know how to program a computer to monitor changes in the environment and control products Know how to reinforce and strengthen a 3D framework Know that a 3D textiles product can be made from a combination of fabric shapes Know that a recipe can be adapted by adding or substituting one or more ingredients
Cooking and Nutrition: where food comes from	Know that all food comes from plants or animals and that it must be farmed, grown elsewhere or caught	Know that food is grown, reared and caught in the UK, Europe and wider world	
			Know that seasons may affect the food available Know how food is processed into ingredients that can be eaten or used in cooking

Cooking and Nutrition: food preparation, cooking and nutrition	Be able to name and sort foods in the five groups in The Eatwell Plate Know that everyone should eat at least five portions of fruit and vegetables every day Be able to prepare simple dishes safely and hygienically without using a heat source Use techniques such as cutting, peeling and grating	Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	
		Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Plate Know that to be active and healthy, food and drink are needed to provide energy for the body	Know that recipes can be adapted to change the appearance, taste, texture and aroma Know that different food and drink contain different substances – nutrients, water and fibre – that are needed for good health