

## Progression of Skills – Design Technology Guide

Skill	KS1	LKS2	UKS2
<b>Designing</b>	Work confidently within a range of contexts, such as imaginary, story based, home, school, gardens, playgrounds, local community, industry and the wider environment.	Work confidently within a range of contexts, such as imaginary, story based, home, school, gardens, playgrounds, local community, industry and the wider environment.	Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment.
	State what products they are making and say whether their products are for themselves or other users.	Describe the purpose of their products.	Describe the purpose of their products.
	Describe what their products are for and how they will work.	Indicate the design features of their products that will appeal to intended users.	Indicate the design features of their products that will appeal to intended users.
	Use simple design criteria to help develop their ideas.	Explain how particular parts of their products work.	Explain how particular parts of their products work.
	Generate ideas by drawing on their own experiences.	Gather information about needs and wants of particular individuals and groups.	Carry out research, using surveys, interviews, questionnaires and web-based resources.
	Use knowledge of existing products to help come up with ideas.	Develop their own design criteria and use these to inform their ideas.	Identify the needs, wants, preferences and values of particular individuals and groups.
	Develop and communicate ideas by talking and drawing. Use ICT, where appropriate, to develop and communicate their ideas.	Share and clarify ideas through discussion.	Develop a simple design specification to guide their thinking.
	Model ideas by exploring materials, components and construction kits and by making templates and mock-ups.	Generate realistic ideas, focusing on the needs of the user and that take account of the availability of resources.	Share and clarify ideas through discussion.
		Model their ideas using prototypes and pattern pieces.	Model their ideas using prototypes and pattern pieces.

		Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas.	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.	Use computer-aided design to develop and communicate their ideas.
			Generate realistic ideas, focusing on the needs of the user and that take account of the availability of resources.

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<b>Making</b>	Plan by suggesting what to do next.	Select tools, equipment and materials suitable for the task.	select tools and equipment suitable for the task
	Select from a range of tools and equipment, explaining their choices.	Explain their choice of tools and equipment in relation to the skills and techniques they will be using.	Explain their choice of tools and equipment in relation to the skills and techniques they will be using.
	Select from a range of materials and components according to their characteristics.	Explain their choice of materials and components according to functional properties and aesthetic qualities.	Explain their choice of materials and components according to functional properties and aesthetic qualities.
	Follow procedures for safety and hygiene.	Order the main stages of making.	Produce appropriate lists of tools, equipment and materials that they need.
	Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components.	Follow procedures for safety and hygiene.	Formulate step-by-step plans as a guide to making.
	Measure, mark out, cut and shape materials.	Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components.	Follow procedures for safety and hygiene.
	Assemble, join and combine materials and components.	Measure, mark out, cut and shape materials and components with some accuracy.	Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components.
	Use finishing techniques, including those from art and design.	Assemble, join and combine materials and components with some accuracy.	Accurately measure, mark out, cut and shape materials and components.
		Apply a range of finishing techniques, including those from art and design, with some accuracy.	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 tackling practical problems.

Skill	KS1	LKS2	UKS2
<b>Evaluating</b>	Explore what products are and who or what they are for.	Investigate how well products have been designed and made.	Investigate how well products have been designed and made.
	Explore how products work and how or where they might be used.	Explore why materials have been chosen.	Analyse why materials have been chosen.
	Explore what materials products are made from.	Analyse what methods of construction have been used.	Analyse what methods of construction have been used.
	Explore what they like and dislike about products.	Explore inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.	Analyse how well products work to achieve their purposes.
	Talk about their design ideas and what they are making.	Analyse how well products work to achieve their purposes.	Explore inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.
	Make simple judgements about their products and ideas against design criteria.	Analyse how well products meet user needs and wants.	Analyse how well products work to achieve their purposes.
	Suggest how their products could be improved.	Explore who designed and made the products and when and where they were made.	Analyse how well products meet user needs and wants.
		Explore whether products can be recycled or reused.	Analyse how much products cost to make.
		Identify the strengths and areas for development in their ideas and products.	Explore how innovative products are.
		Consider the views of others, including intended users, to improve their work.	Analyse how sustainable the materials in products are.
	Use their design criteria to evaluate their completed products.	Analyse what impact products have beyond their intended purpose.	
			Identify the strengths and areas for development in their ideas and products.
			Consider the views of others, including intended users, to improve their work.

			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.

Skill	KS1	LKS2	UKS2
<b>Technical Knowledge</b>	Understand simple working characteristics of materials and components.	Understand how to use learning from science and maths to help design and make products that work.	Understand how to use learning from science and maths to help design and make products that work.
	Understand the movement of simple mechanisms such as levers, sliders, wheels and axles.	Know that materials have both functional properties and aesthetic qualities.	Know that materials have both functional properties and aesthetic qualities.
	Know how freestanding structures can be made stronger, stiffer and more stable.	Know that materials can be combined and mixed to create more useful characteristics.	Know that materials can be combined and mixed to create more useful characteristics.
	Know how a 3-D textiles product can be assembled from two identical fabric shapes.	Understand that mechanical and electrical systems have an input, process and output.	Understand that mechanical and electrical systems have an input, process and output.
	Know that food ingredients should be combined according to their sensory characteristics.	Use the correct technical vocabulary for the projects they are undertaking.	Use the correct technical vocabulary for the projects they are undertaking.
	Use correct technical vocabulary for the projects they are undertaking.	Understand how mechanical systems such as levers and linkages or pneumatics systems create movement.	Understand how mechanical systems such as cams or pulleys or gears create movement.
		Know how simple electrical circuits and components can be used to create functional products.	Know how more complex electrical circuits and components can be used to create functional products.
		Understand how to program a computer to control their products.	Understand how to program a computer to monitor changes in the environment and control their products.
		Know how to make strong, stiff shell structures.	Know how to reinforce and strengthen a 3D framework.
		Know how a single fabric shape can be used to make a 3D textiles product.	Know how a 3D textiles product can be made from a combination of fabric shapes.
	Understand that food ingredients can be fresh, pre-cooked and processed.	Understand that a recipe can be adapted by adding or substituting one or more ingredients.	

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<b>Cooking and Nutrition</b>	Know that all food comes from plants or animals.	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.	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.
	Know that food has to be farmed, grown elsewhere (e.g. home) or caught.	Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.	Understand that seasons may affect the food available.
	Know how to name and sort foods into the five groups in The Eatwell Plate.	Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	Understand how food is processed into ingredients that can be eaten or used in cooking.
	Understand that everyone should eat at least five portions of fruit and vegetable every day.	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 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 prepare simple dishes safely and hygienically, without using a heat source.	Understand that to be active and healthy, food and drink are needed to provide energy for the body.	Use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
	Use techniques such as cutting, peeling and grating.		Know that recipes can be adapted to change the appearance, taste, texture and aroma
			Understand that different food and drink contain different substances – nutrients, water and fibre – that are needed for health.

