



Progression of skills for Design & Technology

Skills	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Designing Understanding context, users and purposes	Share their creations, explaining the process they have used. Return to and build on their previous learning, refining ideas and developing their ability to represent them.	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 other users. Describe what their products are for. Say how their products will work. Say how they will make their products suitable for their intended users. Use simple design criteria to help develop their ideas.	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. In early KS2 pupils should also: gather information about the needs and wants of particular individuals and groups. Develop their own design criteria and use these to inform their ideas	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. In late KS2 pupils should also: 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 their thinking.			
Generating, developing, modelling and communicating ideas	Develop their own ideas and then decide which materials to use to express them. Create collaboratively, sharing ideas, resources and skills.	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.	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.	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 late KS2 pupils should also: generate innovative ideas, drawing on research make design decisions, taking account of constraints including time, resources and cost.			



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Evaluating Own ideas and products	Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Say what worked and what they would like to make better.	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.	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.	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 late KS2 pupils should also: critically evaluate the quality of the design, manufacture and fitness for the purpose of their products as they design and make. Evaluate their ideas and products against their original design specification.			
Existing products	Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park.	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	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 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.	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 user needs and wants In late KS2 pupils should 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 purpose.			



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Key events and individuals	Explore how things work.	To be aware of famous designers or engineers, e.g. Tim Berners-Lee, John Mcadam		pupils should know: About inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products. Including Eddison, Tesla, Lewis Latimer, the Wright brothers etc			
Technical Knowledge Making products work		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 3-D 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 projects they are undertaking.		Pupils should know: how to use learning from mathematics and science 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.		Pupils should know: how to use learning from mathematics and science 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 late KS2 pupils should also know: how mechanical systems such as cams or pulleys or gears 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.	



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<p>Food Food preparation, cooking and nutrition Where food comes from</p>	<p>Use a range of small tools, including scissors, paintbrushes and cutlery Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>	<p>Pupils should know: that all food comes from plants or animals. That food has to be farmed, grown elsewhere (e.g. home) or caught. How to name and sort foods into the 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 heat source. How to use techniques such as cutting, peeling and grating.</p>	<p>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. 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.</p>	<p>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 also know: that seasons may affect the food available how food is processed into ingredients that can be eaten or used in cooking. 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 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.</p>	<p>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 also know: that seasons may affect the food available how food is processed into ingredients that can be eaten or used in cooking. 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 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.</p>	<p>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 also know: that seasons may affect the food available how food is processed into ingredients that can be eaten or used in cooking. 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 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.</p>	<p>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 also know: that seasons may affect the food available how food is processed into ingredients that can be eaten or used in cooking. 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 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.</p>