

National Curriculum Requirements of DT at Key Stage 2

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts, for example, the home, school, leisure, culture, enterprise, industry and the wider environment.

When designing and making, pupils should be taught to:

Design

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make

- select from and use a wider range of tools and equipment to perform practical tasks, such as cutting, shaping, joining and finishing, accurately
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Evaluate

- investigate and analyse a range of existing products
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- understand how key events and individuals in design and technology have helped shape the world

Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products, (for example as gears, pulleys, cams, levers and linkages)
- understand and use electrical systems in their products, (for example series circuits incorporating switches, bulbs, buzzers and motors)
- apply their understanding of computing to programme, monitor and control their products.

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National Curriculum Requirements of Cooking and Nutrition at Key Stage 2

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

- understand and apply the principles of a healthy and varied diet

- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques

- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

	Year 3	Year 4	Year 5	Year 6
Developing, planning and communicating and ideas	<ul style="list-style-type: none"> •Show that their design meets a range of requirements •Put together a step-by-step plan which shows the order and also what equipment and tools they need •Describe their design using an accurately labelled sketch and words •Make their plan realistic 	<ul style="list-style-type: none"> •Come up with at least one idea about how to create their product •Take account of the ideas of others when designing? •Produce a plan and explain it to others •Suggest some improvements and say what was good and not so good about their original design 	<ul style="list-style-type: none"> •Come up with a range of ideas after they have collected information •Take a user's view into account when designing •Produce a detailed step-by-step plan? •Suggest some alternative plans and say what the good points and drawbacks are about each 	<ul style="list-style-type: none"> •Use a range of information to inform their design •Use market research to inform plans •Work within constraints •Follow and refine their plan if necessary? •Justify their plan to someone else •Consider culture and society in their designs

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<p>Working with tools, equipment, materials and components to make quality products</p>	<ul style="list-style-type: none"> •Can they use equipment and tools accurately 	<ul style="list-style-type: none"> •Tell if their finished product is going to be good quality •Conscious of the need to produce something that will be liked by others •Show a good level of expertise when using a range of tools and equipment •Work at their product even though their original idea might not have worked 	<ul style="list-style-type: none"> •Explain why their finished product is going to be of good quality •Explain how their product will appeal to the audience •Use a range of tools and equipment expertly •Persevere through different stages of the making process 	<ul style="list-style-type: none"> •Use tools and materials precisely •Change the way they are working if needed
<p>Evaluating processes and products</p>	<ul style="list-style-type: none"> •Explain what they changed which made their design even better 	<ul style="list-style-type: none"> •Think of how they will check if their design is successful •Begin to explain how they can improve their original design •Evaluate their product, thinking of both appearance and the way it works •Take time to consider how they could have made their idea better 	<ul style="list-style-type: none"> •Keep checking that their design is the best it can be •Check whether anything could be improved •Evaluate appearance and function against the original criteria 	<ul style="list-style-type: none"> •Test and evaluate their final product? •Consider if it is fit for purpose and what would improve it •Would different resources have improved their product? •Would they need more or different information to make it even better? •Ensure their product meet all design criteria? •Consider the use of the product when selecting materials?
<p>Cooking and nutrition</p>	<ul style="list-style-type: none"> •Choose the right ingredients for a product •Use equipment safely •Make sure that their 	<ul style="list-style-type: none"> •Do they know what to do to be hygienic and safe •Thought what they can 	<ul style="list-style-type: none"> •Describe what they do to be both hygienic and safe •Presented their product 	<ul style="list-style-type: none"> •Explain how their product should be stored with reasons •Set out to grow their own

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	<p>product looks attractive?</p> <ul style="list-style-type: none"> •Describe how their combined ingredients come together •Set out to grow plants such as cress and herbs from seed with the intention of using them for their food product? 	<p>do to present their product in an interesting way</p>	<p>well</p>	<p>products with a view to making a salad, taking account of time required to grow different foods</p>
Textiles	<ul style="list-style-type: none"> •Join textiles of different types in different ways •Choose textiles both for their appearance and also qualities 	<ul style="list-style-type: none"> •Think what the user would want when choosing textiles •Thought about how to make their product strong •Devise a template •Explain how to join things in a different way 	<ul style="list-style-type: none"> •Think what the user would want when choosing textiles •Make their product attractive and strong •Make up a prototype first •Use a range of joining techniques 	<ul style="list-style-type: none"> •Thought about how their product could be sold •Consider about what would improve their product even more
Electrical and mechanical components	<ul style="list-style-type: none"> •Select the most appropriate tools and techniques to use for a given task •Make a product which uses both electrical and mechanical components •Use a simple circuit •Use a number of components 	<ul style="list-style-type: none"> •Add things to their circuits •Alter their product after checking it •Show confidence in trying out new and different ideas 	<ul style="list-style-type: none"> •Use different kinds of circuit in their product •Think of ways in which adding a circuit would improve their product 	<ul style="list-style-type: none"> •Use different kinds of circuit in their product •Think of ways in which adding a circuit would improve their product

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Stiff and flexible sheet materials	<ul style="list-style-type: none"> •Use the most appropriate materials •Work accurately to make cuts and holes •Join materials 	<ul style="list-style-type: none"> •Measure carefully so as to make sure they have not made mistakes •Attempt to make their product strong 	<ul style="list-style-type: none"> •Justify why they selected specific materials •Ensure that their work is precise and accurate •Hide joints so as to improve the look of their product 	<ul style="list-style-type: none"> •Justify why they selected specific materials •Ensure that their work is precise and accurate •Hide joints so as to improve the look of their product
Mouldable materials	<ul style="list-style-type: none"> •Select the most appropriate materials •Use a range of techniques to shape and mould •Use finishing techniques 	<ul style="list-style-type: none"> •Use a range of advanced techniques to shape and mould •Use finishing techniques, showing an awareness of audience 	<ul style="list-style-type: none"> •Refine and further improve their product using mouldable materials 	<ul style="list-style-type: none"> •Justify why the chosen material was the best for the task •Justify design in relation to the audience