



DT

Essential Characteristics

- Significant levels of originality and the willingness to take creative risks to produce innovative ideas and prototypes.
- An excellent attitude to learning and independent working.
- The ability to use time efficiently and work constructively and productively with others.
- The ability to carry out thorough research, show initiative and ask questions to develop an exceptionally detailed knowledge of users' needs.
- The ability to act as responsible designers and makers, working ethically, using finite materials carefully and working safely.
- A thorough knowledge of which tools, equipment and materials to use to make their products.
- The ability to apply mathematical knowledge.
- The ability to manage risks exceptionally well to manufacture products safely and hygienically.
- A passion for the subject and knowledge of, up-to-date technological innovations in materials, products and systems.



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Key Learning Objectives

- To master practical skills
- To design, make, evaluate and improve
- To take inspiration from design throughout history



Key Stage 1	Key Stage 2
<p>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, such as the home and school, gardens and playgrounds, the local community, industry and the wider environment.</p> <p>When designing and making, pupils should be taught to:</p> <p>Design</p> <ul style="list-style-type: none">• design purposeful, functional, appealing products for themselves and other users based on design criteria.• generate develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. <p>Make</p> <ul style="list-style-type: none">• select from and use a range of tools and equipment to perform practical tasks such as cutting, shaping, joining and finishing.• select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. <p>Evaluate</p> <ul style="list-style-type: none">• explore and evaluate a range of existing products.	<p>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, such as the home, school, leisure, culture, enterprise, industry and the wider environment.</p> <p>When designing and making, pupils should be taught to:</p> <p>Design</p> <ul style="list-style-type: none">• 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. <p>Make</p> <ul style="list-style-type: none">• 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. <p>Evaluate</p>

- evaluate their ideas and products against design criteria.

Technical knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable.
- explore and use mechanisms, such as levers, sliders, wheels and axles, in their products.

Cooking and nutrition

- use the basic principles of a healthy and varied diet to prepare dishes.
- understand where food comes from.

- 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, such as gears, pulleys, cams, levers and linkages.

- understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs, buzzers and motors.

- apply their understanding of computing to programme, monitor and control their products.

Cooking and nutrition

- 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 Group		Autumn	Spring	Summer
1	Phase 1	Construction and Materials Shelters	Cooking and nutrition	Textiles
	Phase 2	Cooking and nutrition	Construction and Mechanics Vehicles	Mechanics and construction
2	Phase 1	Textiles Puppets	Cooking and nutrition	Mechanics and Electrics
	Phase 2	Cooking and nutrition	Construction and Mechanics Vehicles	Mechanics and construction
3		Construction and materials	Cooking and nutrition	Mechanics Pneumatics
4		Electrics and Electronics	Cooking and nutrition	Textiles and Materials
5		Mechanics	Textiles (Mary Quant/ Cath Kidston/ Emma Bridgewater)	Cooking and nutrition
6		Cooking and nutrition		Construction, electrics and materials