



Working hard to achieve our best

Curriculum Statement for DESIGN TECHNOLOGY

Details of the Design Technology Curriculum for each year group for each term can be found on the class webpages

Spiritual, Moral, Social and Cultural development through the teaching of Design Technology (D.T)

Spiritual

D.T supports spiritual development by allowing pupils the opportunity to exercise imagination, inspiration, intuition and insight through creativity and risk taking in analysing, designing and manufacturing a range of products. It instils a sense of awe, wonder and mystery when studying the natural world or human achievement. Encouraging creativity allows pupils to express innermost thoughts and feelings and to reflect and learn from reflection, for example, asking 'why?', 'how?' and 'where?'.

Moral

D.T supports moral development by raising awareness of the moral dilemmas by encouraging pupils to value the environment and its natural resources and to consider the environmental impact of everyday products. It educates pupils to become responsible consumers.

Social

D.T Supports social development by providing opportunities to work as a team, recognising others' strengths and sharing equipment. Design Technology promotes equality of opportunity and provides an awareness of areas that have gender issues e.g. encouraging girls to use equipment that has been traditionally male dominated.

Cultural

D.T supports cultural development by encouraging children to reflect on ingenious products and inventions, the diversity of materials and ways in which design technology can improve the quality of life. It investigates how different cultures have contributed to technology and reflects on products and inventions, the diversity of materials and ways in which design can improve the quality of our lives.

Key characteristics

We have identified the following key characteristics which we aim to develop to enable children to become independent and confident technical designers:

- 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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Our approach to teaching DT at Houghton Primary School

Within our DT curriculum we strive to develop the pupils' creative and innovative thinking skills. We value risk taking and endeavour to nurture their ability to seize the initiative in order to solve problems in a unique and individual manner. To achieve this we provide children with opportunities to explore and research as part of the design process, taking inspiration from designs/ designers from the past and considering the needs of the end user. We provide opportunities to develop their practical skills and through the creation of prototypes we value the process of continual evaluation- encouraging pupils to refine, adapt and develop their designs. Our approach seeks to develop risk taking, confidence, determination and resilience within our pupils. It encourages and celebrates imaginative and innovative solutions. We seek to empower the children to apply these problem solving skills to all areas of the curriculum- seeking solutions to any problems they may encounter.

We also recognise that DT can be used as an opportunity to encourage enterprise, creating opportunities for the pupils to develop their designs and bring them to market.



Pupils taking part in a cookery enterprise project

Opportunities for Design and Technology

In order to ensure that our children are provided with a range of opportunities to enable them to become confident and independent technical designers we provide:



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	Key Stage One	Key Stage Two
	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.	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.
Design	<p>When designing and making, pupils will be taught to:</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>When designing and making, pupils will be taught to:</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.
Make	<p>When designing and making, pupils will be taught to:</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>When designing and making, pupils will be taught to:</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.
Evaluate	<p>When designing and making, pupils will be taught to:</p> <ul style="list-style-type: none"> • Explore and evaluate a range of existing products. • Evaluate their ideas and products 	<p>When designing and making, pupils will be taught to:</p> <ul style="list-style-type: none"> • Investigate and analyse a range of existing products. • Evaluate their ideas and products against their own design criteria



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Key Stage One		Key Stage Two	
	against design criteria.		and consider the views of others to improve their work. <ul style="list-style-type: none"> • Understand how key events and individuals in design and technology have helped shape the world
Technical Knowledge	When designing and making, pupils will be taught to: <ul style="list-style-type: none"> • 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. 		When designing and making, pupils will be taught to: <ul style="list-style-type: none"> • 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	When designing and making, pupils will be taught to: <ul style="list-style-type: none"> • Use the basic principles of a healthy and varied diet to prepare dishes. • Understand where food comes from. 		When designing and making, pupils will be taught to: <ul style="list-style-type: none"> • 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.



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Building structures

Key learning objectives for Design and Technology

We have identified 3 key learning objectives for design technology:

To master practical skills

To design, make, evaluate and improve

To take inspiration from design throughout history



Creating prototypes

[Please click here for National Curriculum Programme of Study for Design Technology](#)