

Frizinghall Primary School Design Technology Curriculum Intent, Implementation and Impact

Intent

At Frizinghall Primary School, the Design Technology curriculum is based on the National Curriculum. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation. In EYFS this is done through continuous provision or 'free play'. Here they have the opportunity to create items from a range of materials.

- D&T aims to have a curriculum which will allow students to become self-motivated and confident learners, who can work independently and as part of a team.
- The main aim is to ensure that learners develop technical and practical competencies as well as the wider soft skills valued by employers.
- Our priority is for students to be problem solvers who are not afraid of making mistakes.
- We hope our students will be naturally begin to use planning and assessment strategies independently.

The Frizinghall DT Curriculum is underpinned by: the whole school SCARF values, the development of design skills, set within the context of the knowledge to be acquired, and the development of spoken language, including dialogic talk. It is enhanced by experiences, including DT links in the activity passports and active learning opportunities. The safety and caring aspect of SCARF is a key focus for DT work as the curriculum, and activities, provide opportunities for children to assess and manage risks in regard to hygiene when dealing with nutrition and personal safety when dealing with sharp, heavy or potentially hazardous materials.

Implementation

Themes, which include DT, contain the specific DT knowledge and skills to be developed and are used by teachers to map the theme learning journey. The learning journey is sequenced and adapted by the teacher to meet the needs and build on the interests of the class. This plan is shared with parents and children at the beginning of the theme.

- We firmly believe that students learn best by 'doing' and by allowing them to experiment and take risks, in a safe and positive learning environment.
- This is achieved through imaginative teaching that embraces new technologies and resembles modern industrial processes, whilst retaining the best of traditional practices.

•At the heart of this, is the desire to deliver a curriculum in which students express creativity through designs and produce high quality outcomes:

- Students must learn about designers and their work
- Students must be able to follow and refine their own plans.
- Students should also be able to justify their plans to others who question their methods/plan.

Impact

Through work scrutiny, pupil and teacher discussions, data analysis and observations, the impact of the DT curriculum (progress against the objectives to be met (knowledge and skills), the aims of the DT curriculum, pupil's readiness for the next stage of learning and whole school priorities) will be monitored and used to feed into the school self-evaluation, areas for further development and curriculum review.

- Students are able to improvise, adapt and overcome problems.
- Students feel supported and secure in making mistakes and do not aim for perfection.
- To enable students to combine their designing and making skills with knowledge and understanding, in order to design, make, analyse and evaluate products of high quality.
- Children express their own creativity through their designs and are more socially confident to give their opinions.
- Collaborative skills are honed so they can work as part of a productive team.

Here you will see our school wide plan for this academic year:

Year 6 Long Term Plan

Game Designer	London or Paris?
<p>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</p> <p>Make Select from and use a wider range of tools and equipment to perform practical tasks [for example, 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> <p>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</p> <p>Technical knowledge Apply their understanding of how to strengthen, stiffen and reinforce more complex structures Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p>	<p>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.</p>

Year 5 Long Term Plan

Blast Off	The Wonders of Ancient Egypt	If you go down to the woods today...
<p>Design Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p>	<p>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</p> <p>Make</p>	

<p>Make Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>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> <p>Evaluate Investigate and analyse a range of existing products</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>Technical knowledge Apply their understanding of computing to program, monitor and control their products.</p>	<p>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>Evaluate Understand how key events and individuals in design and technology have helped shape the world</p> <p>Technical Knowledge Use mechanical systems in their products levers and pulleys</p>	
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Year 4 Long Term Plan

Natural Disasters	Roaming Romans	Dangerous Planet
<p>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</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Make Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>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>	<p>Cooking and Nutrition Understand and apply the principles of a healthy and varied diet</p> <p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p>	<p>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</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Make Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>Select from and use a wider range of materials and components, including construction materials, textiles and ingredients,</p>

<p>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 Technical knowledge Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p>		<p>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 Technical knowledge Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p>
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Year 3 Long Term Plan

May The Force Be With You!	Plant Life	From scavengers to settlers
<p>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 [for example, 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 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</p>	<p>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.</p>	<p>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 [for example, 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 Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p>

Use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]		Understand how key events and individuals in design and technology have helped shape the world Technical knowledge Use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
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Year 2 Long Term Plan

What do we do in Winter?	The Great Fire of London	Africa
<p>Design Design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>Make Select from and use a range of tools and equipment to perform practical tasks [for example, 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> <p>Evaluate Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria</p> <p>Technical knowledge Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p>	<p>Design 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> <p>Make Select from and use a range of tools and equipment to perform practical tasks [for example, 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> <p>Evaluate Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria</p> <p>Technical knowledge Build structures, exploring how they can be made stronger, stiffer and more stable</p>	<p>Cooking and Nutrition Use the basic principles of a healthy and varied diet to prepare dishes Understand where food comes from.</p>

Year 1 Long Term Plan

Ourselves	What do we do in winter?	Are we nearly there yet?	Will it grow?
Cooking and Nutrition	Design :	Design :	Plants

<p>Use the basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from.</p> <p>Design : 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> <p>Make : Select from and use a wide range of materials and components.</p> <p>Evaluate : Evaluate their ideas and products against design criteria.</p> <p>Technical knowledge : Build structures; explore how they can be made stronger, stiffer and more stable.</p>	<p>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> <p>Make : Select from and use a range of tools and equipment to perform practical tasks (cutting card) . Select from and use a wide range of materials and components.</p> <p>Evaluate : Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria.</p> <p>Technical knowledge : Build structures, explore how they can be made stronger, stiffer and more stable Explore and use mechanisms (levers) in their products.</p>	<p>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> <p>Make : Select from and use a range of tools and equipment to perform practical tasks (cutting materials, shaping, joining and finishing) . Select from and use a wide range of materials and components.</p> <p>Evaluate : Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria.</p> <p>Technical knowledge : Explore and use mechanisms (levers, and wheels) in their products.</p>	<p>What are plants and what do they need to grow and flourish? Identify and name a variety of common and wild garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees. Observe and describe how seeds and bulbs grow into mature plants. Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p> <p>Scientific Skills Asking simple questions and recognising that they can be answered in different ways. Observing closely, using simple equipment. Performing simple tests. Identifying and classifying. Using their observations and ideas to suggest answers to questions. Gathering and recording data to help in answering questions.</p>
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Here you will find the design progression throughout school.

Year 1 :

Think of some ideas of their own.

Explain what they want to do.

Use pictures and words to plan.

Year 2 :

Think of ideas and plan what to do.

Choose the best tools and materials (give reasons why they are the best) .

Describe their design using pictures, diagrams, models and words.

Year 3 :

Develop designs that meet a range of requirements.

Produce a step by step plan, which shows the order of work, equipment and tools.

Describe their designs using accurately labelled sketches and words.

Year 4 :

Develop at least one idea to create their product.

Take account of other's ideas 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.

Year 5 :

Develop a range of ideas after collecting information through research.

Take the user into account when designing.

Produce a step-by-step plan.

Suggest alternative plans (with positive and negative points)

Year 6:

Use a range of information to inform design.

Use market research to inform plans.

Follow and refine their own plans if necessary.

Justify their plan to someone else.