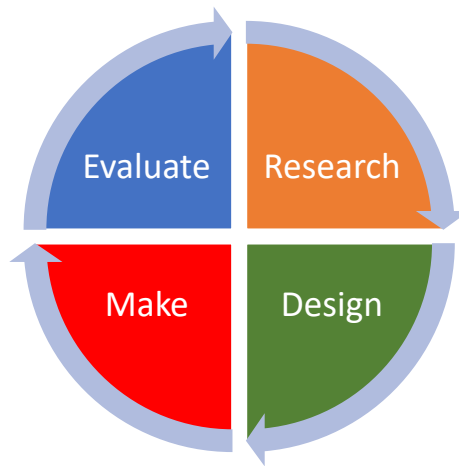


Dunmore

Design and Technology Curriculum



Scheme of Work EYFS - Year 6

Design and Technology at Dunmore provides children with a real-life context for learning. We want to allow children to aspire to achieve more by creating opportunities for them in the wider world. Through the DT curriculum, children should be inspired by engineers, designers, chefs and architects to enable them to create a range of structures, mechanisms, textiles and food products with a real-life purpose.

Golden Threads

Mechanisms

Problem Solving

Structures

Food and Nutrition

Computer Aided Design

Electronics

EYFS – Expressive Art and Design

Focus on DT





Early Learning Goals:

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
- Share their creations, explaining the processes they have used.
- Use a range of small tools, including scissors, paintbrushes and cutlery (Physical development)
- Offer explanations for why things might happen. Explain ideas using appropriate vocabulary. (Communication and language)

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Themes	All about me Harvest Traditional Tales Autumn	Celebrations Dinosaurs Christmas	Winter Chinese New Year Space	Superheroes Spring Easter	Gardens (Plants, Minibeasts, Life cycles)	Bears Summer Holidays
How it is taught in EYFS	<ul style="list-style-type: none"> • Cooking • Mud kitchen play • Construction area outside (planks, blocks, drainpipes, crates etc) • Loose parts play • Junk modelling • Building with different resources (lego, magnetic blocks, blocks, K'nex etc) • Talking about what they have made and how they made it. • Using subject related vocabulary - join, stick, build, cut etc • Exploring and playing with different materials 					
	Safely use and explore a variety of materials, tools and techniques. Cooking (bread rolls, gingerbread men)	Learn about arts and crafts from different countries e.g. collage linked to Rangoli patterns and clay diya lamps for Diwali.	Junk modelling space rockets. Small construction sets building space rockets. Design and build a large scale rocket out of boxes after learning about the	Explore hose pipes, funnels and buckets. How can we transport water from one place to another? Link to Firefighter visit.	Independently use tools and techniques with increasing care - Clay minibeasts Design and build shelters for insects in our garden.	Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, form and function.






		Explore ways to join and stick different materials - Christmas houses collage	3 parts of a space rocket. How can we make sure we include all 3 parts?			
Early Years Curriculum	<p>Fine motor skills development such as scissors, pens, pencils, paintbrushes etc.</p> <p>Exploring and creating with different textures and materials</p> <p>Sharing their work with friends and talking about how they made it and what they used.</p> <p>Return to and build on their previous learning, refining ideas and developing their ability to represent them.</p> <p>Create collaboratively, sharing ideas, resources and skills.</p>					
Vocabulary	Design, plan, build, create, join, combine, evaluate.					

Year 1 Design and Technology Overview

	Term 1/2	Term 3	Term 4	Term 5/6
Theme	Ourselves 	Houses and Homes 	Once upon a time/ Fantasy lands 	How Does Your Garden Grow 
Golden Thread	Mechanisms	Problem solving	Structures	Food and Nutrition
	Make moving greetings cards	Build 3 little pig houses using range of materials (straw/lego bricks/ twigs/ card)	Use a cereal box to build a castle	Make a salad / fruit salad Taste variety of fruit and veg
Design Brief	Make a greetings card with moving parts	Build a shelter for the 3 Little Pigs	Build a castle/ home suitable for a specific character	Make a healthy snack
	<p>Start to suggest ideas and explain what they are going to do.</p> <p>Begin to make their design using appropriate techniques.</p> <p>Explore using tools e.g. scissors and a hole punch safely.</p> <p>When looking at existing products explain what they like and dislike about products and why.</p> <p>Explore and use mechanisms (for example, levers, sliders), in their products.</p>	<p>Begin to draw on their own experience to help generate ideas and research conducted on criteria.</p> <p>Begin to understand the development of existing products: what they are for, how they work, materials used.</p> <p>Make templates and mock ups of their ideas in card and paper or using ICT.</p> <p>Begin to build structures, exploring how they can be made stronger, stiffer and more stable.</p>	<p>Understand how to identify a target group for what they intend to design and make based on a design criteria.</p> <p>With help measure, mark out, cut and shape a range of materials.</p> <p>Begin to use simple finishing techniques to improve the appearance of their product.</p> <p>Begin to evaluate their products as they are developed, identifying</p>	<p>Begin to understand that all food comes from plants or animals.</p> <p>Explore the understanding that food has to be farmed, grown elsewhere (e.g. home) or caught.</p> <p>Start to understand how to name and sort foods into the five groups in 'The Eat well plate'.</p> <p>Begin to understand that everyone should eat at least</p>

	<p>Begin to assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape.</p> <p>Understand how to identify a target group for what they intend to design and make based on design criteria.</p>	<p>With help measure, mark out, cut and shape a range of materials.</p> <p>Start to evaluate their product by discussing how well it works in relation to the purpose (design criteria).</p>	<p>strengths and possible changes they might make.</p>	<p>five portions of fruit and vegetables every day.</p> <p>Know how to prepare simple dishes safely and hygienically, without using a heat source.</p> <p>Know how to use techniques such as cutting, peeling and grating.</p>
<p>Skills and Techniques</p> <ul style="list-style-type: none"> • Select and use simple utensils, tools and equipment to perform a job e.g. peel, cut, slice, squeeze, grate and chop safely • Marking out, cutting, joining and finishing; cut, shape and join paper and card • Select from a range of ingredients and materials according to their characteristics to create a chosen product 		<p>Example Questions:</p> <ul style="list-style-type: none"> • What would you change about your design? • How could you make your design faster/stronger etc? • What do you like about someone else's design? • What would happen if you changed....? 		
<p>Vocabulary</p> <p>Plan, investigate, design, evaluate, make, user, purpose, ideas, product, design criteria, function</p>				

Year 2 Design and Technology Overview

	Term 1	Term 2	Term 3	Term 5	Term 6
Theme	Moving vehicles 	Stockings 	Fruit crumble 	Marble run 	Shoebox Habitats 
Golden thread	Mechanisms	Textiles	Food and Nutrition	Problem solving	Structures
Design Brief	To make a wheeled vehicle that rolls when pushed	To make a Christmas stocking to contain gifts	Make a tasty nutritious crumble	Design a track to move a marble as slowly as possible	Make a habitat for a specific user
	<p>Begin to draw on their own experience to help generate ideas and research conducted on criteria.</p> <p>Begin to understand the development of existing products: what they are for, how they work, materials used.</p> <p>Start to evaluate their product by discussing how well it works in relation to</p>	<p>Start to suggest ideas and explain what they are going to do.</p> <p>Begin to make their design using appropriate techniques.</p> <p>Explore using tools e.g. scissors and a hole punch safely.</p> <p>Begin to assemble, join and combine materials and components together using a</p>	<p>Begin to understand that all food comes from plants or animals.</p> <p>Explore the understanding that food has to be farmed, grown elsewhere (e.g. home) or caught.</p> <p>Start to understand how to name and sort foods into the five groups in 'The Eat well plate'.</p> <p>Begin to understand that everyone should eat at least five portions of fruit and vegetables every day.</p>	<p>Understand how to identify a target group for what they intend to design and make based on design criteria.</p> <p>With help measure, mark out, cut and shape a range of materials.</p> <p>Begin to use simple finishing techniques to improve the</p>	<p>With help measure, mark out, cut and shape a range of materials.</p> <p>Identify a purpose for what they intend to design and make.</p> <p>Begin to select tools and materials; use correct vocabulary to name and describe them.</p> <p>Build structures, exploring how they can be made</p>

<p>the purpose (design criteria). When looking at existing products explain what they like and dislike about products and why.</p>	<p>variety of temporary methods e.g. glues or masking tape. Demonstrate how to cut, shape and join fabric to make a simple product.</p> <p>Use basic sewing techniques.</p> <p>Start to choose and use appropriate finishing techniques based on own ideas.</p> <p>Understand how to identify a target group for what they intend to design and make based on design criteria.</p>	<p>Know how to prepare simple dishes safely and hygienically, without using a heat source.</p> <p>Know how to use techniques such as cutting, peeling and grating.</p>	<p>appearance of their product.</p> <p>Begin to evaluate their products as they are developed, identifying strengths and possible changes they might make.</p>	<p>stronger, stiffer and more stable.</p> <p>With help measure, cut and score with some accuracy. Learn to use hand</p>
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Skills and Techniques

- Plan by suggesting what to do next.
- Select and use tools, equipment, skills and techniques to perform practical tasks, explaining their choices.
 - Select new and materials, components, reclaimed materials and construction kits to build and create their products.
- Use simple finishing techniques suitable for the products they are creating.




Example Questions:

- How could you make your design faster/stronger etc?
- What could you do to make your design better?
- Find one thing that is better about someone else's design.
- How would you help someone who wanted to make their own...?
- What is the best/worst thing about your design?

Vocabulary




Plan, investigate, design, evaluate, make, user, purpose, ideas, product, design criteria, function
Model, annotated sketch, function, innovative, label, drawing, annotated sketch, appeal

Year 3 DT Curriculum Overview

Year 3	Term 1 and 2	Term 3 and 4	Term 5 and 6
Topic Theme of Term			
D & T coverage	Mechanisms	Food and nutrition	Structures
	Shadow puppets	Nutrition and sandwich making	Roman Aqueducts
Design Brief	To create a moving shadow puppet as part of a story	To design and make a healthy sandwich for a particular person	To make an aqueduct to channel water slowly to a specific place
Coverage	<p>With growing confidence generate ideas for an item, considering its purpose.</p> <p>Start to understand whether products can be recycled or reused.</p> <p>Explain their choice of tools and equipment in relation to the skills and techniques they will be using.</p> <p>Start to evaluate their product against original design criteria e.g. how well it meets its intended purpose.</p>	<p>Start to 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.</p> <p>Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</p> <p>Begin to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p>	<p>Start to order the main stages of making a product.</p> <p>Understand how well products have been designed, made, what materials have been used and the construction technique.</p> <p>Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.</p> <p>Know to make drawings with labels when designing.</p>


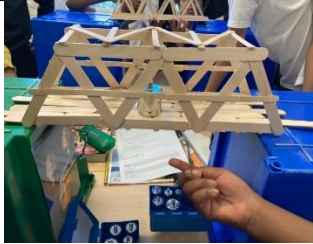


	<p>Start to understand that mechanical systems such as levers and linkages create movement.</p> <p>Measure, mark out, cut, score and assemble components with more accuracy.</p> <p>Start to work safely and accurately with a range of simple tools.</p>	<p>Select a wider range of tools and techniques for making their product e.g. food ingredients.</p> <p>Start to understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eat well plate'.</p> <p>Begin to know that to be active and healthy, food and drink are needed to provide energy for the body.</p>	<p>When planning, explain their choice of materials and components including function and aesthetics.</p> <p>Evaluate the key designs of individuals in design and technology has helped shape the world.</p> <p>Start to think about their ideas as they make progress and be willing to change things if this helps them to improve their work.</p>
<p>Skills and Techniques</p> <ul style="list-style-type: none"> • Plan the main stages of making. • Select from and use a range of appropriate utensils, tools and equipment with some accuracy related to their product. • Select from and use finishing techniques suitable for the product they are creating 		<p>Example Questions:</p> <ul style="list-style-type: none"> • What could you change to improve your design? • Who did you design this for? • What made creating your design difficult? • What questions would you ask if...? 	
<p>Vocabulary</p> <p>Plan, investigate, design, evaluate, make, user, purpose, ideas, product, design criteria, function</p> <p>Model, annotated sketch, function, innovative, label, drawing, annotated sketch, appeal</p> <p>Mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output, linear, rotary, oscillating, reciprocating</p>			

Year 4 DT Curriculum Overview

Year 4	Term 2	Term 4	Term 6
Theme			
Golden Thread	Structures	Textiles	Food and Nutrition
	Paper Towers	Viking shoes	Design an energy bar
Design Brief	Make tall structures with paper frames using limited resources, to bear weight	Make a shoe which can be worn to run across playground, inspired by Viking artefacts	Design and make an energy bar for after school club
	<p>Start to generate ideas, considering the purposes for which they are designing-link with Mathematics and Science.</p> <p>Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail.</p> <p>Identify the strengths and areas for development in their ideas and products.</p>	<p>Confidently make labelled drawings from different views showing specific features.</p> <p>When planning, explain their choice of materials and components according to function and aesthetic.</p> <p>Select a wider range of tools and techniques for making their product safely.</p> <p>Know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques.</p>	<p>Understand 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.</p> <p>Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</p> <p>Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p>





	<p>Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.</p> <p>Understand how to reinforce and strengthen a 3D framework.</p> <p>Evaluate the key designs of individuals in design and technology has helped shape the world.</p>	<p>Start to join and combine materials and components accurately in temporary and permanent ways.</p> <p>Begin to use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT.</p> <p>Start to evaluate their work both during and at the end of the assignment.</p>	<p>Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eat well plate'.</p> <p>Know that to be active and healthy, food and drink are needed to provide energy for the body.</p> <p>Be able to disassemble and evaluate familiar products and consider the views of others to improve them.</p>
<p>Skills and Techniques</p> <ul style="list-style-type: none"> • Order the main stages of making. • Select and use appropriate tools to measure, mark out, cut, score, shape and combine with some accuracy related to their products. • Explain their choice of materials according to functional properties and aesthetic qualities. • Select from and use materials and components, including ingredients, construction and electrical components according to their function and properties. 		<p>Example questions</p> <ul style="list-style-type: none"> • Explain what you could change and how it would improve your design? • How would you change your design for the 'real world'? • How effective at.... is your...? 	
<p>Vocabulary</p> <p>Design brief, purpose, function, sensory evaluations</p>			

Year 5 DT Curriculum Overview

Year 5	Term 3	Term 4	Term 5	Term 6
Theme				
Golden Thread	Textiles	Structures	Food and Nutrition	Mechanisms
	Victorian peg dolls	Bridge design and building	Tortillas	Monster toy
Design Brief	To design a doll for a specific user based on traditional designs	To create a structure that will bridge a specific distance and hold specific weight	To use South American ingredients to make a tasty and nutritious meal	To use mechanisms and forces to create a toy
Coverage	<p>With growing confidence select appropriate materials, tools and techniques.</p> <p>Begin to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.</p> <p>With growing confidence apply a range of finishing techniques, including those from art and design.</p>	<p>Start to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and CAD.</p> <p>Start to understand how much products cost to make, how sustainable and innovative they are, and the impact products have beyond their intended purpose.</p> <p>Begin to measure and mark out more accurately.</p>	<p>Understand 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.</p> <p>Begin to understand that seasons may affect the food available.</p> <p>Understand how food is processed into ingredients that can be eaten or used in cooking.</p>	<p>Use results of investigations, information sources, including ICT when developing design ideas</p> <p>Understand how mechanical systems such as cams or pulleys or gears create movement.</p> <p>Draw up a specification for their design- link with Mathematics and Science.</p> <p>Know how more complex electrical circuits and</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>Select appropriate materials, tools and techniques e.g. cutting, shaping, joining and finishing, accurately.</p>	<p>With growing confidence cut and join with accuracy to ensure a good-quality finish to the product.</p> <p>Evaluate the key designs of individuals in design and technology, and how it has helped shape the world.</p> <p>Evaluate their work both during and at the end of the assignment.</p> <p>Start to evaluate a product against the original design specification and by carrying out tests.</p>	<p>Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</p> <p>Start to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p> <p>Begin to understand that different foods and drinks contain different substances – nutrients, water and fibre – that are needed for health.</p> <p>Weigh and measure accurately (time, dry ingredients, liquids).</p>	<p>components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products.</p> <p>Understand that mechanical and electrical systems have an input, process and output.</p>
<p>Skills and Techniques</p> <ul style="list-style-type: none"> • Produce detailed lists of equipment and fabrics relevant to their tasks. • Write a step-by-step plan, including a list of resources required. • Select from and use, a range of appropriate utensils, tools and equipment accurately to measure and combine appropriate ingredients, materials and resources. 		<p>Example Questions</p> <ul style="list-style-type: none"> • Was your creation successful? How do you know? • What skills have you learnt? • How would you improve your design? 		
<p>Vocabulary</p> <p>Plan, investigate, design, evaluate, make, user, purpose, ideas, product, design criteria, function</p> <p>Model, annotated sketch, function, innovative, label, drawing, annotated sketch, appeal</p> <p>Mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output, linear, rotary, oscillating, reciprocating</p> <p>Design decisions, functionality, authentic, research, evaluate, mock-up, prototype</p>				

Year 6 DT Curriculum Overview

	Term 1 and 2	Term 3	Terms 4 and 5	Term 6
Topic Theme of Term				
Golden Thread	Mechanisms	Electronics	Textiles	Food and Nutrition
	Shadufs	Using electrical systems in products	Repair items of clothing – make do and mend	Design a menu
Design Brief	Research, design and build a working shaduf to transport water from the Nile to a field.	Use knowledge of electrical circuits to design and build a game for a younger child to play.	Replace a cuff button on a soldier's uniform. Repair a tear in an evacuee's coat with a recycled patch.	Design a menu to reflect a balanced and healthy diet
	<p>*Understand how mechanical systems such as levers and pivots create movement.</p> <p>*Use tools safely and accurately.</p> <p>*Construct products using permanent joining techniques.</p>	<p>Know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products.</p> <p>Understand that mechanical and electrical systems have an input, process and output.</p>	<p>Confidently select appropriate tools, materials, components and techniques and use them.</p> <p>Use period appropriate finishing techniques to strengthen and improve the appearance of their product.</p>	<p>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.</p> <p>Understand that seasons may affect the food available.</p> <p>Understand how food is processed into ingredients</p>

	<p>*Understand that mechanical systems have an input, process and output.</p> <p>*Know how to reinforce and strengthen a 3D framework.</p> <p>*Construct products using permanent joining techniques.</p> <p>*Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests.</p> <p>*Record their evaluations using drawings with labels</p>	<p>Aim to make and to achieve a quality product.</p> <p>Research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.</p>	<p>Use tools safely and accurately.</p> <p>Accurately apply a range of finishing techniques, including those from art and design.</p> <p>With confidence pin, sew and stitch materials together to create a product.</p> <p>Demonstrate when to make modifications as they go along.</p>	<p>that can be eaten or used in cooking.</p> <p>Understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p> <p>Know different food and drink contain different substances – nutrients, water and fibre – that are needed for health.</p>
<p>Skills and Techniques</p> <ul style="list-style-type: none"> • Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. • Competently select from and use appropriate tools to accurately measure, mark, cut and assemble materials, and securely connect electrical components to produce reliable, functional products. • Use finishing and decorative techniques suitable for the product they are designing and making. 		<p>Example Questions:</p> <ul style="list-style-type: none"> • What would you need to change to be able to sell your design? • How could you adapt... to make...? • What do you predict would happen if...? • Judge whether.... would cause/change/affect.... • What would you change if the user/ circumstances changed? 		
<p>Vocabulary Design decisions, functionality, authentic, research, evaluate, mock-up, prototype</p>				

Design specification, prototype, annotated sketch, innovation