



**Design & Technology Curriculum Intent
Progression of Skills and Knowledge**

Our Vision for D&T

Our intent for DT is to allow children to exercise their creativity through designing and making. We aim to provide children with real life contexts for learning and high-quality teaching to enable them to create a range of structures, mechanisms, textiles and food products with a real-life purpose. During each unit children will draw upon the skills they have previously learnt and think about how previous learning relates to current learning in order to work out how the goal can be achieved.

Spirituality Statement for D&T

Through D&T pupils should develop the perseverance to achieve a goal and will be rewarded by the sense of achievement they feel inside. Christians believe that Jesus is with them in every challenge that they face, encouraging them to keep going. "I can do all things through Him who strengthens me." Philippians 4.13

Cultural Capital

(Experiences that every child should have).

- Visit a local supermarket to research products which are already available to us
- Visit a playground to have a first-hand experience of free-standing structures
- Produce something of their own that makes them go, "Wow!"
- Have opportunities to use things they have made - recognising that their work really is purposeful and practical and to see the benefits of this
- Take things to bits to find out how they are held together and how they work
- Use saws, hammers, hand drills and other 'grown-up' tools (and know how to use them safely)

Cross Curricular Links

- Science - links to materials and solving problems involving materials
- Maths - measuring, estimating and interpreting scales, calculating costs or capacities links to maths
- Geography - exploring foods from different cultures and festivals
- Science - exploring where our food comes from
- Art - many links with art skills when considering finish, choice of materials & product appearance
- PSHE - 'Learning to use equipment safely and independently' elements have strong links to PSHE.

Composite Objectives in D&T in the Early Years Foundation Stage

Expressive Arts and Design - ELG: Creating with Materials

Children at the expected level of development will:

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function;
- Share their creations, explaining the process they have used

ELG: Fine Motor Skills:

Children at the expected level of development will:

Composite Objectives in D&T in Key Stage 1

By the end of key stage 1 children should be taught to:

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.

Make:

<ul style="list-style-type: none"> - Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all cases; - Use a range of small tools, including scissors, paint brushes and cutlery; - Begin to show accuracy and care when drawing. 	<ul style="list-style-type: none"> - 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>Evaluate:</p> <ul style="list-style-type: none"> - Explore and evaluate a range of existing products - Evaluate their ideas and products against design criteria. <p>Technical Knowledge:</p> <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 [for example, 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 program, monitor and control their products. <p>Food:</p> <p>By the end of key stage 1 children should be taught to:</p> <ul style="list-style-type: none"> - Use the basic principles of a healthy and varied diet to prepare dishes - Understand where food comes from
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	Year 1	Year 2
Mechanisms	<p>Sliders and Levers:</p> <p>Learn that levers and sliders are mechanisms and can make things move</p> <p>Identify a simple lever and slider mechanism and explain how it works</p> <p>Using the vocabulary: up, down, left, right, vertical and horizontal to describe movement</p> <p>Test out how to make a simple mechanism (a slider or lever)</p> <p>Design a product using your own ideas, thinking about who it is for and what it needs</p> <p>Create clearly labelled drawings which illustrate movement</p> <p>Learn the important of clear design criteria</p> <p>Include individual preferences and requirements into a design</p> <p>Explain how to adapt mechanisms, using bridges or guides to control the movement</p> <p>To follow a design to create moving models that use levers and sliders</p> <p>To adapt mechanisms</p>	<p>Axles and Wheels:</p> <p>Learn that mechanisms are a collection of moving parts that work together in a machine</p> <p>Identify mechanisms in everyday objects</p> <p>Exploring wheel mechanisms and learn how axels help wheels to move a vehicle</p> <p>Gain an understanding of how simple mechanisms related to moving vehicles work, after clarifying their ideas through discussion and research</p> <p>Design a moving vehicle for a specific audience in accordance with a design criteria</p> <p>Think about the most appropriate tools and resources to use for the task based on their properties</p> <p>Make a wheeled vehicle which meets the design criteria and needs of the user with either fixed or freely moving axles</p> <p>Cut and assemble materials neatly</p> <p>Evaluate own designs against design criteria</p>

	<p>Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed</p> <p>To review the success of a product by seeing if it moves as planned and how it can be fixed.</p>	<p>Use peer feedback to modify a final design</p>
	<p style="text-align: center;">Key Vocabulary</p> <p>Mechanism, lever, slider, bridge, slot, materials, moving part Design criteria, product, purpose, evaluate, improve.</p>	<p style="text-align: center;">Key Vocabulary</p> <p>Mechanism, fixed axles, freely moving axles. Design criteria, product, purpose, evaluate, improve, research, health & safety.</p>
<p>Food Technology</p>	<p><u>Fruit Salads:</u></p> <p>Understand why it is important to eat more fruit and where fruits come from and how they grow</p> <p>Understand the difference between fruit and vegetables</p> <p>Investigate how to make a fruit salad, which ingredients we should use and how which skills and utensils we will need</p> <p>Taste test fruit and understand the properties of a range of fruit (including taste, texture and appearance)</p> <p>Evaluate different food combinations</p> <p>To design a fruit salad to sell during the family daily mile</p> <p>To chop fruit safely</p>	<p><u>Soups:</u></p> <p>Understand where a range of vegetables come from e.g. farmed, grown at home, different countries, tree, bush, underground etc.)</p> <p>Understand and use the basic principles of a healthy and varied diet</p> <p>Know where to find the nutritional information on packaging</p> <p>Know the five food groups and understand how many portions of fruit and vegetables you should eat and why</p> <p>Investigate how to make a vegetable soup, which ingredients we should use and how which skills and utensils we will need</p> <p>Describe the taste, texture and smell of fruit and vegetables</p> <p>Taste test food combinations and final products</p> <p>Designing a healthy soup on food combinations which work well together</p> <p>Slice food safely using the bridge or claw grip</p> <p>Demonstrate independently a range of technical skills such as cutting, peeling, grating, chopping etc.</p> <p>Make a soup product which meets the design brief</p> <p>Evaluate whether the product is fit for purpose, meets the needs of the user and meets the design criteria.</p>
	<p style="text-align: center;">Key Vocabulary</p> <p>Properties, taste, texture, appearance, ingredients, evaluate, cutting, peeling, grating, chopping.</p>	<p style="text-align: center;">Key Vocabulary</p> <p>Healthy and varied diet, evaluate, purpose, design criteria, portion, Cutting, peeling, grating, chopping, improve.</p>
<p>Free Standing Structures</p>	<p><u>Fruit Salads:</u></p> <p>Identify and explore a range of existing structures in the school and local environment</p> <p>Explore how to make a freestanding structure and join materials</p> <p>Know the importance of clear design criteria</p>	

	<p>Design a product using your own ideas and linking to existing products and skills that you have</p> <p>Make stable structures from card, tape and glue and cut and assemble to create a freestanding structure</p> <p>Evaluate a finished product according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't</p> <p>Suggest points for improvement</p> <p>Develop an awareness of different structures for different purposes</p>	
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<p align="center">Key Vocabulary</p> <p>Freestanding structure, environment, evaluate, purpose, design criteria, join.</p>		
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<p>Textiles</p>		<p><u>Textiles:</u></p> <p>Explore products, explaining who they are for, how are used and who by, how products might work, where products might be used and what materials they are made from</p> <p>Learn different ways in which to join fabrics together: pinning, stapling, gluing and evaluate the joining techniques</p> <p>Create a design for a puppet considering its purpose and who you are making it for</p> <p>Select and cut fabrics for sewing</p> <p>Use joining methods to decorate a puppet (e.g. fabric glue or stitching)</p> <p>Thread a needle and sew running stitch, with evenly spaced, neat, even stitches to join fabric</p> <p>Evaluate the quality of stitching on their own and others work</p> <p>Identify aspects of their peers work that they particularly like and why.</p> <p>Be able to evaluate whether the product is fit for purpose, meets the needs of the user and meets the design criteria.</p>
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		<p align="center">Key Vocabulary</p> <p>Textiles, purpose, user, design, design criteria, evaluate materials, fabric, template, cut, join, shape, measure, mark, health and safety.</p>
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D&T Curriculum Implementation

What resources do we use to support the implementation of the D&T curriculum and why? (Must refer to research evidence and context of our school)

- We have used research from the design and technology association (DATA) to create our own medium-term plans for our school. This meets the needs of our pupils because the research and plans from the D&T association ensure that we teach the necessary skills for children to meet the requirements of the national curriculum. We have adapted the plans to ensure that we have interschool and community links and that children have a meaningful purpose and context to their D&T work, for

example making a fruit salad to sell after the family daily mile to raise money for our local community or making moving pictures for the younger children in our reception classes by first researching their interests. We have also adapted our planning to allow for greater use of metacognition so that children are understanding their thought processes and thinking for themselves.

How do we implement the D&T curriculum?

- Through a CPD focus on metacognition and how to promote this within in our schools and looking at the needs of our teachers and implementing CPD as and when necessary.
- Through clearly presented key concepts.
- Clear articulation of content and knowledge.
- Effective explanation and modelling.
- Tasks that enable pupils to meet the composite objectives.
- Shared teaching that enables pupils to acquire new learning and guided teaching that provides opportunities for pupils to practise new learning.
- Active learning that aids pupils' participation and engagement.
- Through careful planning and sequencing of components to meet composite objectives.
- Through group and paired discussions that aid understanding.
- The next lesson in a sequence is taught after assessment of the prior lesson to ensure that the cohort's needs are met.
- We use Robin Launder's, 'Making Learning Stick' strategies to help pupils embed key concepts in their long-term memory. We have a revisit session at the start of every D&T lesson to enable pupils to remember prior learning through interweaving and retrieval practise. Other strategies are used at different points within the lesson.
- New knowledge and skills are built on what has already been taught so that pupils can 'know more and remember more.'
- The D&T curriculum is taught remotely for pupils who are not able to attend school.
- Through effective questioning approaches and the use of 'Bloom's Taxonomy' to deliver higher order questioning to aid learners' understanding and progress
- A word aware approach to vocabulary acquisition.
- We adapt teaching at the point of learning to ensure the needs of learners are met and that they can continue to progress in sequence and deepen understanding.
- Dual coding – presenting concepts both verbally and visually to enhance retrieval from memory, including kinaesthetic and active approaches to engage.

How do we assess the D&T curriculum?

- Assessment in D&T takes place at the point of learning as part of formative assessment. Pupils are given direct feedback to aid immediate progress and address misconceptions.
- Assessment at the point of learning assists teachers to plan the next steps for the next day.
- D&T is assessed through teacher marking in line with the marking policy.
- Self – assessment, self-assessment with a peer, and group assessment take place to evaluate learning against the learning intention and/or against success criteria.

- Teachers identify a pupils' attainment by identifying their place within the progression of skills and where this fits in relation to the steppingstones between the expectations for a particular term and the milestones at the end of the term.

Summative assessment takes place twice a year, once halfway through the year and then again at the end of the year.