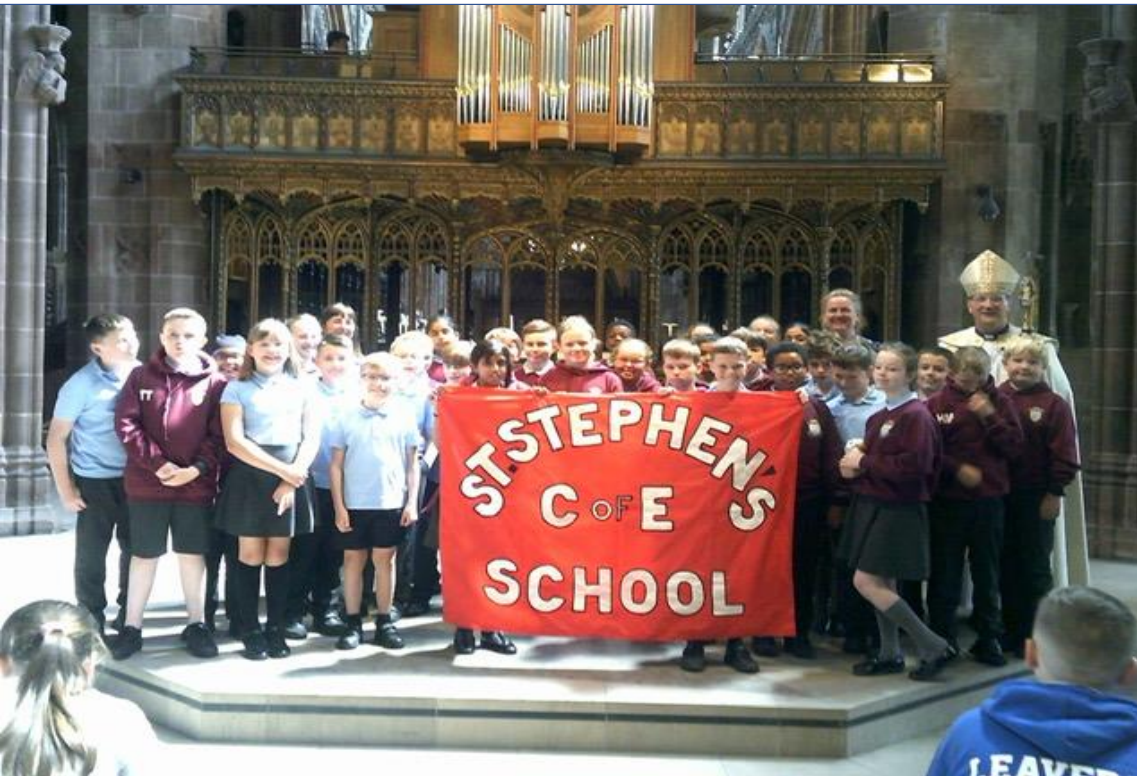




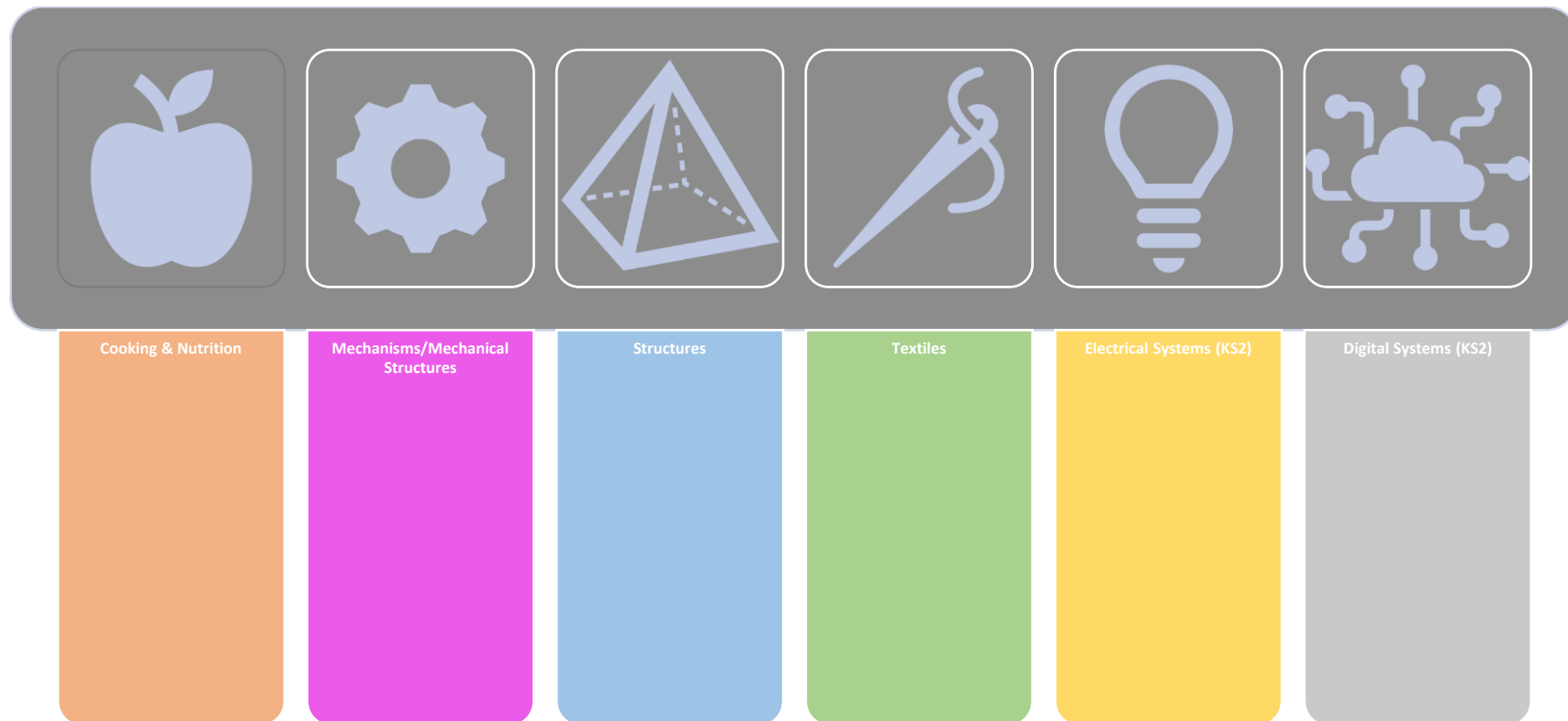
# D&T Curriculum Overview



*“Learning, loving and growing; together as God’s children.”*

## Our Approach

Our **cyclical** curriculum focuses on the 6 aspects below and our pupils revisit these aspects throughout their time in our school every year, with two aspects only being introduced in KS2 (electrical systems & digital systems). Each time they revisit an aspect, it is with **increasing complexity** to build on their **prior knowledge**. In each of the **4 projects** they complete each year they build on their ability to **design, make** and **evaluate** whilst also developing an understanding of **cooking and nutrition**. In addition, they are given opportunities to use their growing **technical vocabulary**, whilst also examining the work of **famous crafts people, designers, inventors** and **engineers**.



## EYFS Overview

Year	Autumn	Spring	Summer
N	<p><b>Structures-Junk Modelling Rockets</b></p> <ul style="list-style-type: none"> <li>Explore different ways of joining materials.</li> <li>Explore different materials and combine them to make different models for a purpose.</li> <li>Use pictures as inspiration to create structures with different building materials inside and outside.</li> </ul>	<p><b>Mechanisms-Finger/stick Puppets</b></p> <ul style="list-style-type: none"> <li>Understand what an outline is.</li> <li>Practice cutting out shapes with straight and curved edges.</li> <li>Use split pins with support to make a moving part</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
<p><b>Cooking &amp; Nutrition</b></p> <ul style="list-style-type: none"> <li>Talk about their favourite foods and what they eat at different meal times and on different occasions.</li> <li>Discuss what the word healthy means and taste different foods across the year linked to the seasons and celebrations.</li> <li>Use imaginative play to cook and bake with adult modelling supporting the process in the role play area and with malleable materials.</li> <li>Mix simple ingredients (flour, water, sugar) to observe the changes and experience cracking an egg.</li> </ul>			
R	<p><b>Mechanisms-Creating Diva Lamps &amp; Rockets</b></p> <ul style="list-style-type: none"> <li>Safely use and explore materials and tools.</li> <li>Explore new techniques</li> <li>Talk about new creations</li> <li>Begin to return to and build upon previous learning</li> <li>Use split pins to add moving parts deciding on placement.</li> </ul>	<p><b>Textiles-Shadow Puppets</b></p> <ul style="list-style-type: none"> <li>Return to and build on their previous learning, refining ideas and developing their ability to represent them.</li> <li>Create collaboratively sharing ideas, resources and skills.</li> </ul>	<p><b>Structures-Junk Modelling</b></p> <ul style="list-style-type: none"> <li>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function</li> <li>Share their creations, explaining the process they have used.</li> </ul>
<p><b>Cooking &amp; Nutrition</b></p> <ul style="list-style-type: none"> <li>Name simple everyday equipment used in baking and use simple terms such as mix, ingredient, recipe and bake.</li> <li>Use small motor skills to use a range of tools such as knives and forks.</li> <li>To know and talk about how to maintain a healthy body and well-being: healthy eating and eating a range of food.</li> <li>Take part in baking bread looking at the process of how the ingredients change and understand the dangers when working around a hot oven.</li> <li>Describe how key ingredients feel and think about where they come from (caught, reared or processed).</li> </ul>			

## KS1 Overview

Year	Autumn	Spring	Summer
1	<p><b>Textiles-Make a Hand Puppet</b></p> <ul style="list-style-type: none"> <li>Explore different ways of joining fabrics before creating hand puppets based upon characters from a well-known fairy tale.</li> <li>Develop technical skills of cutting, gluing, stapling and pinning.</li> </ul> <p><b>Jim Henson &amp; the innovation of puppets</b></p>	<p><b>Structures-Construct a Windmill</b></p> <ul style="list-style-type: none"> <li>Design, decorate and build a windmill for a mouse (client) to live in.</li> <li>Develop an understanding of different types of windmill, how they work and their key features.</li> <li>Look at real existing examples and the functions that they carry out.</li> </ul> <p><b>Gustav Eiffel &amp; his incredible structures</b></p>	<p><b>Mechanisms-Make a Moving Story Book</b></p> <ul style="list-style-type: none"> <li>Experiment with sliders before planning and making three pages of a moving story book, based on a familiar story.</li> <li>Drawing the page backgrounds, creating the moving parts and assembling it.</li> </ul> <p><b>Johannes Gutenberg &amp; the printing press</b></p>
<p><b>Cooking &amp; Nutrition-Fruit &amp; Vegetables</b></p> <ul style="list-style-type: none"> <li>Handle and explore fruits and vegetables, including looking at what was their starting point as a source of food.</li> <li>Learn how to identify which category they fall into.</li> <li>Undertaking taste testing to establish chosen ingredients for a smoothie they will make, with accompanying packaging.</li> </ul>			
2	<p><b>Structures-Baby Bears Chair?</b></p> <ul style="list-style-type: none"> <li>Using the tale of Goldilocks and the Three Bears as inspiration, pupils help Baby Bear by making him a brand new chair.</li> <li>Explore different shapes and materials.</li> <li>When designing the chair, they consider his needs and what he likes.</li> </ul> <p><b>Charles Rennie Mackintosh &amp; the Hill House</b></p>	<p><b>Mechanisms-Moving Monster</b></p> <ul style="list-style-type: none"> <li>Learn the terms: pivot, lever and linkage, building on their use of sliders.</li> <li>Pupils design a monster that will move using a linkage mechanism.</li> <li>Pupils practise making linkages.</li> <li>Experiment with various materials to bring their monsters to life through embellishments.</li> </ul> <p><b>Richard Arkwright &amp; The Industrial Revolution</b></p>	<p><b>Textiles-Pouches</b></p> <ul style="list-style-type: none"> <li>Introduction to sewing.</li> <li>Pupils make their own template,</li> <li>accurately cut their fabric and sew a basic running stitch.</li> </ul> <p><b>Coco Chanel &amp; the creation of a brand</b></p>
<p><b>Cooking &amp; Nutrition-A Balanced Diet</b></p> <ul style="list-style-type: none"> <li>Explore and learn what forms a balanced diet,</li> <li>Pupils will taste test ingredient combinations from different food groups.</li> <li>Pupils will identify how foods from different food groups have been caught, reared and processed.</li> <li>Use the taste test to inform a wrap design of their choice which will include a healthy mix of protein, vegetables and dairy.</li> </ul>			



## KS2 Overview

Year	Autumn	Spring	Summer
3	<p><b>Mechanisms: Pneumatic Toys</b></p> <ul style="list-style-type: none"> <li>Design and create a toy with a pneumatic system using exploded diagrams.</li> <li>Learn how trapped air can be used to create a product with moving parts.</li> <li>Pupils are introduced to thumbnail sketches and exploded diagrams.</li> </ul> <p><b>George Stephenson &amp; the first steam engine</b></p>	<p><b>Textile: Cross Stitch/Applique &amp; Fastenings</b></p> <ul style="list-style-type: none"> <li>Introduce cross stitch and appliqué.</li> <li>Apply their knowledge to the design, decoration and assembly of their own cushions.</li> <li>Add a fastening to their product after exploring different types.</li> </ul> <p><b>Lucienne Day &amp; her influence on textile patterns</b></p>	<p><b>Structures: Pavillons</b></p> <ul style="list-style-type: none"> <li>Exploring pavilion structures, learning about what they are used for.</li> <li>Drawing and labelling own design using CAD.</li> <li>Investigate how to create strong and stable structures before designing and creating their own pavilions, complete with cladding.</li> </ul> <p><b>Joseph Paxton &amp; the Great Exhibition</b></p>
<p><b>Cooking &amp; Nutrition-Eating Seasonally</b></p> <ul style="list-style-type: none"> <li>Pupils discover when and where fruits and vegetables are grown.</li> <li>Learn about seasonality in the UK.</li> <li>They look at the relationship between the colour of fruits and vegetables and their health benefits by making three dishes.</li> </ul>			
4	<p><b>Digital World: Mindful Moments Timer &amp; Poster</b></p> <ul style="list-style-type: none"> <li>An introduction to information design and electrical systems creating an electric poster using a basic circuit to develop a museum display.</li> <li>Design, program, prototype and brand a Micro:bit timer to a specified amount of minutes using CAD.</li> <li>Pupils carry out research and existing product analysis to determine how a programmable product could be personalised to their needs.</li> </ul> <p><b>George W Theiss &amp; the world's first digital watch</b></p>	<p><b>Electrical Systems: Torches</b></p> <ul style="list-style-type: none"> <li>Pupils apply their scientific understanding of electrical circuits to create a torch made from recycled and reclaimed materials and objects.</li> <li>They design and evaluate their product against set design criteria.</li> </ul> <p><b>Thomas Edison &amp; the incandescent light bulb</b></p>	<p><b>Mechanical Systems-Making a Slingshot Car</b></p> <ul style="list-style-type: none"> <li>Transform lollipop sticks, wheels, dowel and straws into a moving car.</li> <li>Pupils use a glue gun to construct, make the launch mechanism, design and create the chassis of a vehicle using nets.</li> </ul> <p><b>Henry Ford &amp; the mass manufacture of cars</b></p>
<p><b>Cooking &amp; Nutrition-Adapting a Recipe</b></p> <ul style="list-style-type: none"> <li>Work in groups to adapt a simple biscuit recipe.</li> <li>Create the tastiest biscuit ensuring that their creation comes within the given budget of overheads and costs of ingredients.</li> </ul>			

5	<p style="text-align: center;"><b>Textiles-Stuffed Toys</b></p> <ul style="list-style-type: none"> <li>• Create a stuffed toy by applying skills learnt in previous units to pin, decorate and stitch.</li> <li>• Introduce blanket stitch.</li> <li>• Select fabrics and use a pattern template.</li> </ul> <p><b>Zika Ascher &amp; the creation of experimental fabrics</b></p>	<p style="text-align: center;"><b>Mechanical Systems-Pop Up Book</b></p> <ul style="list-style-type: none"> <li>• Create a four-page pop-up story book design, incorporating a range of functional mechanisms that use levers, sliders, layers and spacers to give the illusion of movement through interaction.</li> </ul> <p><b>Garrett Morgan &amp; the blue print for WW1 gas masks</b></p>	<p style="text-align: center;"><b>Structures-Bridges</b></p> <ul style="list-style-type: none"> <li>• Learn about various types of bridge designs.</li> <li>• Explore how the strength of structures can be affected by the shapes used.</li> <li>• Create their own bridge and test its durability - using woodworking tools and techniques.</li> <li>• Examine what a plan view is.</li> </ul> <p><b>Isambard Kingdom Brunel/Santiago Calatrava &amp; civil engineering</b></p>
<p><b>Cooking &amp; Nutrition-What Could be Healthier?</b></p> <ul style="list-style-type: none"> <li>• Research and modify a traditional Bolognese sauce recipe to make it healthier.</li> <li>• Cook improved versions, creating appropriate packaging.</li> <li>• Learn about where the ingredients came from through identification of the source and how it progressed to the raw ingredients used.</li> <li>• Explore the importance of animal welfare when farming cattle.</li> </ul>			
6	<p style="text-align: center;"><b>Mechanical Systems-Automata Toys</b></p> <ul style="list-style-type: none"> <li>• Make use of cross sectional designs.</li> <li>• Use woodworking skills pupils construct an automata.</li> <li>• Refine measuring and cutting their materials,</li> <li>• Assemble the frame.</li> <li>• Choosing cams.</li> <li>• Design the characters that sit on the followers to form an interactive shop display.</li> </ul> <p><b>Leonardo Da Vinci &amp; his robot/clock automaton designs</b></p>	<p style="text-align: center;"><b>Digital World-Navigating the World</b></p> <ul style="list-style-type: none"> <li>• Write a design brief and develop design criteria.</li> <li>• Use annotated sketches to develop a product.</li> <li>• To understand what accelerometers and magnetometers are.</li> <li>• Program a navigation tool to produce a multifunctional device for trekkers.</li> <li>• Combine 3D virtual objects to form a complete product concept in 3D computer-aided design modelling software.</li> </ul> <p><b>Walter Braithwaite &amp; the use of CAD/CAM technology</b></p>	<p style="text-align: center;"><b>Electrical systems-Steady Hand Games</b></p> <ul style="list-style-type: none"> <li>• Design and create a steady hand game.</li> <li>• Use nets to create the bases.</li> <li>• Apply knowledge of electrical circuits to build an operational circuit with a buzzer that completes the circuit when the handle makes contact with the wire.</li> </ul> <p><b>Edith Clarke the world's first woman electrical engineer</b></p>
<p><b>Cooking &amp; Nutrition-Come Dine with Me</b></p> <ul style="list-style-type: none"> <li>• Research and prepare a three-course meal.</li> <li>• Taste-test and score their food.</li> <li>• Research the journey of their main ingredient from 'farm to fork' or write a favourite recipe.</li> </ul>			