St. Thomas'
CofE PRIMARY ACADEMY
Learning for life with Jesus

Design & Technology Learning Journey 2025/2026

Intent, Implementation and Impact

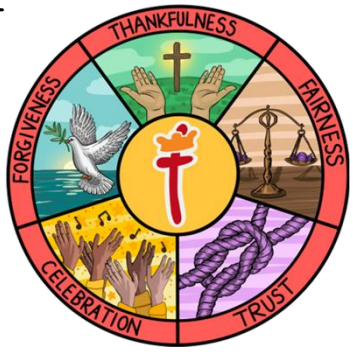
Learning for life with Jesus

Intent

All areas of our curriculum are underpinned by our Christian Values, and we ensure that our curriculum makes links to these values. At the heart of each subject is a set of core skills, which form a subject learning journey. This journey is built from EYFS through to Year 6 and the skills are progressive as you move through the school. Knowledge is communicated to ensure coverage of the National Curriculum and it is through this knowledge that children apply their skills.

Children at St Thomas' leave with both secure academic knowledge and skills needed for the next stage of their education. They will have developed a clear set of Christian and moral values which they can apply in all areas of their lives. They will have taken part in real-life experiences, which will have raised their aspirations and given them a thirst for wisdom and knowledge.

The intention of the St. Thomas' D&T learning journey is first and foremost to help develop children's thinking skills and provide opportunities for them to design and make quality products. It is our intention that DT contributes to the development of the whole child emotionally, aesthetically, spiritually, intellectually and socially. We intend to create, in the child, a sense of enjoyment and purpose and provide pupils with a unique way of perceiving themselves which is essential to their learning. We intend DT to be inspiring, rigorous and practical. We want our children to use creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts, considering their own and other needs, wants and values. We want DT to prepare our children, give them opportunities, responsibilities and experiences they need to be successful innovators later in life.



Our Design and Technology lead in school is Mrs N McNicholas

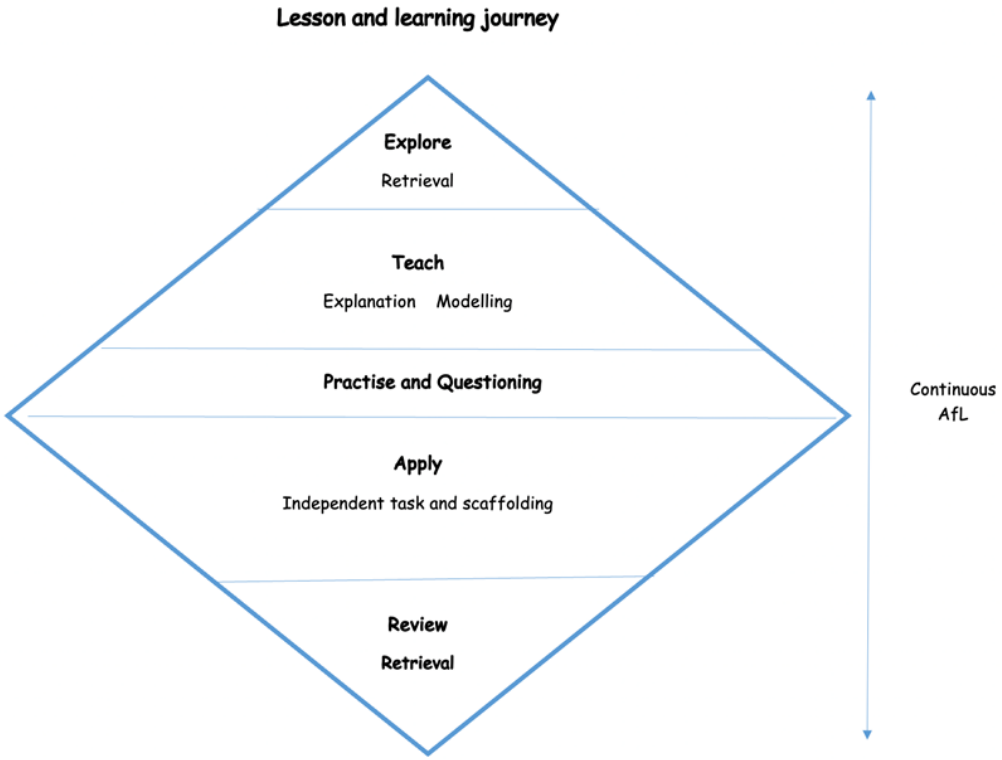
Implementation

Design and Technology units are organised into: **Mechanisms, Textiles, Structures, Cooking and nutrition, Electrical systems (KS2), Digital world (KS2).** All units focus on:

- Design
- Make
- Evaluate
- Technical Knowledge
- Cooking and Nutrition

Units of lessons are sequential, allowing children to build skills and knowledge which are revisited again and again in increasing complexity using a spiral curriculum model.

DT is taught for 1 hour each week (in alternate blocks to Art) Each new unit of learning is introduced by exploring previous skills and knowledge. Children are then introduced to the key knowledge of the unit. Key vocabulary for that lesson is shared. During the lesson, a lesson journey is followed consisting of 'Explore-Teach/Practise-Active Learning (Apply) – Review'. Where appropriate, assessment and feedback will focus on misconceptions and next steps for learning.



EYFS

Reception Theme Subject Journey

Explore

Children have the opportunity to explore the topic and subject area through tuff trays and child led learning. KWL grids and mind maps used to identify prior learning.

Teach

Input and carpet sessions, in the moment teaching opportunities, concrete materials, teaching of new topic specific vocabulary.

Practise

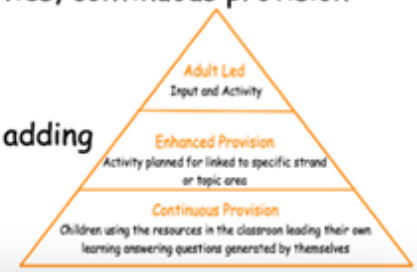
Group work, teacher guided sessions, tuff tray activities after input, key questions for children to explore and investigate on their own after being taught skills.

Apply

Independent tasks, some enhanced provision opportunities, continuous provision opportunities, child-led learning

Review

Mini input on previous learning, KWL revisit, mind map adding repeating 'explore' activities.



Design and Technology is taught as part of the Expressive Art and Design area of the EYFS learning and development. Children in Reception have an Art or DT lesson once per week, following the units on the yearly overview. Where appropriate, lessons and units will take the same form as the rest of the school: explore, teach, practise, apply and review. Children will also have the opportunity to practise and develop their Design and Technology skills in the enhanced and child-initiated continuous provision. Evidence of Design and Technology lessons and other supporting evidence can be found on Evidence Me linked to the appropriate statements and ELG.

ELG	Physical Development	Fine Motor Skills	• Use a range of small tools, including scissors, paintbrushes and cutlery.
	Expressive Arts and Design	Creating with Materials	• 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.

Impact

In addition to the outcomes shown on our curriculum tree, the specific impact of the St. Thomas' DT learning journey is that children will be able to:

▪ Understand the functional and aesthetic properties of a range of materials and resources
▪ Understand how to use and combine tools to carry out different processes for shaping, decorating and manufacturing products
▪ Build and apply a repertoire of skills, knowledge and understanding to produce high quality, innovative outcomes, including models, prototypes, CAD and products to fulfil the needs of users, clients and scenarios
▪ Understand and apply the principles of healthy eating, diets and recipes, including key processes, food groups and cooking equipment
▪ Have an appreciation for key individuals, inventions and events in history and of today that impact our world
▪ Recognise where our decisions can impact the wider world in terms of community, social and environmental issues
▪ Self-evaluate and reflect on learning at different stages and identify areas to improve
▪ Meet the end of key stage expectations outlined in the National Curriculum for Design and Technology

Formative assessment takes part in each lesson, leading to misconceptions and next steps being the focus for feedback. Summative assessment is completed for each child at the end of each unit of teaching, using the assessment framework at the end of this document. A best fit approach to statements achieved results in an end of year summative grade.

Adaptive Teaching Strategies

Cognition and Learning	Communication and Interaction	SEMH	Physical and Sensory
• Alternative methods of recording (talking tins, laptops, creative tasks) • Differentiated tasks • Visual supports • Word banks/phonic maps • Pre-teaching of vocabulary • Teaching of key skills • Coloured overlays • Timers and chunked activities • Use of practical apparatus • Sit close to the board • Allow extra time	• Talking tins • Pre-teaching language • Visuals to support • Social stories • Now/Next • Increased focus on Oracy and developing talk opportunities • Thinking time • Explicit instructions • Makaton signs • Steps to success (one task at a time)	• Brain and movement breaks • Calmbrain • Reward time • Reflection areas (weighted blankets) • Sensory/fidget toys • Sit near to the teacher • Steps to success (one task at a time) • Peer buddies	• Own learning space (workstation) • Brain breaks • Appropriate seating • Fidget toys • Adapted resources (scissors, rulers etc) • Sloping board • Alternative methods of recording • Wobble cushions • Use of a sensory areas (tent) • Chew buddies • Pencil grips/sloping boards

Lowest 20% offer

Attendance	Pastoral	Healthy Mind and Body	Academic
• Encouraging text messages • Parenting drop-ins • School to collect children • Rewards for parents • Reward charts for children • Relationship building with families • Attendance action plans • Free additional hours in the Nursery • Free access to before and after school club • Meet and Greet at the Hive	• Additional transition • Pastoral plans for children • Pastoral coffee and catch-up sessions for parents • ELSA therapy • Providing uniform and school supplies • Funding of trips, clubs and before and after school care • Individual invites for parents to events • Enrichment opportunities • Referrals and signposting to external services • Pastoral support unit access. • Individual whole school roles to boost self esteem • Reduced timetable if needed to support pastoral needs • Sensory circuits and access to the sensory room	• School foodbank • Food vouchers • Parent workshops • School nurse referral for healthy living programme • Free school meals • Breakfast provision • After school sports clubs- personal invites • Budgeting support for families • Medical care plans • Invites to sports camps in the school holidays	• Before and after school clubs with personal invites • Teacher targeting in every lesson • National Tutoring Programme • In school interventions • Aspirational targets • Parenting workshops • Individual daily reading • Pre and post teaching • Scaffolding for aspiration • Access to technology • Metacognitive learning • Reward time with school dog • Targeted clubs including homework club • Home access to phonics subscription and magazine subscriptions • School funded instrumental lessons • Breakfast and books

2025/2026 Design & Technology Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	Art	Art	Junk Modelling; Creative Station	Art	Structures; Boats	Art
Year 1	Art	Art	Mechanisms; Wheels & Axles	Art	Structures; Designing a throne	Art
Year 2	Art	Mechanisms; Making a moving storybook	Art	Art	Art	Constructing a Windmill
Year 3	Art	Textiles; Design a Puppet	Art	Mechanisms; Making a Moving Monster	Art	Cooking & Nutrition
Year 4	Art	Art	Art	Mechanical Systems	Art	Textiles
Year 5	Art	Art	Art	Art	Art	Structures; Designing a Pavilion
Year 6	Art	Structure; To build a model version of an	Art	Art	Art	Textiles

		Anderson Shelter				

Art & Design Skills and Knowledge Progression

Structures

Skills

	KS1 – Baby Bear's chair	LKS2 – Castles	UKS2 – Bridges
Design	▪ Generating and communicating ideas using sketching and modelling	▪ Designing with key features to appeal to a specific person/purpose. ▪ Drawing and labelling a design using 2D shapes, labelling: 3D shapes - materials needed and colours.	▪ Designing a stable structure that is able to support weight ▪ Creating frame structure with focus on triangulation
Make	▪ Making a structure according to design criteria ▪ Creating joints and structures from paper/card and tape	▪ Constructing a range of 3D geometric shapes using nets. ▪ Creating special features for individual designs. ▪ Making facades from a range of recycled materials.	▪ Create a structure that span a given distance and supports a load, reinforcing where needed. ▪ Independently measuring and marking wood accurately ▪ Selecting appropriate tools and equipment and techniques for particular tasks
Evaluate	▪ Testing the strength of own structures ▪ Evaluating the strength, stiffness and stability of own structure	▪ Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison, to the original design. ▪ Suggesting points of modification of the individual designs.	▪ Adapting and improving own structure by identifying points of weakness and reinforcing them as necessary ▪ Suggesting points for improvements for own structures and those designed by others

Knowledge

Technical	▪ To know that materials can be manipulated to improve strength and stiffness ▪ To know that a structure is something which has been formed or made from parts ▪ To know that a 'strong and stable' structure is one which does not break easily and is firmly fixed	▪ To understand that wide and flat based objects are more stable. ▪ To understand the importance of strength and stiffness in structures.	▪ To understand some different ways to reinforce structures ▪ To understand why material selection is important based on their properties ▪ To understand the material (functional and aesthetic) properties of wood

Additional	N/A	▪ To know that a design specification is a list of success criteria for a product. ▪ To understand why castles had to be strong, know the features of a castle and their purpose.	▪ To understand the difference between arch, beam, truss and suspension bridges ▪ To understand how to carry and use a saw safely

Vocabulary

	Function	Test	Castle	Structure	Finish	Lamination
	Weak	Natural	3D	Tab	Material properties	Factors
	Strong	Man-made	2D	Net	Technique	Rigid
	Stable	Mould	design	Assemble	Stability	Soft wood
	Stiff	Evaluate	Scoring		Strength	Hard wood
					Visual appeal	Reinforce
					Truss bridge	

Mechanisms/Mechanical systems

Skills

	KS1 – Making a moving story book	KS1 - Making a moving monster	UKS2 – Automata toys
Design	▪ Explaining how to adapt mechanisms, using bridges or guides to control the movement ▪ Designing for a given audience	▪ Creating a class design criteria. ▪ Designing for a specific audience in accordance with a design criteria.	▪ Creating a design based on a choice of cam to create a desired movement ▪ Understanding how linkages change the direction of a force ▪ Understanding and drawing cross-sectional diagrams to show the inner-working
Make	▪ Following a design to create moving models that use levers and sliders	▪ Making linkages using card for levers and split pins for pivots	▪ Measuring, marking, cutting and checking the accuracy of the components.
Evaluate	▪ Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed ▪ Reviewing the success of a product by testing it with its intended audience	▪ Evaluating own designs against design criteria ▪ Using peer feedback to modify a final design	▪ Evaluating the work of others and receiving feedback on own work ▪ Describing changes they would make/do if they were to do the project again

Knowledge

Technical	▪ To know that a mechanism is the parts of an object that move together ▪ To know that a slider mechanism moves an object from side to side	▪ To know that mechanisms are a collection of moving parts that work together as a machine to produce movement. ▪ To know that there is always an input (energy to start something) and output (movement / result) in a mechanism	▪ To understand that the mechanisms use a system of cams, axles and followers ▪ To understand that different shaped cams produce different outputs
Additional	▪ To know that in Design and technology we call a plan a 'design	▪ To know some real-life objects that contain mechanisms	▪ To know that a cross-sectional diagram shows the inner workings of a product ▪ To know that a set square can be used to help mark 90° angles

Vocabulary						
	Template Design Test Evaluate	Model Slider Stencil	Input Output Linkage Mechanical Pivot Survey	Wheel Axle	Automata Accurate Axle Bench hook Cam Cam profile Component	Cross-sectional diagram Dowel Exploded diagram Frame Function Housing Mechanism

Cooking and nutrition

Skills

	KS1 – A Balanced Diet	UKS2– Come Dine With Me
Design	▪ Designing based on food combinations which work well together	▪ Writing a recipe, explaining the key steps, method and ingredients ▪ Including facts and drawings from research undertaken
Make	▪ Slicing food safely using the bridge or claw grip ▪ •Constructing accord to a design brief	▪ Following a recipe, including using the correct quantities of each ingredient ▪ Adapting a recipe based on research ▪ Working safely and hygienically with independence
Evaluate	▪ Describing the taste, texture and smell of fruit and vegetables ▪ Describing the information that should be included on a label ▪ Evaluating which grip was most effective	▪ Evaluating a recipe, considering: taste, smell, texture and origin of the food group ▪ Taste testing and scoring final products, evaluating how they could be improved. ▪ Evaluating health and safety in production to minimise cross contamination

Knowledge

Cooking and Nutrition	▪ To know that 'diet' means the food and drink that a person or animal usually eats ▪ To understand what makes a balanced diet ▪ To know that the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar ▪ To know that 'ingredients' means the items in a mixture or recipe	▪ To know that many countries have 'national dishes' which are recipes associated with that country ▪ To know that 'processed food' means food that has been put through multiple changes in a factory ▪ To understand that it is important to wash fruit and vegetables before eating to remove any dirt and insecticides ▪ To understand what happens to a certain food before it appears on the supermarket shelf (Farm to Fork)

Vocabulary				
	Healthy	Vegetables	Cook book	Preparation
	Ingredients	Taste	Complement	Recipe
	Balanced diet	Appearance	Cross contamination	Research
	Refrigerator	Feel	Enhance	Bitter
	Nutrients		Farm to fork	Sweet
	Design		Flavours	Salty
	Smell		Method	Sour
	Fruit		Pairing	Unami

Textiles

Skills

	KS1 - Puppets	LKS2 - Cushions
Design	▪ Using a template to create a design	▪ Designing, creating a template and applying individual design criteria
Make	▪ Cutting fabric neatly with scissors ▪ Using joining methods to decorate ▪ Sequencing steps for construction	▪ Following design criteria. ▪ Cutting fabric, threading needles and tying knots with greater independence ▪ Sewing using cross stitch and running stitch to join fabric and apply appliqué
Evaluate	▪ Reflecting on a finished product, explaining likes and dislikes	▪ Evaluating an end product and thinking of other ways in which to create similar items

Knowledge

Technical	▪ To know that 'joining technique' means connecting two pieces of material together ▪ To understand that a template (or fabric pattern) is used to cut out the same shape multiple times ▪ To know that drawing a design idea is useful to see how an idea will look	▪ To know that applique is a way of mending or decorating a textile by applying smaller pieces of fabric ▪ To know that when two edges of fabric have been joined together it is called a seam ▪ To know that it is important to leave space on the fabric for the seam

Vocabulary

	Template	Equipment	Accurate	Embellish
	Model	glue	Attach	Appliqué
	decorate	safety pin	Seam	Fabric
	design	staple	Running stitch	Annotate
	fabric	stencil	Cross Stitch	Technique

Digital World and Electrical Systems

Skills

	LKS2 – Wearable Technology	UKS2 – Steady Hand Game
Design	▪ Problem solving by suggesting which features that might be useful and justifying my ideas. ▪ Developing design ideas through annotated sketches to create a product concept. ▪ Developing design criteria to respond to a design brief.	▪ Designing by identifying and naming the components required ▪ Drawing a design from three different perspectives, generating ideas through sketch and discussion ▪ Modelling ideas through prototypes
Make	▪ Following a list of design requirements. ▪ Writing a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm.	▪ Constructing and decorating a stable base ▪ Accurately cutting, folding and assembling a net ▪ Making and testing a circuit Incorporating a circuit into a base
Evaluate	▪ Analysing and evaluating the design. ▪ Using feedback from peers to improve design.	▪ Testing own and others finished games, identifying what went well and making suggestions for improvement ▪ Gathering images and information about existing products ▪ Analysing a selection of existing products.

Knowledge

Technical	▪ To understand that, in programming, a 'loop' is code that repeats something again and again until stopped. ▪ To know that a micro:bit is a pocket-sized, codeable computer. ▪ To know that a simulator is able to replicate the functions of an existing piece of technology.	▪ To know that batteries contain acid, which can be dangerous if they leak ▪ To know the names of the components in a basic series circuit including a buzzer
Additional	▪ To understand what is meant by 'point of sale display.' ▪ To know that CAD stands for Computer-aided design. ▪ To know what a focus group is by taking part in one.	▪ To know the difference between 'form' and 'function' ▪ To understand that 'fit for purpose' means that a product works how it should and is easy to use

		▪ To know the importance of 'form follows function' when designing: the product must be designed primarily with the function in mind

Vocabulary				
	Digital technology	Monitor	Assemble	Conductor
	Display	Product	Benefit	Form
	Annotate	Program	Bulb	Insulator
	Opinion	Simulator	Buzzer	Fine motor skills
	Feature	Test	Circuit	Gross motor skills
	Function		Circuit symbol	LED
			Component	User

National Curriculum Coverage – Design & Technology

Key Stage 1	Puppets	Story book	Baby bear	Balanced diet	Monster
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	•	•	•		•
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	•	•	•	•	•
Explore and evaluate a range of existing products		•		•	•
Evaluate their ideas and products against design criteria	•	•	•		•
Build structures, exploring how they can be made stronger, stiffer and more stable			•		
Explore and use mechanisms (for example, levers, sliders, wheels and axles) in their products.		•			•
Use basic principles of a healthy and varied diet to prepare dishes				•	
Understand where food comes from				•	

Key Stage 2	Castles	Wearables	Cushion	Bridges	Steady game	Come dine	Automata
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	•	•	•	•	•		•
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 wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics	•		•	•	•	•	
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		•			•	•	•
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		•					
Understand and apply principles of a healthy and varied diet						•	
Prepare and cook 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						•	