



Design and Technology Curriculum Intent, Implementation and Impact Statement



Intent

The intent of Church Vale's Design and Technology curriculum is to enable our pupils to be able to 'think like designers'. Through using creativity and imagination, pupils will design and make products that solve real and relevant problems within a variety of contexts, while considering their own and others' needs, wants and values. Linking to a broad range of subjects, they will learn how to take risks so they become resourceful, innovative, enterprising and capable citizens.

Key Concepts

Lessons will focus on the key concepts of being a designer, within the breadth of the KS1 and KS2 topics. The broad key skills for Design and Technology are:

- To develop, plan and communicate ideas (**design**)
- To build prototypes and products for a range of users (**make**)
- To **evaluate** processes and products
- To develop **technical knowledge**
- To learn how to **cook**

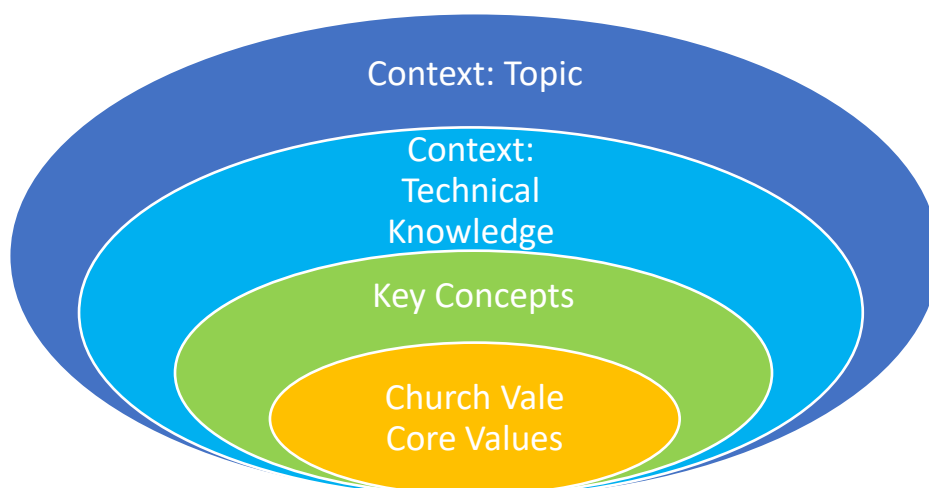
We recognise that objectives will focus on attaining or development an ability, within the context of the topics e.g. *To use my consumer questionnaire to help design my moving animal.*

Each topic will include 'cultural capital' – the knowledge foundations which we will expect pupils to retain and be able to recall so that they are able to utilise this to complete related tasks.

Interwoven throughout the Design and Technology curriculum, our 3 **core Church Vale values** of **possibilities**, **community**, and **self-awareness** will be explicitly explored alongside and within our breadth of study.

Implementation

To enable a continued thematic approach, key concepts will be mapped out across the Key Stages 1 and 2. Classes may be taught using in a linear model or may combine and create 2-year rolling models of study.



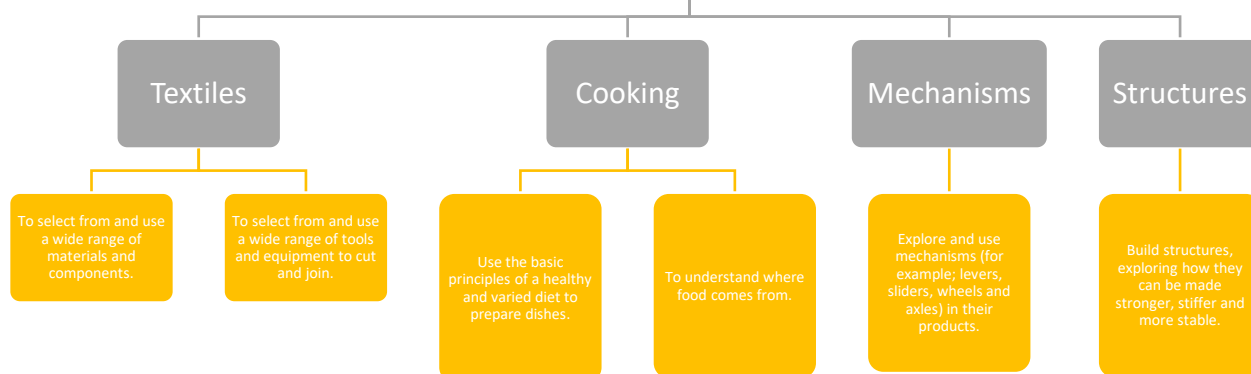


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Key Stage 1

Design, Make and Evaluate



Planning has been created as a staff for Design and Technology. This allows for clear progression and the DT lead will know what is being taught and when.

Running theme throughout KS2 - Understand how key events and individuals in design and technology have helped shape the world

	Autumn	Spring	Summer
Year 1	<u>Mechanisms</u> <u>Moving Vehicles</u>	<u>Structures</u> <u>Dolls House</u>	<u>Food Technology</u> <u>Salad</u>
Year 2	<u>Textiles</u> <u>Design Clothes</u>	<u>Structures</u> <u>Building Bridges</u>	<u>Food Technology</u> <u>Sandwiches</u>
Year 3	<u>Mechanical Systems</u> <u>Pneumatic Toys</u>	<u>Food Technology</u> <u>Pizza</u>	<u>Textiles</u> <u>Purse</u> Computing (Summer 1) Cooling Fans
Year 4	<u>Food Technology</u> <u>Cottage Pie</u>	<u>Electrical Systems</u> <u>Alarm</u>	<u>Structures</u> <u>Mini Greenhouses</u> Computing (Spring 2) Milo the Science Rover
Year 5	<u>Food Technology</u> <u>Curry</u>	<u>Mechanical Systems</u> <u>Headstock</u> Computing (Autumn 2) Grabbing Objects and Space Exploration	<u>Textiles</u> <u>Stuffed Toy</u>
Year 6	<u>Food Technology</u> <u>Lasagne</u>	<u>Electrical Systems</u> <u>Fairground Ride</u>	<u>Structures</u> <u>Anderson Shelters</u> Computing (Summer 2) Volcano Alert - Predator and Prey

How EYFS provides the foundations of Design and Technology at Church Vale

As with all subject-specific learning, the foundations of Design and Technology are built within EYFS mainly through Expressive Arts and Design: Creating with Materials and Physical Development: Fine



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Motor Skills strands. Throughout school, we aim to have well-developed designers with good imagination and creativity in order to produce products made for a particular purpose. Design, make and evaluate are key concepts that run throughout school and these are the foundations that we start to build upon in EYFS.

Design – We encourage our youngest children to think creatively, explore and be active learners (The characteristics of effective learning) We celebrate open ended exploratory play and as the children learn and master how to use tools and techniques we then scaffold emerging ideas. Open ended opportunities are key in this process and we allow children to be creative and have the freedom to follow their interests.

Make – by using a wide variety of materials children are encouraged to explore them and the uses they may have. Through stations such as box modelling, children independently create their designs, changing the process if needed. It is key that children have access to high quality resources and tools and learn how to use them confidently.

Evaluate – children share their creations, explaining the process they have used. We usually see this within a carpet time to allow the child time to explain to their peers. We ensure children have the resilience to evaluate creations and go back again to amend their end product if needed.

Throughout the whole process children are exposed to a range of tools and are encourage to talk to their peers about their designs and intentions. All children cook / bake fortnightly using their knowledge of seasons to decide on ingredients and why some may not be available.



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Progression of Key Concepts

Key Concepts	EYFS	KS1	Lower KS2	Upper KS2
To develop, plan and communicate ideas (design).	❖ I can use previous learning to refine ideas and use ways to represent them. (ELG: EAD CM)	❖ Generate ideas by drawing on their own and other people's experiences ❖ Develop their design ideas through discussion, observation, drawing and modelling ❖ Identify a purpose for what they intend to design and make ❖ Identify simple design criteria ❖ Make simple drawings and label parts	❖ Generate ideas, considering the purposes for which they are designing ❖ Make labelled drawings from different views showing specific features ❖ 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 ❖ Evaluate products and identify criteria that can be used for their own designs	❖ Communicate their ideas through detailed labelled drawings ❖ Develop a design specification ❖ Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways ❖ Plan the order of their work, choosing appropriate materials, tools and techniques
To build prototypes and products for a range of users (make).	❖ Safely use and explore a variety of material, tools and techniques, experimenting with colour, design, texture, form and function (ELG: EAD CM)	❖ Begin to select tools and materials; use vocab' to name and describe them ❖ Measure, cut and score with some accuracy ❖ Use hand tools safely and appropriately ❖ Assemble, join and combine materials in order to make a product ❖ Cut, shape and join fabric to make a simple garment. Use basic sewing techniques ❖ Choose and use appropriate finishing techniques	❖ Select appropriate tools and techniques for making their product ❖ Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques ❖ Join and combine materials and components accurately in temporary and permanent ways ❖ Sew using a range of different stitches, weave and knit ❖ Measure, tape or pin, cut and join fabric with some accuracy ❖ Use simple graphical communication techniques	❖ Select appropriate tools, materials, components and techniques ❖ Assemble components to make working models ❖ Use tools safely and accurately ❖ Construct products using permanent joining techniques ❖ Make modifications as they go along ❖ Pin, sew and stitch materials together create a product ❖ Achieve a quality product



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To evaluate processes and products	❖ Share their creations, explaining the process they have used. (ELG: EAD CM) Expressive Arts and Design, Creating with materials	❖ Evaluate against their design criteria ❖ Evaluate their products as they are developed, identifying strengths and possible changes they might make ❖ Talk about their ideas, saying what they like and dislike about them	❖ Evaluate their product against original design criteria e.g. how well it meets its intended purpose ❖ Disassemble and evaluate familiar products ❖ Evaluate their work both during and at the end of the assignment ❖ Evaluate their products carrying out appropriate tests	❖ Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests ❖ Record their evaluations using drawings with labels ❖ Evaluate against their original criteria and suggest ways that their product could be improved ❖ Evaluate it personally and seek evaluation from others
To develop technical knowledge	❖ Use a range of small tools including scissors, paintbrushes, and cutlery. (ELG: PD FMS) Physical development, fine motor skills) ❖ Participate in small groups, class and one to one discussions, offering their own ideas using recently introduced vocabulary. (ELG: CL S) Communication and Language, speaking)	❖ <u>Textiles</u> - To measure textiles and join them together to make something. - To cut textiles. - Explain why they chose a certain textile. ❖ <u>Mechanisms</u> - Join materials together as part of a moving product. - Add a specific design to their product - Use axles and wheels in their work. - Use levers or slides in their work. ❖ <u>Structures</u> - How to make products stronger, stiffer and more stable.	❖ <u>Textiles</u> - Think what the user would want when choosing textiles - Think about how to make their product strong - To devise a template - Explain how to join things in a different way ❖ <u>Mechanical and Electrical Systems</u> - Select the most appropriate tools and techniques to use for a given task - Make a product which uses both electrical and mechanical components - Use a simple circuit - Use a number of components - Add things to their circuits - To altered my product after checking it - Be confident about trying out new and different ideas? ❖ <u>Structures</u> - Use the most appropriate materials	❖ <u>Textiles</u> - Think what the user would want when choosing textiles - Make a product attractive and strong - Make up a prototype - Use a range of joining techniques - Think about how their product could be sold - Give considered thought about what would improve their product more ❖ <u>Mechanical and Electrical Systems</u> - Incorporate a switch into their product - Refine their product after testing it - Incorporate hydraulics and pneumatics - Use different kinds of circuit in their products - Think of ways in which adding a circuit would improve my product ❖ <u>Structures</u> - Measure accurately enough to ensure that everything is precise



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			- Work accurately to make cuts and holes - Join materials ❖ <u>Computing</u> - Apply their knowledge of computing to program, monitor and control their products.	- Ensure that their product is strong and fit for purpose ❖ <u>Computing</u> - Apply their knowledge of computing to program, monitor and control their products in a range of contexts
To learn how to cook	Cooking station is used once a week. ❖ Use a range of small tools including scissors, paintbrushes, and cutlery. (ELG: PD FMS) Physical Development, Fine motor skills) ❖ Understand some important processes and changes in the natural world around them including the seasons and changing states of matter (ELG: UW NW) Understanding the world, Natural world)	❖ Follow safe procedures for food safety and hygiene, including basic food handling. ❖ Select and use appropriate fruit and vegetables, processes and tools. ❖ Describe the properties of the ingredients they are using and why it is important to have a varied diet. ❖ Say where food comes from i.e. animals, underground, over ground etc.	❖ Demonstrate hygienic food preparation and storage ❖ Apply the rules for basic food hygiene. ❖ Create a range of predominantly savoury dishes, using a range of cooking techniques. ❖ Say what to do to be hygienic and safe. ❖ Think what they could do to present their product in an interesting way	❖ Weigh and measure accurately (time, dry ingredients, liquids) ❖ Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens. ❖ Create a range of predominantly savoury dishes, using a wider range of cooking techniques. ❖ Describe what they do to be both hygienic and safe ❖ Present their product well



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Impact

Learners are able to better develop their key concepts and make greater links between aspects of Design and Technology studied across the whole of Church Vale. Children will gain a repertoire of technical knowledge, understanding and skills that they can use in a range of contexts to have a positive impact on daily life and the wider world.

Hayley Etheridge

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