# Dean Valley D&T Curriculum





## Spring 2022

## INTENT

- To teach, develop, reinforce and apply design and technology skills as children progress through our school, promoting significant levels of originality and the willingness to take creative risks to produce innovative ideas and prototypes.
- To provide experiences and learning to enhance the cultural capital of our children resulting in excellent attitudes to learning and independent working through visits to museums, visiting designers and engineers, design briefs and enrichment weeks.
- To develop future citizens with a passion for the subject and knowledge of up-to-date technological innovations in materials, products and systems

## IMPLEMENTATION

- Our design and technology curriculum is summarized in the following schematic.
- Thematic learning will provide different contexts for design and technology knowledge and skills learning as children progress through school.
- Most work outputs will be evidenced in learning journeys and practical evidence.
- Adults will model the use of target vocabulary in a variety of contexts to assist transfer to long term memory over time.

## IMPACT

- Classroom Monitor
- Work scrutiny & Pupil Voice
- Range of practical experiences and other hooks for learning undertaken in each milestone cycle ensure that a wider understanding in design and technology is gained.
- Children's use of vocabulary in other subject contexts reflects knowledge and understanding of the subject and is seen through book scrutiny, models and build projects and pupil voice.

| | *Develop Ideas* | *Master Techniques* | | | | | | | *Inspiration from the Greats* | *COMMUNICATING Design and Technology* |
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| | | *Food* | *Materials* | *Textiles* | *Electricals &Electronics* | *Construction* | *Mechanics* | *Computing* | | |
|  | **Early Learning Goal**<br>**Expressive Arts and Design - Creating with materials**<br>• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.<br>• Share their creations, explaining the process they have used. | | | | | | | | |  |
| ***Year 1***<br>***Year 2***<br>  | Respond to ideas and starting points<br>Explore ideas<br>Collect information<br>Explore methods and materials | Cut, peel or grate ingredients safely and hygienically.<br>Measure or weigh using measuring cups or electronic scales.<br>Assemble or cook ingredients. | Cut materials safely using tools provided.<br>Measure and mark out to the nearest centimeter.<br>Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling)<br>Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). | Shape textiles using templates.<br>Join textiles using running stitch. Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing). | Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage). | Use materials to practise drilling, screwing, gluin g and nailing materials to make and strengthen products. | Create products using levers, wheels and winding mecha nisms. | Model designs using software. | Explore objects and designs to identify likes and dislikes of the designs.<br>Suggest improvements to existing designs.<br>Explore how products have been created. | Visual<br>Build<br>Explore<br>Make<br>Ingredients<br>Healthy<br>Diet<br>Strengthen<br>Circuit<br>Nutrition<br>Design<br>Create<br>Structure |

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| ***Year 3***<br>***Year 4***<br>  | Develop ideas<br>Collect information<br>Adapt and refine ideas<br>Explore ideas in diff ways<br>Comment on DT work | Prepare ingredients hygienically using appropriate utensils.<br>Measure ingredients to the nearest gram accurately.<br>Follow a recipe.<br>Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking). | Cut materials accurately and safely by selecting appropriate tools. Measure and mark out to the nearest millimetre. Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).<br>Select appropriate joining techniques. | Understand the need for a seam allowance.<br>Join textiles with appropriate stitching.<br>Select the most appropriate techniques to decorate textiles. | Create series and parallel circuits | Choose suitable techniques to construct products or to repair items.<br>Strengthen materials using suitable techniques. | Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears). | Control and monitor models using software designed for this purpose. | Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs.<br>Improve upon existing designs, giving reasons for choices.<br>Disassemble products to understand how they work. | |
| ***Year 5***<br>***Year 6***<br>  | Develop and imaginatively extend ideas<br>Collect information and present in a range of ways<br>Use qualities of materials in different ways<br>Comment on work using language | Understand the importance of correct storage and handling of ingredients. (microorganisms)<br>Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.<br>Demonstrate a range of baking and cooking techniques.<br>Create and refine recipes, including | Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape).<br>Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of | Create objects (such as a cushion) that employ a seam allowance.<br>Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration).<br>Use the qualities of materials to create suitable visual and tactile effects in | Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips). | Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding).<br><br>Air raid shelters | Convert rotary motion to linear using cams.<br>Use innovative combinations of electronics (or computing) and mechanics in product designs. | Write code to control and monitor models or products. | Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.<br>Create innovative designs that improve upon existing products.<br>Evaluate the design of products so as to suggest improvements to the | |

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| | | ingredients, methods, cooking times and temperatures.<br><br>Chutney | fabric may require sharper scissors than would be used to cut paper). | the decoration of textiles (such as a soft decoration for comfort on a cushion). | | | | | user experience. | |
| ***Display*** | All learners to be given the opportunity to display their design and technology work for an audience, using carried mediums and scales to apply their techniques. | | | | | | | | | |