



Design & Technology

Intent

Design and Technology is an inspiring, problem solving practical subject. DT encourages children to learn to think creatively and imaginatively; to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. Pupils need to be able to test, refine, develop and improve the products. DT has sufficient depth and breadth to enable pupils make products that move / light up are structurally sound and are safe and healthy. Where possible, we will make links to other subjects such as mathematics, science, computing, art and our Christian values. The children are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness and are encouraged to become innovators and risk-takers

Pupils will:

- demonstrate an understanding of who they are designing and making for, the purpose of the product, how it works and specific criteria their product must meet to be successful
- communicate their innovative ideas and plans clearly, modify designs and prototypes in light of testing and evaluation
- develop technical competence, applying measurement, using tools and components with increasing accuracy to safely make well finished products
- draw effectively upon their scientific understanding and knowledge of mechanisms, structures, forces or the effect of heat to create and explain how their products work
- use an increasingly technical vocabulary when talking about what they might change as the work develops

Implementation

Design and Technology is taught across all year groups once per term. DT projects are linked to class topics where possible, and build on skills from previous learning, for example, in Foundation Stage, children learn to cut using scissors and join materials with glue and tape, which progresses to cutting and joining with increasing accuracy and exploring appropriate ways to join different materials in KS1. In KS2, children build on this to measure and resize materials by cutting accurately with tools such as a saw, and use glue guns safely to join wood, and eventually to be able to suggest and select appropriate tools to size, shape and join a range of materials to complete a project and use them safely.

Key stage 1 – DT projects are designed to fit in with termly topics and teach new skills through a variety of creative and practical activities. Beginning to establish the DT design, make, evaluate cycle, children explore different products and designers, experiencing learning opportunities which build on previous learning, such as sewing puppets linked to Just So stories using a simple running stitch (which builds on skills of threading beads and simple stitching using sewing card in Foundation Stage) and cutting and joining materials with increasing accuracy.

Key Stage 2 – In Years 3 and 4, children begin to learn how to use a range of tools safely and how to accurately measure, mark out and cut a range of materials for different projects, linked to termly topics. Opportunities to repeat the design, make, evaluate cycle are given and time is spent discussing what can be learnt from critical evaluation of their own and each other's products, for example, the boat topic allows time for the children to build a boat with little experience, test it in

water, evaluate the successes including looking at existing products and use this evaluation to repeat the design, make and evaluate cycle.

In Years 5 and 6, the design, make and evaluate cycle should be well established. Children build on previous skills, creating more complex drawn designs based on evaluation of existing projects and deciding which materials and tools would be most appropriate to complete more complex projects. Shorter units give the opportunity for children to apply what they have learnt, considering how to create a product to solve a problem, e.g. children are given the opportunity to design and build a machine to help a slave water crops more easily, building on skills and techniques learned when building fairground rides (structures and mechanisms).

Impact

Our Design and Technology curriculum enables and encourages our children to become critical thinkers. Pupils will have gained knowledge and understanding of different skills and techniques required to problem-solve by designing and creating a variety of products using a safe approach. Our pupils will develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.

DT is an excellent opportunity to build resilience and reinforce our Christian Values of hope, courage and respect: **Hope** that the product will work/suit the purpose, **Courage** to rethink a design or try again, especially after it goes wrong and **Respect**, following safety instructions when using tools and respecting each other's learning journey. Final products are evaluated by the children and evidence of the design, make, evaluate process is collated by the DT leader.

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