



Design and Technology

INTENT, IMPLEMENTATION AND IMPACT

What makes a Dore Primary designer/constructor?



INTENT

Design and technology at Dore Primary School aims to develop our pupils' ability to design, construct and evaluate a range of purposeful products and to build a body of practical skills that will equip them for their later lives.

A Dore Primary pupil will learn the process of product design and how to properly inform design decision with reference to the products' intended outcomes and a consumer's needs as well as existing products on the market. We aim to foster curiosity about the way products are constructed and function, and to give our pupils the ability to critically assess the usefulness and efficiency of a product, making improvements where necessary. Pupils will conduct projects in a range of disciplines including: textiles, food technology, structural, mechanical, electrical engineering, resistant materials and ICT, building their construction skills and abilities as they progress. They will build a working familiarity with a range of tools and materials, understanding the purposes and properties of these and how best to utilise them to create high-quality outcomes. They will understand how to make products purposeful, but also where possible sustainable and efficient. They will also learn about healthy choices in the context of food technology.

We aim to develop a curriculum that is engaging and exciting for our pupils and creates practical and confident citizens. The National Curriculum sets out the subject's scope and content that will be studied in Key Stages 1 and 2. For the Foundation Stage, the Early Learning Goals similarly provide guidance to ensure children are developing their skills and knowledge. Design and Technology is taught through topic-based learning, either as the primary curriculum aim or as complementing activities or projects that contribute to a purposeful, blended curriculum based approach. Where this is not practicable, learning opportunities are created independent to Learning Journeys that are engaging and offer ideal opportunities to secure the skills or knowledge taught. Children will develop their resilience through experimentation, assessment of prototypes and the progressive improvement of their designs, as well as developing their resourcefulness by solving design and construction issues. They will build their creativity by approaching the design and construction of products in innovative and different ways. They will develop kindness through participation in joint projects/activities and conduct learning which embodies our social, moral, spiritual and cultural responsibilities and as well as our whole school focus on Outdoor Learning

At Dore Primary School, we aspire to help children develop into designers/constructors by building progressively each year on the following key concepts:

- 1. Design**
To design purposeful, innovative and appealing products based on: success criteria, research regarding existing products and consumer needs/desires. To ensure that products are fit for purpose and appeal to the intended consumer. To communicate their ideas through discussion and a variety of mediums, including plans and sketches.
- 2. Make**
Select and use a wide variety of tools, components and materials, making choices based upon desired characteristics/outcomes of the product. Applying these skills to create high-quality products.
- 3. Evaluate**
To investigate and evaluate existing products and evaluate their own products against the intended success criteria/outcomes in order to improve said products. To consider the history of design and notable/famous designers in shaping the world around us.
- 4. Technical Knowledge**
To construct a variety of structures, applying an understanding how to reinforce, strengthen and stiffen these to a desired outcome. To use and understand the purpose of a variety of mechanical and electrical components as well as utilising ICT to control, program and monitor a product.



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5. **Cooking and Nutrition**

To understand and apply the principles of a healthy and varied diet. To understand where food comes from and prepare a variety of exciting and appetising dishes using a range of techniques.

IMPLEMENTATION

How do we implement our design and technology curriculum?

1.	All children will study design and technology throughout the year. Topic work will be explicitly described as design and technology when appropriate. Design and technology vocabulary related to topics will be taught and displayed to help pupil's understanding.
2.	Topics are selected and learning journeys are designed in all year groups to ensure the design and technology content of the National Curriculum is taught to all pupils.
3.	The curriculum is ambitious and follows the National Curriculum Programme of Study.
4.	Lesson activities are challenging, varied and interactive and develop pupils' communication skills.
5.	Lessons are designed to be progressive and build on prior learning, in respect of the key concepts of: Design, Build, Evaluate, Technical Knowledge and Cooking and Nutrition.
6.	Children are taught about how Design and technology affects all areas of life. Learning is linked to current events and the history of design/designers when relevant.
7.	To enhance the pupils' learning outcomes, the school maintains a varied stock of materials, components and tools, which the children are able to make use of and that are chosen to complement their learning and enable the progression of skills in all discipline areas.
8.	Emphasis is placed on the pupils' informed, but independent choices. This applies to design choices as well as healthy eating choices. The children are taught to evaluate their choices and the overall effectiveness of their project in order to learn and improve.
9.	Children learn practical skills which will assist them in later life, such as cooking skills and the effective use of tools.
10.	Children are taught to learn safely, understanding the risks associated with a particular process, material or tool and how to effectively mitigate against these risks.
11.	The learning is complemented by other curriculum areas such as Science (electrical circuits, forces) and computing (coding).
12.	Children are encouraged to take part in complementary extra-curricular activities, such as STEM club and Lego Robotics Club.
P4C	When discussing and planning projects children follow the key principles of P4C, which are that good thinking (and therefore progress) is learned from dialogue with others, and that ideas should be tested to see if they work.
TASC	Through planning Design and Technology projects, children apply the principles of TASC to complete their activity to the best of their ability.
Outdoor Learning	Design and Technology is taught through Outdoor Learning through applied construction tasks using specific outdoor tools as well as through learning in relation to natural materials such as the qualities of different woods.



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IMPACT

1. The ability to carry out thorough research, show initiative and ask questions to develop an exceptionally detailed knowledge of a users' needs.
2. A thorough knowledge of which tools, equipment and materials to use to make their product.
3. To view design as a process that involves continual evaluation.
4. To promote originality, imagination and innovation in each stage of the design process and the ability and confidence to take risks.
5. The ability to act as responsible designers, using finite materials responsibly and working safely.
6. A respect for, and recognition of, designers of the past and the impact their inventions and/or products had.
7. The ability to apply scientific and mathematical knowledge.
8. A passion for the subject and knowledge of, up to date technological innovations in materials, products and systems.