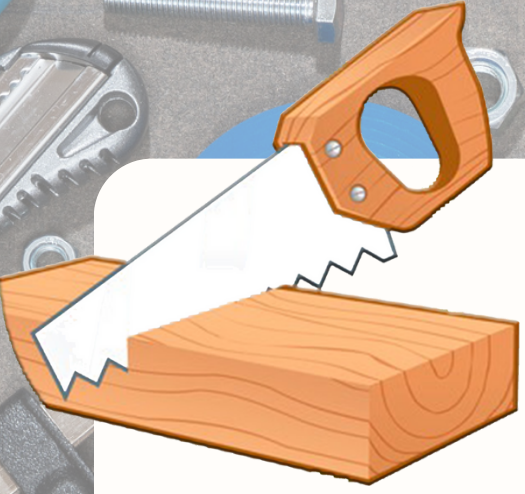
Subject Handbook

Design Technology



Design Technology Handbook

Vision for DT

We aim to provide children with a DT education that is relevant in our rapidly changing world and a curriculum that embodies our school intent: we intend to provide a wide range of inclusive opportunities, that ensure our children have a secure body of knowledge and effective critical thinking skills, which enable them to lead life with the highest of aspirations and contribute to life in modern Britain and the global community.

Our DT Curriculum

Through our design and technology curriculum we aspire for our pupils to think critically. We aim to provide opportunities for pupils to discover what is possible through designing and making innovative products. We strive to push the limits and ask children to use their research to design and make innovative, creative products and want our pupils to be problems solvers. Through our DT curriculum we ensure that pupils will have opportunities to work with a wide range of mediums: textiles, food, woodwork and mechanisms. We have a knowledge rich scheme of work guided by the National Curriculum.

Our DT Curriculum Will Enable Pupils to:

- Conduct research and look at similar models.
- Research and find out about designers, chefs, engineers
- Acquire skills of cutting, making, constructing, gluing and making
- Create detailed designs with annotations for products they will make
- Review designs and create final designs
- Evaluate their products
- Develop their knowledge of products and designers
- Consider the impact of products on the environment
- Explore audience, purpose and function
- Understand the importance of aesthetics when designing products

Intent

At St Wilfrid's, we encourage children to use their creativity and imagination, 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. In addition to this, children are given the opportunity to explore the work of well-known individuals to inspire and influence the design in their work.

We aim to, wherever possible, link work to other disciplines such as mathematics, science, engineering, computing and art. 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.

Implementation

Through a variety of creative and practical activities, we teach the knowledge, understanding and skills needed to engage in an iterative process of designing and making. The children design and create products that consider function and purpose and which are relevant to a range of sectors. When designing and making, the children are taught to:

Design:

• 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 diagrams, prototypes, pattern pieces and computer-aided design.

Make:

• select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing, as well as chopping and slicing) accurately.

• select from and use a wider range of materials, ingredients and components, including construction materials, textiles and ingredients, according to their functional properties, aesthetic qualities and, where appropriate, taste.

Evaluate:

• 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.

Technical knowledge:

• apply their understanding of how to strengthen, stiffen and reinforce more complex structures. • understand and use mechanical systems in their products.

• understand and use electrical systems in their products.

• apply their understanding of computing to program, monitor and control their products

• Understand some of the ways that food can be processed and the effect of different cooking practices

Key skills and key knowledge for D and T have been mapped across the school to ensure progression between year groups. The context for the children's work in Design and Technology is also well considered and children learn about real life structures and the purpose of specific examples, as well as developing their skills throughout the programme of study. Design and technology lessons are also taught as a block so that children's learning is focused throughout each unit of work.

Impact

Children learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

The impact of our curriculum will be monitored through the following methods:

- A reflection on standards achieved against the planned outcomes (FFT tracking linked to National Curriculum and key objectives);
- Opportunities for self and peer evaluation
- Pupil / Teacher discussions about their learning.

Prior Learning (Flashback 4)

Children will review learning from previous lessons, days, units and years to consolidate learning and ensure children know more and remember more.

Direct Teaching (Let's Learn)

Children are taught the key concepts they need to succeed in the lesson. The direct teaching will looking at primary and secondary sources and is designed to impart key vocabulary and knowledge the children need to succeed.

Talk Task and Independent Task

Children are provided with a variety of independent, paired and group tasks to apply their knowledge and use new vocabulary in context. Kagan strategies will be used at this point to support understanding and mastery.

Plenary

Children's understanding of the knowledge taught in the lesson is assessed and progress reviewed. Assessment for learning takes place throughout the Art lesson and this is used to adapt future teaching and flash back questions.

Curriculum Overviews

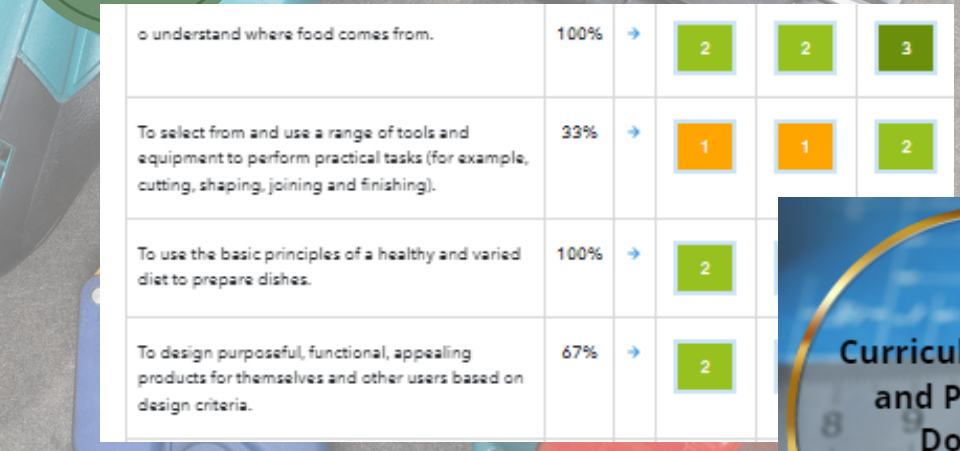
Curriculum overviews are available to inform planning. They identify which unit the object is covered within the curriculum with clearly defined end points.

Progression

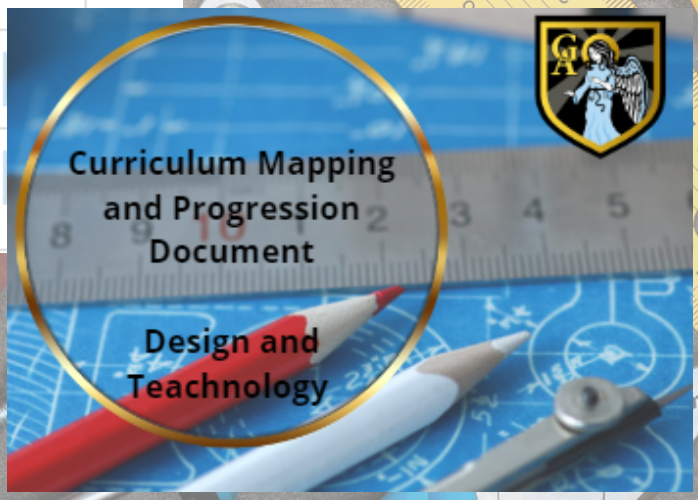
The progression maps carefully maps the development of key ideas within a strand from EYFS to Y6 ensuring that the learning journey is cohesive and that each new element builds on the appropriate conceptual components.

Assessment

Assessment allows teachers to make live judgements about children's learning. Based on comprehensive knowledge and skills framework, teachers assess, monitor, track, and report Design and Technology



o understand where food comes from.	100%	→	2	2	3
To select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing).	33%	→	1	1	2
To use the basic principles of a healthy and varied diet to prepare dishes.	100%	→	2		
To design purposeful, functional, appealing products for themselves and other users based on design criteria.	67%	→	2		



Inclusion

All children access the Design and Technology Curriculum. We teach to the top and scaffold down using resources, adaptations and adult support to ensure all learners make progress.

Within the representation stage there is a systematic approach to the introduction of new content which builds on prior learning and explicit links are made with the content that the children have previously acquired.

The use of practical resources to represent the concept or method is vital within the representation stage to ensure all children have conceptual understanding.

The use of resources also support pupils who are less confident but a reliance on the use of physical resources is to be avoided.