

Winwick Church of England Primary School



Design and Technology Policy

“Design is a funny word. Some people think design means how it looks. But of course, if you look deeper, it’s really how it works.” **Steve Jobs**

“Technology makes possibilities. Design makes solutions.”
John Maeda

In God’s love, aspire and achieve to be the best’

1 Corinthians 16:14 ‘Do everything in love.’

At Winwick C.E, the children learn that they are part of the Christian community and Christian World. They are taught through a values led approach with Christ at the centre of everything. All members of the school community are children of God and should be treated with love, respect and care. We ensure that all members of the school community respect, tolerate and celebrate the science curriculum by following the teachings of the Lord so that we can all aspire and achieve in God's love. This is driven by our core Christian Values of love, perseverance and respect. It is lived out in our mission statement through the love of God and our love of one another and how we respect all things and the world we live in.

AIMS OF DESIGN AND TECHNOLOGY POLICY

- Our Design Technology Policy follows The National Curriculum 2014 for Design Technology Guidelines and aims to ensure that all pupils:
- develop the creative, technical and practical expertise need to perform everyday tasks confidently and to participate successfully in an increasingly technological world.
- build and apply a repertoire of knowledge, skills, understanding in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

INTENT - PURPOSE OF STUDY-WHY TEACH DESIGN TECHNOLOGY

Design Technology prepares children to deal with tomorrow's rapidly changing world. It encourages children to become independent, creative problem-solvers and thinkers as individuals and as part of a team - making positive changes to their quality of life. It enables them to identify needs and opportunities and to respond to them by developing a range of ideas and by making products and systems. Through the study of Design and technology, they combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industrial practices. This allows them to reflect on and evaluate present and past design and technology, its uses and its impacts. Design and Technology helps all children to become discriminating and informed future consumers and potential innovators.

Teaching and Learning

EYFS

Early Years Foundation Stage children are expected to make good progress at the end of Foundation Stage in the areas of 'Knowledge and Understanding of the World' and 'Expressive Art and Design'. Opportunities for developing designing and making skills will be given as set out under this area of learning, preparing children for Design and Technology in Key Stage 1 and consistent with the National Curriculum.

Key Stage 1

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding, skills and vocabulary needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

When designing and making children should be taught to:

Design

- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups, and, where appropriate

Make

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

Technical Knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Key Stage 2

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, leisure, culture, enterprise, industry and the wider environment].

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 and exploded 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], accurately
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.

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 [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits, incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

Cooking and Nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

EYFS

- safely use and explore a variety of materials, tools and techniques.
- recognise that a range of technology is used in places such as homes and schools.
- know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe.

Key Stage 1

- use the basic principles of a healthy and varied diet
- understand where food comes from.

Key Stage 2

- understand and apply the principles of a healthy and varied diet
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

At Key stage 1 and 2 the programmes of study set out what children should be taught and the standards expected to be reached by the end of each key stage.

Scaffolded /Adapted Learning

The study of Design Technology will be planned to give a suitable range of scaffolded activities appropriate to their age and abilities. Tasks will be set which challenge all pupils including the more able. For pupils with SEND, tasks may be adjusted and learning layered to ensure their success in Design Technology. The grouping of pupils for practical activities will take account of their strengths and weaknesses and ensure that all take an active part in the task and gain confidence.

Planning and Allocation of Time

Design technology is an integral part of the school curriculum and may be taught discretely or as part of a wider topic. Teaching and learning time is blocked effectively to allow children to work on sustained pieces of work. Each year group will participate in one design and technology project per term that will be thematically or subject linked where possible and appropriate. These are documented on a long term curriculum map.

IMPLEMENTATION

PLANNING

School curriculum

Design and Technology in the Early Years Foundation Stage is planned using the Early Years Curriculum 'Understanding of the world'. Key Stage 1 and 2 teachers plan Design Technology lessons using the National Curriculum (2014). When planning, teachers will ensure that the National Curriculum statutory requirements are being covered (teachers may also refer to the non-

statutory guidance which provide additional support). The programs of study key stage content during an earlier key stage, if appropriate.

Teachers base their planning on the programmes of study for their relevant year groups and ensure the coverage is within and beyond national expectations, aiming for children to make progress in line with national expectation and above throughout the academic year. Teachers can use a range of resources to support with learning, We have access to Design and Technology Association (DATA) projects on a page along with STEM Learning.

Teacher knowledge and understanding

CPD

The subject leader is there to support any member of staff with subject knowledge and delivery of the Design and Technology curriculum throughout any point in the academic year. The CPD will be offered through:

- sharing examples of practice in Design and Technology
- working closely with staff during different stages of planning;
- provide opportunities for the staff to develop subject knowledge

IMPACT

Assessment

In the EYFS, teachers assess against the 'Development Matters' statements in the 'Understanding of the world', area of the Early Years Curriculum.

Formative assessment is carried out through the use of effective Assessment for Learning (AfL) which are used to inform teachers planning and teaching. AfL is carried out in a variety of ways including; pupil observations, pupil discussions, marking. Assessment will be informed by work in books. Video and photographic evidence may be used to monitor children's learning and understanding (which can be found on the Winwick Primary Google Drive in the assessment folder)

Summative assessment will be carried out every half term throughout the year. And will be evident within a child's book or through discussions children will be able to answer the key questions from the document to be working at the expected standard. For a child to be assessed at Greater Depth there should be evidence of the children answering challenge questions'

Assessing pupils with SEND will include photo and video evidence that demonstrates how they are achieving the different learning objectives.

MONITORING AND EVALUATION

The subject leaders will monitor the subject termly by

- monitoring and evaluation of pupils work (work in books);

- lesson observations;
- pupil and staff interviews or questionnaires
- planning and assessment monitoring;
- learning walks.

Role of Design and Technology Leader

The leader will monitor the attainment in their subject to ensure that level attained are in line with National expectations. They will also ensure there is a broad and balanced curriculum, which clearly identifies progression in skills and vocabulary throughout the school. The coordinator will keep an overview of the yearly coverage in each year group and support staff where necessary in developing art within the curriculum.

Throughout the year they will:

- Support class teachers with the provision for teaching design and technology.
- Monitor the progress of design and technology throughout the school.
- Monitor, stock take, organise and order the design and technology resources required across the school.
- Monitor the portfolios of evidence of DT work in each year group.
- Add to and update the design technology page of the school website.
- explore opportunities for outside agency partnerships and experiences.
- explore opportunities for staff CPD.

SAFETY

Health and Safety - Design Technology

Adults must ensure:

- DT equipment is not to be left out and unsupervised. Floors and surfaces are to be kept clean and tidy and all tools used must be of good quality, in good condition and stored safely.
- Direct safety instructions must be given to children each time they undertake a design technology activity.
- Children should be given suitable instruction on the operation of all equipment before being allowed to use it.
- Children should be strictly supervised when using equipment and tools at all times. Adult to child ratio must be appropriate.

- Children to be taught to recognise and consider hazards and risks and to take action to control these risks, having followed simple instructions.

Health and Safety - Food Technology

When working with food:

- An adult will be required to supervise activities involving cooking and food handling/preparation.
- When undertaking food activities the appropriate Health and Safety Procedures must be adhered to.
- When working with food all children should follow personal hygiene guidance (tie hair back, wear clean apron, use blue plasters and wash hands).
- Teachers must check the dietary requirements of all the children in their class to identify any food ingredients, which should not be available to specific children or groups of children.
- Any perishable food should be stored in a fridge.
- Only the equipment which is for food use should be used.
- Ensure that all equipment is cleaned and put away.
- Ensure that all children use their own equipment when tasting food.
- Adults participating in cooking and food preparation/handling activities should wear appropriate clothing and adhere to the same personal hygiene procedures as the children.

Resources

Design and Technology resources are stored central in lidded boxes. When staff require new resources they should put in an order request to the subject leaders with at least two weeks notice.