

Design Technology Policy

Blessed John Duckett School is a Catholic School and God's love is at the centre of our community.

We experience prayer and worship together, share and recognise pupils' understanding and deepening of the Christian faith.

By working together, we strive to meet the spiritual, pastoral and academic needs of our children and community.

We demonstrate our love by caring for God's world and the diverse people in it.

We aim for respect, fairness and justice in all we do.

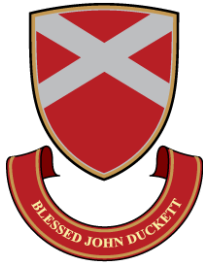
Policy agreed by Staff Summer Term 2020

Signed *Mrs S. McQuiggin* Headteacher

Agreed by Governors Summer Term 2020

Signed *Mrs E. McGurk* Chair of Governors

To be reviewed Summer Term 2022



Introduction

At Blessed John Duckett Primary School, we are committed to providing all children with learning opportunities to engage in Design and Technology. This policy reflects our school's values and philosophy in relation to teaching and learning. It sets out a framework within which teaching and non-teaching staff can work, and gives guidance on planning, teaching and assessment. It has been developed through a process of consultation with school staff and Governors.

Rationale

At Blessed John Duckett RC Primary School we believe Design and Technology is essential to prepare pupils to participate in tomorrow's rapidly changing technologies. Teachers encourage children to develop their investigating, designing, making and evaluating skills by thinking and intervening creatively.

Statement of Intent

At Blessed John Duckett RC Primary School, it is our intention to provide a Design Technology curriculum:

- That inspires in children a curiosity and fascination and an ability to delight in exploring and solving real problems and to promote such qualities as innovation, perseverance, critical and imaginative thinking.
- That instils a sense of awe and wonder, about the technological world, including digital technologies, in order to broaden aspirations and horizons.
- As designers, children will learn how products and systems are designed and manufactured; they will learn to take risks and becoming resourceful, capable citizens. They will gather and use evidence to create knowledge and solve problems. They will communicate their findings in a variety of ways, including using IT. Children will ask and answer questions and develop a deeper understanding of how things work.
- As designers, children will draw on their knowledge and skills from other subjects and begin to understand how they work together when designing and making a product.
- As makers, children will learn that Design and Technology is a continuous process and that products and designs can always be improved and developed.
- As food technicians, children will learn how to prepare and cook basic dishes using a range of techniques and ingredients that will stand them in good stead now and in later life. They will understand and apply the principles of nutrition and healthy eating.
- As food technicians, children will develop an understanding of seasonality and the process of farm to fork.
- For children to know that Design Technology is when people interact with their environment to bring about change and that this has a huge impact on their world and the world around them
- Themed home learning tasks are designed to encourage and deepen children's own knowledge and interests.

- We make the most of our technologically rich heritage to develop children's appreciation of where they live and the difference people have made.
- Children will also learn about Health and Safety and will know that certain rules and levels of hygiene have to be followed.
- Our curriculum is tailored to the diverse needs of our children.
- We provide an enhanced curriculum which goes beyond the classroom

Legal Framework

We use and adapt the National Curriculum, building on the principles of the EYFS Statutory Framework Guidance as the basis for our Science teaching.

Aims and Objectives

Design and Technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art.

Pupils 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.

Regardless of gender, ethnic origin or ability, we specifically aim to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks
- confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills 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.
- foster positive attitudes and personal qualities appropriate to our curriculum intent

Roles and Responsibilities

The Subject Leader will:

- provide professional leadership and management for the DT curriculum area
- provide a curriculum overview which establishes coverage and depth.
- develop an effective Action Plan that is targeted to specific aspects of pupils' learning.
- assume the role of 'subject' consultant for colleagues and to demonstrate, effective ways of organising teaching and learning.
- inform Parents/Governors of current thought and practice when required
- take an active role in relevant school-based CPD and to assist in informing colleagues of appropriate CPD activities
- keep abreast of current developments.
- lead colleagues in formulation, review and evaluation of policy, in consultation with the Headteacher, ensuring that current national and local trends are reflected.

- carry out an annual audit of staff training needs to increase confidence and effectiveness.
- identify resource shortfall and replenish within a given budget.
- be responsible for checking, storing and ensuring appropriate use of resources and that they are safe and fit for purpose.
- liaise, with other colleagues, from local primary and feeder secondary schools.
- carry out regular monitoring in line with school's monitoring programme.
- ensure all learning groups are catered for
- help develop educational visits or specialist visitor provision across the school.
- ensure assessment mechanisms inform teaching and learning and are being used effectively
- establish cohort profiles which gives an overview of pupil attainment

Teaching and Learning

At Blessed John Duckett, we use a variety of teaching and learning styles in design technology lessons. The main aim is to develop children's knowledge, skills and understanding within the subject area.

Teachers ensure that the children apply their knowledge and understanding when developing ideas, planning and making products and then evaluating them. We do this through a mixture of whole-class teaching and individual/group activities.

Within lessons, we give children the opportunity both to work on their own and to collaborate with others, listening to other children's ideas and treating these with respect. Children critically evaluate existing products, their own work and that of others. They have the opportunity to use a wide range of materials and resources, including IT. In all classes there are children of differing ages and ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies:

- setting common tasks that are open-ended and can have a variety of results
- setting tasks of increasing difficulty where not all children complete all tasks
- grouping children by ability and setting different tasks for each group
- providing a range of challenges through the provision of different resources
- using additional adults to support the work of individual children or small groups

Content

In Design and Technology, children acquire and apply knowledge and understanding of:

- materials and components;
- mechanisms and control/electrical systems;
- structures;
- cooking and nutrition;
- existing products;
- quality;
- health and safety.

Children will:

- develop designing skills, including generating and developing ideas, clarifying a task, creating
- design proposals, communicating ideas, planning and evaluating;
- acquire and refine the practical skills associated with making, including working with materials and components, tools and processes, eg planning, measuring and marking out, cutting and shaping, joining and combining, finishing, and evaluating;

- apply scientific skills, eg predicting and fair testing;
- apply mathematical skills, eg measuring to an appropriate number of decimal places, drawing and interpreting tables, graphs and bar charts;
- apply computing skills, eg making things happen by the use of control, handling information through the use of a database or spreadsheet;
- apply art skills, eg investigating texture and colour or recording visual information.

Children will have opportunities in Design Technology to:

- work both independently and with others, listening to others' ideas and treating these with respect;
- can be creative, flexible and show perseverance;
- critically evaluate existing products, their own work and that of others;
- develop a respect for the environment and for their own health and safety and that of others;
- recognise the strengths and limitations of a range of technologies and appreciate which are appropriate for particular situations;
- develop their cultural awareness and understanding and appreciate the value of differences and similarities;
- develop an understanding that all people are equal regardless of age, race, gender or ability and that there needs to be alternative solutions to meet the needs of individuals and groups of people;
- find enjoyment, satisfaction and purpose through designing and making;
- apply value judgements of an aesthetic, economic, environmental, moral, scientific and technical nature.

EYFS

Within Foundation Stage, we encourage the development of skills, knowledge and understanding that help children make sense of the world around them.

Related to the objectives set out in the Early Learning Goals, these forms the basis of curriculum planning for our youngest children. This essential learning forms the foundations for later work in design and technology.

Early experiences include asking questions about how things work, investigating and using a variety of construction kits, materials, tools and products, developing making skills and handling appropriate tools and construction material safely and with increasing control.

Children will also work with a range of ingredients and utensils and learn about healthy foods and diets.

A range of experiences are provided that encourage exploration, observation, problem solving, critical thinking and discussion.

These activities, indoors and outdoors, arouse children's interest and curiosity and encourages creativity.

KS 1

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, gardens and playgrounds, the local community, industry and the wider environment].

At the end of Key Stage 1 most pupils will be able to:

Design

- design purposeful, functional, appealing products for themselves and other users based on design criteria
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

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.

Cooking and Nutrition

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

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, school, leisure, culture, enterprise, industry and the wider environment].

By the end of key stage 2, most children will be able 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 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

- 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.

Planning

Our school uses the National Curriculum programme of study, including EYFS guidance as the basis for its curriculum planning in design and technology. Technological themes have been planned in such a way to build on prior learning and to provide progression and continuity across a mixed age setting. This also gives the opportunity for children with a range of all learning abilities and styles to develop their skills, knowledge and understanding with increasing challenge as they move through the school.

Whatever ideas we use, we adapt to fit the purpose of our school curriculum. Whole school planning sessions are established to brainstorm cross curricular opportunities and potential visits/visitors.

We carry out the curriculum planning in design and technology in three phases: long-term, medium-term and short-term.

Long Term Planning

The long-term plan maps out the units covered in each term during the key stage. To further aid planning key knowledge maps have been devised for each DT strand, across all ages to ensure progression of learning, skills and vocabulary.

Medium Term Planning

Our medium-term plans, give details of each unit of work for each term. They begin with a learning enquiry and identify learning objectives and outcomes for each unit, and ensure an appropriate balance and distribution of work across each term.

Short Term Planning

This is done on a weekly basis and refers to the medium term plans. Class teachers plan for individual design and technology sessions as part of weekly planning. The weekly plan lists the specific learning objectives for each lesson and detail how the lessons are to be taught. The class teacher keep these individual plans which form part of work scrutiny and professional discussions

Assessment

Assessment with Design Technology will enable the school to evaluate how we are meeting our aims and objectives. It will provide information on pupils' progress. It should also help to identify and inform future learning.

The learning outcomes in each unit show how children might demonstrate what they have learnt. Pupils should be involved in actively evaluating their work and thinking about possible improvements. The actual work children produce, along with annotated drawings etc will serve as a record of their achievement. Teachers will be asked to assess whether or not children are working at age related expectations and individual areas for development and success will be noted on a key tracker sheet. These assessments will enable a cohort overview to be provided.

Monitoring and Reviewing

The subject leader, along with the Headteacher, will be responsible for monitoring the standards of DT in line with the school's monitoring programme. This will take the form of lesson visits, scrutiny of work, pupil discussion, learning walks, subject audits, pupil reviews etc.

An electronic portfolio of work will be established.

The DT subject leader gives the head teacher an annual action plan in which evaluates the strengths and weaknesses in the subject and indicates areas for further improvement.

The subject leader meets with the link governor to review the DT element of the school improvement plan.

Curriculum Links

Design Technology is an integral part of topic work and has its roots in imaginative play and thematic work. DT enables skills and knowledge of other subjects, Art and Craft, Maths, Science, Engineering and Technology, to be applied in the design make process. A cross curricular approach embraces and ensures contextual learning and allows for consolidation.

Resources

Our school has a wide range of resources to support the teaching of design and technology across the school. To enable independence and choice, a range of resources are readily available in each classrooms. The more specialised equipment is kept centrally in the design technology cupboard. Tools are organised into portable boxes – it is the class teacher's responsibility to ensure all tools are safely stored and returned to their rightful place after use, with any issues being reported to the subject lead.

A food technology trolley, containing all equipment in stored in the main cupboard in the Hall.

The subject lead will have overall responsibility for ensuring tools and equipment are safe to use and fit for purpose, and that any identified resource needs are brought to the attention of the Headteacher.

At all times, resources should be easily accessible, well labelled, stored in the same place.

Children are encouraged at all times to respect and care for their working environment, selecting, using, storing and returning their own materials and equipment tidily, safely and with regard to economy of use.

Health and Safety

The general teaching requirement for health and safety applies in this subject.

Teachers will carry out a risk assessment before each activity, considering their tools, materials and equipment being used. Before undertaking practical tasks, children should be taught to use tools correctly in order to ensure safety.

Please refer to the appropriate policies and available risk assessments and guidance materials.

Home School Links

Topic overviews provide information to parents about what their children will be studying throughout the term. Parents are also informed of termly school visits and/or visitors which are organised to further enrich our curriculum.

Parents have the opportunity to attend consultation evenings on a termly basis. This concludes with an annual written report outlining pupil progress within all curriculum subjects. Curriculum Information is also provided on the school website.

Homework tasks are given on a termly basis in line with the topic being studied. This provides children with the opportunity to investigate, research and reinforce their skills in a practical, creative way. Homework tasks are cross curricular and designed in such a way to engage children and families in their own learning. [Homework Policy]

Equality

At Blessed John Duckett RC Primary School we have due regard for our duties under the Equality Act 2010. Children are given opportunities to work with others, listen to each other and treat everyone with respect. We will ensure that we eliminate discrimination, advance equality of opportunity and foster good relations. We aim for every pupil to fulfil their potential no matter what his/her background or personal circumstances.

Please refer to our Equality Statement.

Special Education Needs and Disabilities

The curriculum leader in Design Technology recognises the importance of ensuring that children with identified Special Educational Needs and/or Disabilities have access to an ambitious Design Technology curriculum. Within the DT, SEND children will be provided with reasonable adjustments through their tasks and level of challenge provided. Advice can be sought from the school's SENDco where applicable.

Please refer to the SEND Policy

SMSC

In line with our mission statement, in working together, we strive to meet the spiritual, pastoral and academic needs of our children and community.

We demonstrate our love by caring for God's world and the diverse people in it.

We aim for respect, fairness and justice in all we do.

Safeguarding

This school is committed to safeguarding and promoting the welfare of children and young people and expects all staff and volunteers to share this commitment. Please refer to the Safeguarding Policy.