



St. Ethelbert's Catholic Primary School

Design Technology Policy

"I serve Jesus with my body, heart, mind and soul."

Serviam means 'I serve'. Jesus Christ has taught us that it is more blessed to serve than to be served. At St Ethelbert's school, following our Catholic faith, we serve the whole person – mind, heart, body and soul.

Body – because we care for our wellbeing, our parish neighbourhood and our environment.

Heart – because we teach love and respect for all.

Mind – because we believe in excellent education.

Soul – because we learn to pray and become closer to God as his children.

Rationale

Design and technology is an essentially practical activity, concerned with developing children's ability to operate creatively, effectively and confidently in the made world. Through designing and making, children tackle a wide variety of issues, drawing upon a broad base of knowledge, skills and values. Design and technology recognises the importance of 'knowing how' as well as 'knowing that'.

Aims of Design and Technology

We believe Design and Technology offers opportunities for children to:

- Develop their capability to create high quality products through combining their designing and making skills with knowledge and understanding;
- Develop a sense of enjoyment and pride in their ability to make;
- Nurture creativity and innovation through designing and making;
- Develop and interest and understanding of the ways in which people from the past and present have used design to meet their needs.

In the foundation stage we provide opportunities for children to:

- Develop a curiosity and interest in the made world through investigating, talking and asking questions about familiar products;
- Develop confidence and enthusiasm through frequent exploration of construction kits to build and construct objects, and activities for exploring joining, assembling and shaping materials to make products;
- Extend their vocabulary through talking and explaining about their designing and making activities.

Objectives

These objectives, derived from the aims, will guide us in our decisions in relation to planning schemes of work. They will also form the basis of evaluation. Schemes of work draw heavily on the QCA schemes with the assistance of a range of Design and Technology Association resources.

To develop capability in the skills, processes, knowledge and understanding involved in designing and making:

- to provide opportunities for pupils to combine designing and making skills with knowledge and understanding in order to design and make products
- to develop an understanding of the processes of designing and making.
- to develop a repertoire of specific skills, knowledge and understanding useful to designing and making.

- to encourage pupils to study existing products in order to develop design and technological skills, knowledge and understanding.

To develop a critical awareness about the made world and the recognition that pupils can bring about change:

- to provide opportunities for pupils to investigate, disassemble and evaluate products in order to learn how they function and to develop an understanding of quality
- to develop an understanding of how designers work to meet people’s needs and values
- to provide opportunities for pupils to design and make products in response to needs and opportunities.

To develop a sense of enjoyment and pride in pupils’ ability to design and make:

- to celebrate the value of designing and making activity, evaluating their own, each others and other people’s work, past and present
- to display pupils’ work and work of other designers

To develop a range of skills related to decision-making and management

- to provide opportunities for children to work independently and in teams
- to help children to work within constraints e.g. time, materials, space, equipment, ability, health and safety
- to develop a sense of responsibility for their working environment and resources.

Principles of Teaching and Learning

Differentiation & AEN

- For all children to produce their best we plan differentiated resources and tasks through:
 - Adapted worksheets;
 - Changing the demands of a task;
 - More limited choices;
 - Greater teacher intervention/small group work/TA support;
 - Ensuring manipulative skills needed are manageable;
 - Selecting appropriate tools and equipment.
- Talented or able children are challenged through more demanding tasks such as more open ended design briefs, rigorous testing, carrying out independent research, giving additional responsibilities such as leading a team or acting as a “consultant”.

Breadth & Balance

We will ensure that we have a clear idea of the skills, knowledge and understanding to be taught in each unit of work

Units of work will be selected and planned to ensure a balance of materials, skills, knowledge and understanding throughout each key stage on a two yearly cycle so as to cover the statutory programmes of study. See Long Term Planning Grid.

Units of work will be planned to include designing and making assignments supported by focused practical tasks and work involving existing products.

Variety

Design and technology requires pupils to become capable of thinking and acting for themselves. We need to adopt a range of teaching styles to enable this to happen, such as:

Managing	Motivating	Instructing	Questioning
Supporting	Co-ordinating	Responding	Sharing

Appropriate teaching strategies will enable children to:

- develop skills and knowledge of tools and materials
- explore and develop their ideas and the ideas of others
- work individually, with the support of a group, or in a class situation
- apply skills and knowledge (especially of science and mathematics) to a practical situation
- evaluate their own and other people's work in a constructive way
- be reflective about their work.

A wide range of resources (the environment, the internet, products, construction kits, books, pictures, plans, photographs, and people) will be used to help pupils to develop understanding about design and technology.

Relevance

We live in an environment which has been designed and made and is constantly changing. It is therefore important for children to develop an understanding of the made world through first hand experience. Design and technology can be made relevant by using interesting contexts for pupils' design and technology activities. Where possible, pupils design and make products responding to real needs and opportunities, e.g. the need for reflective arm bands on dark nights, or those they can relate to e.g. using a story as a starting point.

Cross-curricular skills & links

Design and technology draws upon and develops skills, knowledge and understanding from across the curriculum. Appropriate links can be made with other curriculum areas but we need to take care that activities lead to mutual enrichment.

Design and technology can make a major contribution to cross -curricular elements in the development of key concepts, skills, values and attitudes. Design and technology has a particularly strong link with the following cross curricular themes:

Computing, literacy, numeracy, arts, physical development, education for citizenship, careers education and guidance and economic and industrial understanding.

Appropriate Early Years experience for children in Early Years will be planned to develop areas of learning related to design and technology e.g. developing an understanding of the world around them, using materials and tools to make things, developing language skills (refer to Quality through Progression (NAAIDT)). Opportunities to apply design problems to real world situations will be sought e.g. designing pop up books for infants or designing an adventure playground for a local park. Local and regional resources will be used to help with research and product analysis. This could involve visits to historical sites or local adventure playgrounds.

Equal Opportunities

All activities will be taught to stretch the able and support the less able. Boys and girls must be given equal opportunity to access all material areas and processes. Teachers may wish to have single gender groups to prevent one gender capitalising on the learning outcomes e.g. the use of construction kits.

Physically disabled pupils should be supported with teaching and learning aids such as special tools and work places. In a minority of cases process will be undertaken by the teachers or learning support assistants to ensure progress to the next stage of learning. In rare cases some pupils may be disapplied from aspects of the curriculum. In the majority of cases emphasis will be placed on enabling pupils to access the curriculum through modified teaching styles and in some cases the use of learning support assistants.

Health, Safety & Hygiene

It is important that pupils are taught essential life skills to enable them to participate confidently and safely in designing and making in society. Teachers have a duty to introduce pupils to a wide variety of production processes and the correct tools for the task.

When designing pupils must consider health and safety issues and consequences and operate in a safe and hygienic manner.

The guidance in Tool List for primary schools (KCSU, KAS, and KCC) and Managing Food Hygiene and Safety in the classroom (KCSA KCC) will be followed. Further guidance is available in Make it Safe (NAAIDT ISBN 0906 457 076) and Design and Technology Subject Leader's File (ISBN 1 898788 15 14 {2007}).

Assessment, Recording & Reporting

Opportunities for assessment will be identified when planning and children will receive ongoing teacher assessment. The National Curriculum end of key stage descriptions are an aid to summative assessment, indicating the type and range of performance which pupils should demonstrate.

A record of the child's experience and achievement in design and technology will be kept by each class teacher usually in the form of large format design exercise books with photographs of work. Photographic evidence is valuable to record the process of designing and finishing products.

A statement of the child's progress and achievement in design and technology will form part of the annual report to parents and there is a termly report to the headteacher.

Management and Administration

An annual staff meeting will be held to review the needs of design and technology. Researching, personal development and training needs will be discussed. The design and technology subject manager will organise and lead these meetings. Learning support assistants involved in supporting children in design and technology should be briefed to develop awareness of the school aims for design and technology, to develop a problem-solving, questioning approach ensuring the use of tools, health, safety and hygiene guidelines are observed.

Role of the Subject Leader

The subject leader is responsible for developing a long-term curriculum plan for design and technology.

Resourcing

Funding for design and technology will be within the school budget plan for each financial year. There is a central design and technology budget to cover the purchase of equipment such as tools, construction kits, consumable materials, books and other resource materials. The design and technology subject manager will be responsible for ordering equipment and materials. It is the responsibility of each class teacher to identify resource needs in relation to the schemes of work.

Classroom resources

It is recommended that when organising classroom resources, the following factors be considered.

1. Structuring space for making activities, e.g. setting a table out with technology equipment when working on a project.
2. Organisation of materials/tools (accessibility to children).
3. Storage of unfinished work.
4. Display of finished work. Three-dimensional work can be attached to pin boards as well as drawings. Linking the two is useful.

Organisation of Classroom Resources

Some resources will be stored centrally and in St Nicholas Room.

Recycled materials can provide many of the resources needed for Design Technology work. A selection of these should ideally be stored within the class and clearly labelled to enable children to view and select their own materials. This will make it easier for the child to think of a range of solutions to a problem if their ideas are stimulated by seeing a variety of materials.

It is intended that each class have a Design Technology box, which houses at least the following tools:

- | | |
|---|---------------------|
| 1 safety cutter | 1 single hole punch |
| 2 junior hacksaws | 2 desk vices |
| 1 pack saw blades | 1 pair pliers |
| 1 cutting board | sanding sticks |
| For teacher use (kept separately) 1 Warm glue gun and sticks | |
| For teacher use or for children to use under supervision (mainly Years 5&6) 1 Craft Knife with retractable blade and 1 Bradawl. | |

Centrally stored school resources

A selection of materials and tools to be shared will be stored centrally. Anything that is not a consumable item should be returned there after use.

Review

The design and technology subject leader will monitor classroom work in all year groups on a yearly basis and develop a design and technology portfolio of work submitted by class teachers.

The effectiveness of the design and technology curriculum will be evaluated in discussions with the head-teacher and design and technology subject leader. Resources, teaching methods and needs should be identified and priorities for in service support or external review should be established. The evaluation will form the basis for an action plan, which will inform the school development plan.

Long Term Plan

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Term 1 and 2			Food and Health		Textiles, fabric and shape	Dips and dunk
Term 3 and 4	Freestanding structures	Templates and joining	Mechanisms, levers etc.	Textiles 2D and 3D products	Pulleys and gears	
Term 5 and 6	Food, fruit and vegetables	Wheels and axels		Electrical systems	Food tech. seasonal cooking	Controllable vehicles

Appendix

Key points

- Design and technology capability can only be assessed within a whole design and make activity (rather than through discrete assessment activities)..

It is considered to be good practice to plan in assessment opportunities which include;

- listening
- questioning
- observation of focused tasks (by nature on specific skills)
- looking at pupils' sketch books/design diaries_and models
- self and peer assessment (with agreed assessment criteria and guidelines for giving feedback to others.

Whilst some teachers would naturally include the above it maybe good to focus especially on these methods with a view to reflecting on how good an insight they give.

“**Organic progression**” is being promoted which says that anything pupils are expected to be able to do at the age of 16 they would do well to make a start on from as early as possible (obviously at as simple a level as necessary)in order for the initial neural soft-wiring to begin. In the past “Sequential progression” has focussed on building a set of isolated skills to use in the future. More of an emphasis on seeing a “means to an end” (product) is now being suggested.