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# St. Mary's CE Academy

'Excellence through faith & learning'



# Design Technology Policy

*"I have come that they may have life,  
and have it to the full."*

John 10:10

# Design Technology Policy



## 1. INTENT

### Our School Vision for Design Technology

At St Mary's Church of England Academy, we aim to provide a caring environment where every child can thrive and is supported to achieve their unique & amazing potential as a child of God. Our high standards of teaching and personalised learning are set within a broad, balanced and creative curriculum – a curriculum which is intended to prepare our learners to make a positive contribution towards society and enjoy future success.

*D&T in primary schools develops young children's skills and knowledge in design, structures, mechanisms, electrical control and a range of materials, including food. D&T encourages children's creativity and encourages them to think about important issues.*

### **Our vision in teaching Design Technology are that all children learn to:**

- To develop knowledge and understanding of:
  - materials and components; mechanisms and control systems; structures; existing products, and health and safety.
- To find enjoyment in developing the skills of designing, planning, making, adapting and evaluating products for a particular purpose
- To look for needs, wants and opportunities and respond to them by developing a range of ideas and making products and systems.
- To develop an understanding of technological processes, products and their manufacture, and their contribution to our society.
- To use a range of materials, tools and techniques competently.
- To value and respect their work and the work of others.
- To discuss their work using appropriate vocabulary.
- To nurture creativity and innovation and become creative and autonomous problem solvers, as individuals and as part of a team.
- To reflect on and evaluate present and past design and technology, its uses and effects.
- To promote pupils spiritual, moral, social and cultural development
- Hold a positive self-image and confidence.

### **We regard DT as an important subject because:**

D&T gives children the opportunity to develop skills, knowledge and understanding of designing and making functional products. We feel it is vital to nurture creativity and

innovation through design, and by exploring the designed and made world in which we all live and work.

Design and Technology education involves two important elements - learning about the designed and made world and how things work and learning to design and make functional products for particular purposes and users.

Children acquire and apply knowledge and understanding of materials and components, mechanisms and control systems, structures, existing products, quality and health and safety.

The skills learned in D&T also help with learning across the wider curriculum.

Knowledge about the properties of materials helps in science and the practice of measuring accurately helps in maths. These skills help in IT through the children's use of computer control and, naturally, in art and design.

Design and Technology education helps develop children's skills through collaborative working and problem-solving, and knowledge in design, materials, structures, mechanisms and electrical control. They are encouraged to be creative and innovative and are actively encouraged to think about important issues such as sustainability and enterprise.

There are three core activities children engage with in Design and Technology:

1. Activities which involve investigating and evaluating existing products
2. Focused tasks in which children develop particular aspects of knowledge and skills
3. Designing and making activities in which children design and make 'something' for 'somebody' for 'some purpose'

These three activities are combined in sequence to create a Design and Technology project.

### ***Why is primary D&T important?***

Design and Technology is about providing opportunities for children to develop their capability. By combining their design and making skills with knowledge and understanding they learn to create quality products.

D&T is often one of a child's favourite subjects. Children like making decisions for themselves and doing practical work. They love creating products they can see, touch – and even taste – for themselves. They feel proud to have done so.

D&T brings learning to life. It is a motivating context for discovering literacy, mathematics, science, art, PSHE and ICT. Primary Design and Technology also provides a firm basis for later learning in the subject and a platform for developing skills in literacy and numeracy.

## **2. IMPLEMENTATION**

**Our Aims for Design Technology** - taken from the National Curriculum 2014.

The overarching aim for Design Technology in the National Curriculum is to promote and develop knowledge, skills and understanding through a range of practical tasks which will include the following in the different Key Stages:

**Foundation stage** pupils should be taught Design Technology skills in accordance with the EYFS framework. In addition to this, the school's **Design Technology progression document** clearly states what FS pupils should be taught.

The National Curriculum prescribes what **Key Stage 1** pupils should be taught. In addition to this, the school's **Design Technology progression document** clearly states what FS pupils should be taught.

The National Curriculum prescribes what **Key Stage 2** pupils should be taught. In addition to this, the school's **Design Technology progression document** clearly states what FS pupils should be taught.

## **3. Planning and Teaching.**

*Progression:*

The **EYFS** provides an important foundation for the development of design and technology capability. It extends and broadens the child's home experience, enabling the child to explore a wide variety of materials: sand, water, construction kits, food, paper, wood, textiles, play dough, plasticine, reclaimed materials etc., and to develop skills with simple tools. Some of these experiences will be structured and the children will be encouraged to talk about their observations and ideas with the adults working with them.

In **Key Stage 1**, children will carry out more structured activities based around a curriculum theme. They will explore and develop skills in designing, making and evaluating a product. For example: *healthy diet, moving toys, making fairy tale porridge, making carts with axels, scenery and props for the school play.*

Children will also develop their technical knowledge in areas such as:

- \* designing a product for a specific purpose
- \* generating and communicating ideas
- \* cutting, shaping, joining, finishing (with support and independently)
- \* selecting appropriate tools and materials for their chosen design
- \* exploring and evaluating a range of existing products
- \* using simple mechanisms in their products
- \* testing and improving their product
- \* evaluating their finished product against a given criteria
- \* understanding where food comes from
- \* preparing food based upon a healthy and varied diet

In **Key Stage 2**, children will build upon their knowledge and skills developed in Key Stage 1. They will base their design ideas and products on a specific KS2 curriculum topic.

For example: *making a healthy sandwich, Christmas stockings/calendars/cards, felt paper weights, Greek clay pots, Victorian recipes, nutrition and food provenance, lanterns, musical instruments (linked to science), making Caribbean food (linked to English and history), Saxon print making, jewellery and felting, designing leaflets, bread making, making fairgrounds with moving mechanisms and electronic components.*

Children will also build upon and develop their technical knowledge in areas such as:

- \* researching and developing ideas based on a specific design criteria and audience
- \* generating and communicating ideas through sketches, diagrams, prototypes and ICT
- \* selecting *appropriate* tools and materials from a wide range
- \* cutting, shaping, joining and finishing *accurately*
- \* investigating and analysing a range of existing products
- \* improving and strengthening complex structures
- \* using more complex mechanisms such as pulleys, gears, cams, levers, linkages and electrical systems
- \* using computing programs to design, build, monitor and assess their product
- \* evaluating their product using a design criterion and using peer assessment to review and improve their product
- \* understanding how individuals and key events have shaped the world in relation to Design and Technology innovation
- \* understanding the importance of a healthy and varied diet for health and well-being
- \* preparing and cooking savoury food using a range of techniques
- \* understanding seasonality and food provenance

#### *Monitoring:*

Throughout the school, children's design and technology capability will be developed within the framework outlined in the current National Curriculum Programmes of Study. Work is planned and delivered within each specific year group and tailored to meet the needs of that particular cohort. Progression is monitored and evaluated within the year groups and throughout the key stages by individual teachers and the Design and Technology Coordinator.

#### **4. Learning environment**

Activities are organised at the teacher's discretion and according to the availability of materials. DT activities may be carried out individually, as a small or large group, or as a whole class activity.

Planning for Design Technology is provided for in medium and long-term plans.

#### **5. Assessment and recording**

Achievement, success and progression should be experienced by all children when learning and being taught Design and Technology. The teacher needs to be aware of the progress being made, difficulties being experienced, misconceptions addressed and expectations being met. Children should be supported at each stage of the Design and Technology curriculum in areas of: designing, making, evaluating and developing technical knowledge.

Assessment can take the form of: monitoring children's discussions; question and answer with individuals or groups; peer assessment by children in pairs, groups and to the class; marking

designs, idea development, finding evidence of creativity and problem-solving skills; and marking the aesthetic quality and functionality of the end product.

At the end of the academic year, the children will be assessed against the St. Mary's Academy attainment framework, in accordance with the school's assessment policy:

**'WTS'** – Working towards the standard;

**'WAS'** – Working at the standard (*end of year target*);

**'GDS'** – Working at greater depth within the standard.

## **6. The subject leader**

The school's appointed subject leader will oversee the continuity of the subject and the progression of teaching and learning within annual and medium-term plans. They will monitor the quality of teaching and the standard of work produced. Evidence will be kept from year to year. The subject leader will offer support to colleagues and share their expertise and experience. They will encourage staff and pupils to be creative and advise teachers on teaching methods they may wish to explore.

The Design and Technology coordinator is responsible for:

- \* reviewing and updating St. Mary's policies relating to Design and Technology
- \* maintaining centrally stored tools and materials
- \* monitoring standards of achievement and progression
- \* reviewing and updating the electronic portfolio of evidence
- \* the coordination of assessment of Design and Technology
- \* assisting and advising in the teaching of Design and Technology across the school
- \* liaising with Design and Technology coordinators across DSAT
- \* promoting and raising the profile of Design and Technology throughout the school.

## **7. Resources**

Each classroom has basic DT resources maintained by the individual teachers.

Further resources are available from the school resources room and the ordering of resources for tasks in each class is the responsibility of the class teacher for the particular skills and projects they wish to develop in advance of the tasks.

## **8. Displays**

The school promotes the displaying of Design Technology learning in classrooms and corridors. This demonstrate the different techniques and stages involved in the design and make processes, it can influence how children feel about their environment, convey standards and promote high expectations.

We use displays to celebrate achievement and support teaching and learning, communicate ideas, stimulate interest, reflect the ethos of the school and respond to the children's interests.

## **9. Health and Safety**

Safety is of paramount importance in Design and Technology. It is the teacher's responsibility to be aware of safety issues in all Design and Technology activities by:

- \* Providing a safe working area (furniture, materials storage, tool maintenance)
- \* Teaching and implementing safety rules and good practice, including hygiene
- \* Ensuring the safe and correct usage of tools and materials
- \* Ensuring working areas are kept clean and tidy
- \* Considering storage of partially completed work
- \* Ensuring the correct disposal of waste

The teacher is responsible for ensuring that children are adequately supervised when using tools and that other adults working in the classroom understand safety rules and maintain rigorous safety standards.

Safety rules and safety issues should be taught to *all children* within each Design and Technology unit of work.

## **10. Equal opportunities**

Equal opportunities are addressed in the whole school Equality Policy and care is taken in DT lessons to ensure all pupils are provided opportunities to experience the range of activities on offer.

All children should have the opportunity to work with a range of materials, tools and techniques, regardless of ability. Specific tasks should be differentiated, as and when necessary, to meet individual needs.

Staff should be aware of and sensitive to medical conditions (e.g. allergies) and different beliefs and practices within the school and local community which might affect their work with food, materials or design.

The Design and Technology teaching and learning at St. Mary's Academy should reflect the fact that there are equally valid and appropriate solutions to problems which reflect the needs and beliefs of different cultures, past and present.

**Appendices:**

1. Our Progression Grid for **Design Technology**