



St Paul's Church of England Primary School Design & Technology Policy

Adopted by: Curriculum and Achievement Committee

On: Tuesday 19th November 2024

Review: Autumn 2027

1. Purpose

Design & Technology (DT) is an important part of the national curriculum. It 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.

Something for someone for some purpose.

2. Vision

Through DT children 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.

As children move through St Paul's they will experience a range of opportunities to build their previous experiences and skills developed in previous years. Pupils here at St. Paul's will be expected to work increasingly independently as they move through the school and in doing so will build their resilience to facing and solving problems. They will also have the opportunity to be creative and see how their ideas are implemented.

3. Aims and Objectives

At St. Paul's we aim to give all children the opportunity to

- 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, critical thinking 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; and
- understand and apply the principles of nutrition and learn how to cook.

4. Roles and Responsibilities

The expectation at St Paul's is that all members of staff and governors will support the effective teaching of DT; ensuring that the pupils are given the opportunity to

gain the necessary knowledge, understanding and skills needed to engage in the designing and making process for a wide range of contexts.

Governors

- To ensure that DT is taught in line with National Curriculum requirements in the school;
- To identify a subject specialist governor to liaise with the subject leader, acting as an advocate for the subject and providing deeper understanding to the governing body; and
- To receive and consider an annual report on the subject from the subject leader.

Subject Leader

- To provide long & medium term planning to support teaching staff in delivering the full curriculum, ensuring effective coverage;
- To provide guidance to teaching staff including practical class teaching support, to develop the confidence of all teaching staff within DT;
- To monitor and evaluate planning, teaching, pupil work, learning environment, parental feedback, pupil voice and other forms of scrutiny to identify strengths and opportunities for further development in the subject;
- To maintain a subject leader file to include up-to-date policies, monitoring activities and outcomes, action planning, budget and resource wish lists, inventory resources, curriculum plans and other curriculum initiative documentation etc.;
- To plan and provide INSET/CPD training either with an external provider or internally by the subject leader to support all teaching staff;
- To work closely with staff needing additional support to deliver the curriculum effectively and support new members of staff;
- To keep up-to-date with the Design and Technology Association to ensure that St Paul's is aware of developments within DT, including attending CPD to develop professional knowledge and skills, sharing these with other members of staff;
- To engage with other subject leaders and organisations, exploiting these links to enhance the curriculum offer;
- To order, store, audit and maintain resources to support effective teaching and learning in the subject across the school;
- To manage and collate assessment of the subject; and
- To prepare an annual report on the subject for governors.

Teaching Staff (this may include HLTAs)

- To use the school's topic framework in order to plan challenging and effective DT lessons for pupils of all abilities in your class;
- To plan lessons using the school's agreed planning templates, recording and storing them in line with school procedures;
- To use the resources provided in school to teach effective lessons;
- To seek help and advice from the subject leader if needed to ensure that lessons are effectively delivered;

- To assess pupils work in a timely and effective way, in line with school procedures;
- To provide assessment information to the subject leader in line with the school's assessment schedule.
- To participate in subject monitoring activities.
- To effectively scaffold and give students the knowledge needed for success and confidence.

Pupils

- To participate actively in learning activities, doing your best and helping others to learn too.
- To complete classwork activities to the best of your ability at all times.
- To use skills learned to problem solve and create.
- To follow given criteria when planning their product and evaluating.

5. Curriculum Organisation

DT is a cross-curricular subject, drawing on skills from other subjects such as art, maths and science. It forms part of the topic framework in KS1 & KS2, which outlines all DT, art, history and geography areas of study. DT forms 1 area of study per year within this framework and as such will be carried out for one half term per year. The area covered within each of the DT units will have a link to either a historical event or a geographical location. In addition to this smaller DT projects will be included along-side both history and geography units where possible. DT in the EYFS comes under the heading of 'Expressive Arts and Design'.

Topic Framework

The Foundation Stage

Class	Autumn	Spring	Summer
Nursery	Nursery Rhymes Harvest Colour and Shape	Fairy Tales Growth	Water Out and About
Reception	Nursery Rhymes Harvest Light and Dark	Mythical Magical Life Cycles	Water Out and About

Class	Cycle	Topic	Term
Year 1/2	Cycle 1	Solar systems – Build a mechanical solar system.	Summer
	Cycle 2	A day at the Seaside – Design and make a healthy seaside snack.	Summer
Year 1/2	Cycle 2	History – How we used to live Looking at how technology has been innovated	Autumn
Year 3/4	Cycle 1 & 2	Science – (Electricity) make a museum with an alarm system	Autumn
Year 3/4	Cycle 1	Thrones for a King – Design and make a throne for Henry VIII.	Summer
Year 3/4	Cycle 2	Where does our food come from? – Design and make a locally sourced school lunch.	Spring
Year 3/4	Cycle 1	Hats by Royal Appointment – Creating a hat based on previous designs	Autumn
Year 5/6	Cycle 1 & 2	Science – (Irreversible changes) making gingerbread	Autumn
Year 5/6	Cycle 1	Brazil – Models of the layers of Amazon rainforest & Design and make Carnival floats.	Summer
Year 5/6	Cycle 2	The Blitz – Design and making a bomb Shelter that can withstand a 2Kg 'bomb' drop.	Autumn
Year 5/6	Cycle 2	Tudor exploration of the New World & Oceans – Ship's biscuits	Spring

Knowledge, skills and experiences

In KS1 pupils will be taught to:

Design

- design purposeful, functional, appealing products based on criteria
- generate, develop, model and communicate their ideas

Make

- select from and use a range of tools and equipment to perform practical tasks
- select from and use a wide range of materials and components

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 in their products.

Cooking and nutrition

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.
- Practise kitchen safety skills

In KS2 pupils will be 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 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 accurately
- select from and use a wider range of materials and components

Evaluate

- investigate and analyse a range of existing products.
- evaluate their ideas and products against their own design criteria
- 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.

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.

Teaching and Learning

DT lessons will include a range of activities including, but not limited to: research, design, making and evaluation. Practical lessons will use the resources provided. All research and design work should be recorded in the topic books; practical work can be displayed around the classroom, but should be photographed and evaluated in the books. Students will be given time to practise their skills before applying them to their own designs.

Teachers with SEN pupils will need to adapt and differentiate in line with the SEN policy and the child's needs.

6. Assessment, Attainment and Progress

Written work will be marked in line with the marking policy, practical work, including designing and making will be assessed in line with the templates provided. Students will be given a template when planning where they will draw and explain their design. After creating their product, they will receive another template where they will evaluate their product according to the given criteria. They will think about what worked well and what they would improve for next time. They will also use this data to make a second design that has been innovated according to the problems they encountered.

This data can then be tabulated to give an end of year attainment for each child, this can be tracked across the school.

Resources

Resources for DT are stored in the music room on the St. Paul's site. All equipment that presents a risk, e.g. saws, will be kept in the music room.

It is of paramount importance that all staff are confident in using the equipment and should speak to the subject lead if they are unsure, the teacher must in turn teach the pupils how to use equipment in a safe and sensible manner.

If consumable resources are required for a project that are not stored at school the teacher needs to speak to the subject lead to order these items in plenty of time – preferably the stock of resources should be checked at the end of the half term before or at the beginning of the half term where DT will be taught.

All DT equipment and resources will be inventoried, by the subject lead. This inventory will be kept in the DT subject folder. If any items are broken or need to be thrown out/replaced the class teacher using the item should let the subject lead know.

7. Display

When undertaking a DT unit from the topic framework, a DT display should take the place of any other topic displays. Ideally a DT display will show the process that the children have been through in order to make their final product – research, design, making and evaluation – this could be in the form of examples from the internet of appropriate research; children’s work, including their research and designs; and photographs of the children making their work or the final product. In addition you could add key words (technical vocabulary) that will be useful for the unit. Reminders of mechanisms and how they work would be beneficial for the children to refer back to. Showing examples of prior designs and reflections about how they were successful would allow children to use this research in their own products.