



At St. Barnabas and St. Paul's, we are guided by our Christian Values and we endeavour to 'Be the best for God you can be.'

Mission Statement:

'Love the Lord your God with all your heart, with all your soul and with all your mind. And love your neighbour as yourself' – Matthew 22:37

Trust:

'Trust in the Lord with all your heart and lean not on your own understanding'
Proverbs 3:5

Compassion:

'Love the Lord your God with all your heart, with all your soul and with all your mind. And love your neighbour as yourself'
Matthew 22:37

Thankfulness:

'Be thankful in all circumstances. This is what God wants from you in your life'
Thessalonians 5:18

Hope:

'But those who hope in the Lord will renew their strength'
Isaiah 40:31

Perseverance:

'I know your deeds, your love and faith, your service and perseverance'
Revelations 2:19

Forgiveness:

'For if you forgive other people when they sin against you, your heavenly father will also forgive you'
Matthew 6:14

Design and Technology Policy

1. Statement of intent

At St Barnabas and St Paul's we strive to provide all of our pupils with an inspiring D&T education which allows them to develop their own creativity and practical skills, so that they are able to create unique and effective products. We strongly believe in the importance of encouraging children to become independent thinkers and risk-takers when designing and making, as well as ensuring that they continue to persevere when a planned action does not produce the desired outcome. All children will be taught the practical and technical skills that allow them to design and make a wide range of products and prototypes, with increasing confidence and difficulty starting from Reception. They will be supported by enthusiastic and creative teachers, who teach high-quality D&T lessons every term and model their own design and making processes, so that the pupils are aware of the importance of evaluating and refining their designs as they work. They will receive various opportunities to explore and research different inventions, inventors and designers throughout their D&T education, which will allow them to develop their own analytical skills and understanding. Children will be encouraged to create their own design criteria focusing on the purpose and needs of the user, with increasing accuracy, so that all children have full ownership of their work and create a unique product. Through the teaching of D&T we aim to ensure all children will feel empowered and valued, so that they can continue to develop into innovative, resourceful and creative members of our society.

1.1 Aims

Through the teaching of design and technology, we aim to ensure pupils:

- Develop their design and making skills.
- Develop their knowledge and understanding of design and technologies.
- Use a wide range of tools and materials.
- Learn about working safely and protective measures.
- Work individually and collaborate with other pupils in a variety of contexts.
- Develop the capability to create products of a high standard through skills and understanding.
- Evaluate products, made by themselves, their peer groups and companies.
- Explore the man-made world and encourage discussion of how we live and work within it.
- Develop an interest in and understanding of technological processes and the role of manufacturing in society.
- Learn the principles of nutrition, healthy eating and how to cook.
- Are given equal access to the experience of art, regardless of their gender, race or disability.

2. Roles and responsibilities

The **subject leader** is responsible for monitoring the progression of teaching and learning in D&T. They will also be responsible for:

- Preparing policy documents, curriculum plans and schemes of work for D&T.
- Reviewing changes to the national curriculum and advising teachers on the implementation of these.
- Ensuring the continuity and progression from year group to year group.
- Organising the allocation and deployment of resources and carrying out an annual audit of all D&T related resources.
- Supporting teaching staff, advising and offering to share their expertise and experience.
- Maintaining resources and advising staff on the use of materials.
- Leading staff meetings and providing staff members with the appropriate training.
- Helping staff to plan future lessons and assessments and advising teachers on teaching methods they may wish to explore.
- Liaising with the SENCO about support for pupils with SEND.
- Organising, providing and monitoring CPD opportunities in D&T.
- Collating assessment data and setting new priorities for the development of D&T in subsequent years.
- Encouraging staff and pupils to be creative.
- Implementing this policy across school and reviewing when necessary.

The **classroom teacher** is responsible for:

- Acting in accordance with this policy.
- Planning and delivering interesting and engaging lessons that adhere to the national curriculum.
- Providing equal opportunities through their teaching approaches and methods.
- Keeping up-to-date assessment records and targets.
- Ensuring pupils' development of skills and knowledge progresses through their learning and understanding of D&T.
- Liaising with the subject leader about key topics, resources and support for individual pupils.
- Monitoring the progress of the pupils in their class.
- Reporting any concerns regarding the teaching of the subject to the subject leader or a member of the SLT.
- Evaluating schemes of work and maintaining the resources required to deliver lessons.
- Maintaining an enthusiastic approach to D&T.

The **special educational needs coordinator (SENCO)** is responsible for:

- Liaising with the subject leader to implement and develop specialist D&T-based learning throughout the school.
- Organising and providing training for staff regarding the curriculum for pupils with SEND.
- Advising staff on how best to support pupils' needs.
- Advising staff on the inclusion of D&T in pupils' support plans.
- Advising staff on the use of TAs or 1:1s to meet pupils' needs.

3. Early years provision

All D&T objectives within the EYFS are underpinned by the following three prime areas outlined in the 'Statutory framework for the early years foundation stage': communication and language; physical development; personal, social and emotional development. These three prime areas are strengthened and applied through the teaching of the four specific areas: literacy, mathematics, understanding the world and expressive arts and design.

Although D&T has links to many of the seven areas of learning and development, such as understanding the world and physical development, the D&T curriculum in the EYFS predominantly focusses on the specific area of expressive arts and design. This states that pupils must safely use and explore a variety of materials, tools and techniques in order to achieve the early learning goal for expressive arts and design. They must also be given opportunities to experiment with colour, design, texture, form and function. Pupils must use what they have learnt about materials in original and imaginative ways, thinking about their uses and purposes. In addition to this all pupils will be encouraged to represent their own feelings through D&T, as well as music, dance, role-play, storytelling and art.

4. The National Curriculum

The school aims to assist pupils in achieving the attainment targets set out in the national curriculum. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills, and processes specified in the national curriculum. Pupils will learn a broad range of subject knowledge and draw on disciplines such as maths, science, engineering, computing and art.

The national curriculum for D&T aims to ensure that all pupils are able to access a high-quality design and technology education, which will allow them to develop the creative, technical and practical expertise needed to perform everyday tasks confidently. Through the teaching of D&T, we are creating the foundations that pupils will need to successfully participate in an increasingly technological world. The national curriculum states that all pupils must build and apply a repertoire of knowledge, understanding and skills, in order to design and make unique, effective prototypes for a wide range of uses. Pupils must be taught to critique, evaluate and test their ideas and products, as well as the work of others in a constructive manner. Another essential aim of the national curriculum is to ensure that all pupils learn how to cook, demonstrating that they can understand and apply the principles of nutrition.

Appendix one provides more information on the statutory content that must be taught within each key stage.

4.1 Cross-curricular links

Wherever possible, the D&T curriculum will provide opportunities to establish links and contribute to the teaching of a number of other curriculum areas in the school. D&T enhances the teaching of **literacy** as it offers pupils the opportunity to reinforce previous learning, such as their understanding of instructions when following a recipe during the teaching of food technology. Similarly, evaluating products requires pupils to articulate and formulate their ideas when comparing their views with other pupils'; through discussion, pupils will learn to justify their own views and clarify their design ideas. Furthermore, teachers may wish to use discussion, drama and role-play as important teaching methods to help pupils develop their understanding of people's differing viewpoints and opinions of D&T and society.

D&T will assist pupils' **mathematical** learning as it allows them to apply the skills taught in their maths lessons to a wide range of practical activities. It will also provide them with opportunities to further their understanding of shape, space and measurement. As pupils will be expected to carry out investigations during their D&T lessons, in order to make the most effective products and choose the most appropriate materials, they will be continuing to develop not only their mathematical skills but also their **scientific** understanding. Through these investigations pupils will learn to read and interpret scales, collect and present data, as well as draw their own conclusions. They will also be encouraged to pose thought-provoking questions about their own and other's products and explore possible answers and solutions.

D&T supports the teaching of **art** through the designing and evaluating process, as pupils will be expected to use some of the previously taught artistic skills and techniques when designing and making their product. They will also be encouraged to annotate, evaluate and adapt their work throughout the creative process. Likewise, the teaching of quality D&T lessons will ensure that links to both **history** and **geography** are made, as pupils will be exploring and comparing the work of notable inventors, designers and craftspeople from various time periods and cultures.

D&T has links to **PHSE**, as pupils will be taught how to discuss their own work and the work of others in a respectful manner. They will be able to sensitively communicate their likes and dislikes about a product and appreciate that other people may have a different opinion. Pupils will also be taught about health and hygiene, including diets, and how to prevent disease from spreading when working with food. Teaching D&T offers more opportunities to support the Spiritual, Moral, Social and Cultural (SMSC) development of pupils through the social ways they are expected to work with each other in the lessons. This will allow all pupils to develop a respect for each other and their abilities. Furthermore, working in groups encourages collaboration and gives pupils the opportunity to learn from each other and share ideas and feelings. They will continue to explore different cultures and their products which will support their cultural development.

D&T has very strong links to the teaching of **computing**, as technology enhances the teaching of D&T and provides pupils with additional equipment, extending the possibilities for developing, sharing and recording their work. Utilising computing technology also

benefits pupils by helping them to collect information and present their designs and ideas through a range of design and presentation software. They will also be encouraged to use technology to help them research information related to a product or designer.

5. Planning

All relevant staff members are briefed on the school's planning procedures as part of their staff training and induction. At St Barnabas and St Paul's, D&T is discretely taught once a term following Kapow.

Planning in the D&T curriculum is focussed on creating opportunities for all pupils to:

- Explore and use a wide range of materials.
- Develop their capability and decision-making skills.
- Learn about the designed and made world and how things work.
- Design and make functional products for particular purposes and users.
- Understand the importance of health and safety.
- Appreciate and understand the work of other designers and craftspeople.
- Record their ideas and make detailed plans for their products.
- Develop their evaluation skills and adapt their products throughout the making process.
- Become proficient in textiles, food technology, structures, mechanisms, electrical systems and other D&T skills.
- Evaluate and analyse their work and that of others using the language of D&T.
- Become creative and innovative thinkers.
- Actively think about important issues such as sustainability and enterprise.
- Discuss ideas and planning with their peers.
- See that their work is valued, celebrated and displayed around the school.

5.1 Long Term Plans and Medium Term Plans

Long Term Plans and Medium Term Plans have been created using the aims and objectives from the statutory guidance given in the primary national curriculum for D&T. The LTPs give the main overview of the coverage of every year group, including the topic and designer/craftsperson for each term. The MTPs break this overview down into a more detailed format that includes key vocabulary, equipment, learning objectives, possible lesson ideas, skills to be taught and learning outcomes for each topic. These overviews have been designed to support all teaching staff, regardless of their confidence and skill level in D&T, and ensure all pupils are receiving a high-quality design and technology education throughout their time at our school.

The overviews are designed to ensure:

- A wide range of D&T skills and techniques are taught within each year group.
- Pupils are showing a greater understanding of the different types of D&T and the importance to develop their own proficiency in these areas.

- Consistency and clear progression in the teaching of D&T skills and techniques across the school.
- Pupils are experiencing a series of exciting and inspiring D&T lessons that allow them to use creativity to create unique end-products for a specific purpose or user.
- Pupils are able to work confidently and safely.

The LTPs and MTPs are used as a guidance tool in order to pace out coverage of the curriculum throughout the year. Teachers are encouraged to use professional discretion when deciding how long is needed on particular skill or technique, whilst ensuring all objectives are covered by the end of the academic year. The subject leader will regularly monitor planning to ensure all of the objectives are covered in each year group, in addition to being responsible for reviewing and updating the LTPs and MTPs and communicating any changes to the teaching staff.

5.2 Short term planning

The plans are all on Kapow with corresponding videos to watch and upskill staff should they need a tutorial on any of the skills required for the lesson.

5.3 Homework

D&T homework will be set as part of a topic grid every term. Children will be encouraged to bring in their D&T homework as they complete it so that it can be celebrated and shared with the rest of their class. D&T homework will take a variety of formats, including written tasks, researching, designing and planning, gathering materials, making prototypes and games.

Class teachers may wish to send out extra D&T homework if they feel their class need to improve or develop a specific skill in preparation for their D&T lessons, for example pupils may be given a sewing pack to practise their stitches before completing a textiles unit later that term.

6. Teaching and learning

D&T lessons will be delivered every term.

At the beginning of each lesson, the lesson objective and success criteria should be shared with the children. Each lesson should have three-parts:

- Directed teaching input which should include any modelling and focus on teaching the appropriate skills, techniques and vocabulary.
- Independent and creative learning activities which should be child-led and adults provide support. These should include activities which involve investigating and evaluating existing products, focused tasks and design and making opportunities.
- Short plenary or feedback session.

The school uses a variety of teaching and learning styles in D&T lessons that are matched to the activity and ability of the pupils. The main aim of these lessons is to develop pupils' knowledge, skills and understanding. Teachers will ensure pupils apply their knowledge and

understanding when developing ideas, planning and making products, and then evaluating them.

The school aims to do this through a mixture of whole-class teaching, group work and individual activities, so all pupils are given the opportunity to work on their own and collaborate with others, listening to their peers' ideas and treating these with respect.

Teachers must ensure the teaching and learning styles are adapted to support any pupils with SEND to ensure they continue to have their confidence and self-esteem raised.

The key principles for the effective teaching of D&T include:

- Setting tasks in the contexts of pupils' prior knowledge.
- Promoting active learning.
- Inspiring, exciting and motivating pupils to know more.

In order to effectively teach D&T all teachers will provide a meaningful context and clear purpose when assigning tasks and ensure the teaching methods used suit the purpose and needs of the pupils. They will use focussed practical tasks, that are built on appropriate skills and understanding, to help pupils make and evaluate products. They will ensure pupils are given opportunities to participate in investigating, disassembly and evaluative activities.

The **classroom teacher**, in collaboration with the **subject leader**, will ensure that the needs of all pupils are met by:

- Setting tasks which can have a variety of responses.
- Providing resources of differing complexity, according to the ability of the pupils.
- Setting tasks of varying difficulty, depending on the ability group.
- Utilising TAs to ensure that pupils are effectively supported.

As part of D&T, pupils are provided with booklets, which are used to collect and store pupils' responses, explorations, researched ideas, plans and evaluations for their products. These booklets are an essential record of individual pupils' experiences and ideas throughout a year and will be seen as evidence for assessment and reporting purposes. Pupils will be encouraged to use their booklets with increasing independence and to include any designs or research undertaken without direction or assistance.

Displays of D&T designs, products and work are used to celebrate pupils' achievement and support teaching and learning. The school promotes displays of D&T designs, products and work in classrooms to influence how pupils feel about their environment, convey standards and promote high expectations. Displays are used to communicate ideas, stimulate interest, celebrate pupils' work, reflect the ethos of the school and respond to pupils' interests.

7. Assessment and Reporting

D&T should be assessed both formally and informally, using a mixture of summative and formative assessment techniques. The majority of assessments will be conducted through observations, discussions and teachers judgements of recorded work or end-products.

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study. The progress and development of pupils within the EYFS is assessed against the early learning goals outlined in the 'Statutory framework for the early years foundation stage'. The progress and development of pupils within KS1 and KS2 is assessed against the descriptors outlined in the national curriculum.

Teachers will also assess pupils':

- Knowledge of tools, materials and equipment.
- Ability to record and communicate their design ideas in a clear manner.
- Personal qualities and attitudes towards their work.
- Ability to explain what they have created and how.
- Ability to use tools and materials safely and effectively.
- Ability to evaluate their work and the work of others.

In order to aid the teachers' judgements and assessments, each pupil will have the unit outcomes, key knowledge, key skills and key vocabulary in their DT booklets. It is important for all pupils to understand and use these key components so that they continue to make progress and take ownership of their learning.

7.1 Formative and Summative assessment

Formative assessment should be used throughout the year in order to monitor children's understanding of various D&T skills and techniques on a day to day basis. This type of assessment should inform a teacher's immediate lesson plans.

Throughout the year, teachers will plan on-going creative assessment opportunities in order to gauge whether pupils have achieved the key learning objectives which can include:

- Talking to pupils and asking questions.
- Discussing pupils' work with them.
- Marking work against the learning objectives.
- Pupils' self-evaluation of their work.
- Highlighting and dating pupils' D&T targets once they have been achieved.

Teaching staff must ensure that a brief comment linked to the learning objective is apparent on each of the children's D&T work in their booklets and follow the school's marking policy.

In terms of summative assessment for D&T, teachers will use their judgements of pupils' recorded work and final products, in addition to their highlighted targets to complete the D&T assessment tracker at the end of each unit/term. Teachers will make their judgments in relation to the expectations stated in the national curriculum. They will ensure that the information collected from the D&T summative assessments are passed to the relevant members of staff, such as pupils' future teachers, in order to demonstrate where pupils are at a given point of time.

D&T outcomes, marking and assessment data will be monitored by the subject leader and used to inform future areas of development for the teaching of D&T in our school.

7.2 Reporting to Parents

Parents will be provided with a written report about their child's progress in D&T during the Summer term every year. This will be in the form of a grade regarding their child's attitude and attainment in D&T. A brief comment linked to pupils' knowledge and understanding may be included in the general comments section.

Verbal reports will also be provided at parent-teacher evenings during the Autumn and Summer terms which will go into more detail regarding their child's understanding of D&T.

8. Monitoring and review

This policy will be reviewed on an annual basis by the subject leader.

The subject leader will monitor teaching and learning in the subject at St Barnabas and St Paul's school, ensuring that the content of the national curriculum is covered across all phases of pupils' education.

All members of staff directly involved in the teaching of D&T are required to familiarise themselves with this policy. Any changes made to the policy will be communicated with staff.

The policy is reviewed every 3 years.

Appendix 1

By the end of KS1, 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 and mock-ups and, where appropriate, ICT.

Make

- Select from and use a range of tools and equipment to perform practical tasks, e.g. 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, e.g. levers, sliders, wheels and axles, in their products.

Through a variety of creative and practical activities, pupils will be taught the knowledge, understanding and skills needed. They should work in a range of relevant contexts, e.g. the home, school, leisure, enterprise, industry and the wider environment.

By the end of KS2, pupils 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 accurately, e.g. cutting, shaping, joining and finishing.
- 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 D&T 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, e.g. gears, pulleys, cams, levers, and linkages.
- Understand and use electrical systems in their products, e.g. 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 will be taught how to cook and apply the principles of nutrition and healthy eating. 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.

By the end of KS1, pupils will be able to:

- Use the basic principles of a healthy and varied diet to prepare dishes.
- Understand where food comes from.

By the end of KS2, pupils will be able to:

- 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.

Appendix 2

Health, Safety and Hygiene

In order to maximise their learning experience, pupils are allowed full access to a wide range of materials in D&T lessons; however, health and safety concerns are inherent with D&T, including strong materials and tools and the use of equipment. PPE, such as gloves, head protection, eye protection and hearing protection, will be made available to all pupils and teachers when required.

The risks of each task and the tools required will be assessed in the form of a risk assessment by the **classroom teacher** and shared with the **subject leader** before the lesson takes place, and relevant PPE will be compulsory based on their decisions. The health and safety concerns must also be identified on the short-term plan and shared with any members of staff that will be involved in the lesson.

All tools and equipment will be checked and tested before the start of every lesson by the **classroom teacher**. It is also the duty of staff to recognise and assess the hazards and risks associated when working with food and other materials. All tools, such as glue guns, will be regularly checked by the **subject leader** throughout the school year.

KS2 pupils are only allowed to use a lower temperature glue gun under one-to-one supervision- an adult must use the glue gun at all other times. Glue guns will be considered alongside all viable alternatives such as adhesive tapes, blue tack and other fasteners, to ensure the most suitable materials are used for each project.

Pupils will be supervised at all times during D&T lessons. In order to maintain safe supervision D&T classes must not exceed 30 pupils and at least one extra adult must be present throughout the lesson. Pupils will be taught to use tools and equipment properly by the **classroom teacher** before use. They will also be fully briefed on the importance of how to correctly use tools and equipment.

Perishable food will be stored sensibly and refrigerated if necessary. Care must be taken by teachers and teaching assistants to ensure food is not used after the given sell by date. A fire blanket will be kept next to the cooker at all times. If any cooking or food preparation is taking place in the classroom, all surfaces will be cleaned before and after use. TAs may take a maximum of four pupils to cook in the staff room or kitchen. Teachers and TAs will oversee that all cupboards, table tops and cookers are clean and in working order. Parents or other helpers will be supervised when cooking with groups of pupils. Correspondence will be sent to parents one week before cooking lesson to ensure pupils' allergies are taken into account.

All tools and equipment are locked in the store cupboard at the end of each day and during lunch and break times to prevent unsupervised access to potentially harmful tools or equipment.

Appendix Three

Resources

The school has a selection of centrally stored materials, tools and equipment to ensure that all pupils have access to the necessary resources. The D&T budget covers the cost of materials and replacement tools. **Class teachers** are required to maintain the tools and equipment in their classrooms.

Pupils may occasionally be asked to bring materials from home if they can; however, to provide all pupils with the same opportunities, the school will provide for pupils who are unable to do this.

Food technology resources will be kept in the school kitchen or the designated D&T store cupboard.

At the start of each school year, the **subject leader** will assess the school's D&T tools, materials and equipment to ensure there is sufficient equipment for pupils, allowing for funds to be allocated where necessary.