

Design and Technology Policy

Gascoigne Primary School



Article 28 (right to education)

Every child has the right to an education. Primary education must be free and different forms of secondary education must be available to every child. Discipline in schools must respect children's dignity and their rights. Richer countries must help poorer countries achieve this.

Article 29 (goals of education)

Education must develop every child's personality, talents and abilities to the full. It must encourage the child's respect for human rights, as well as respect for their parents, their own and other cultures, and the environment.

Article 31 (leisure, play and culture)

Every child has the right to relax, play and take part in a wide range of cultural and artistic activities.

Approved by:	Governing Body	Date: 30.01.2024
Last reviewed on:	December 2023	
Next review due by:	December 2025	

Contents

1. Purpose of the policy	3
2. Subject vision.....	3
3. Aims and outcomes	3
4. Teaching and learning	3
5. Curriculum Overview	5
6. Cross-curricular links	6
7. Assessment and recording	7
8. Resources.....	7
9. Roles and responsibilities	7
10. Inclusion.....	8
11. Links to other policies	9
12. Monitoring and review.....	9

1. Purpose of the policy

This policy reflects the goals and ethos of Gascoigne Primary school. It ensures all stakeholders, including staff, governors, parents and pupils, are working towards the same goals.

Aligning with the needs of our community in the vibrant, culturally diverse borough of Barking in London. In line with our school's vision, "*Caring for Ourselves and Our World, Valuing Our Education and Our Rights,*" our Design & Technology (D&T) curriculum is an integral part of our commitment to nurturing innovation, practical skills, and environmental awareness. As a school deeply invested in the STEAM (Science, Technology, Engineering, Art and Mathematics) initiative, we recognise the importance of D&T in fostering critical thinking, problem-solving, and creativity.

This policy aims to:

- Outline a framework for teaching and non-teaching staff on planning, teaching, and assessment in D&T.
- Ensure adherence to the National Curriculum objectives and guidelines.
- Provide clear information to parents and carers about the D&T curriculum.
- Allow the governing board to monitor the effectiveness of D&T teaching.
- Offer evidence of curriculum planning and implementation for Ofsted inspections.

This policy will be available on our school website: <https://www.gascoigneprimaryschool.co.uk/>

2. Subject vision

Our vision at Gascoigne Primary is to deliver an outstanding D&T education that inspires and challenges pupils. We aim to equip children with the skills and understanding needed to engage in an increasingly technological and sustainable world. Through our D&T curriculum, we encourage pupils to become resourceful, innovative, enterprising, and capable citizens. Our focus is on practical problem-solving in real-world contexts, alongside developing a critical understanding of the impact of design and technology on daily life and the wider world.

3. Aims and outcomes

The National Curriculum for Design & Technology aims 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.

4. Teaching and learning

Design & Technology at Gascoigne Primary is taught in year group classes by class teachers, utilising a blend of theoretical knowledge and practical application. Our curriculum is based on the National Curriculum, enhanced by the Kapow Primary and Projects on the Page schemes of work.

Lesson plans are based on the subject's long-term plan with objectives adapted to suit the stage of development for the pupils in each class. Plans are further adapted by our school to create a bespoke learning experience. Our adapted spiral curriculum builds upon prior learning and skills.

Each D&T unit is process-driven and has a project title, which ensures the user, purpose and product. Throughout the unit, children will investigate/disassemble, design, create and evaluate their finished products. Each unit is meaningful, relevant to a real-life scenario and builds upon pupils' prior knowledge and skills.

Teaching methods in D&T include:

- Project-based Learning
- Group Collaboration and Discussion
- Practical Hands-on Experience
- Problem-solving Activities
- Integration of Digital Technologies
- Exposure to Real-world Challenges
- Visits from Experts in the Field
- Workshops and External Visits

This approach ensures our D&T curriculum is not only aligned with national standards but also caters to the diverse learning styles and interests of our pupils.

5. Curriculum overview

The Design and technology National curriculum outlines the three main stages of the design process: design, make and evaluate. Each stage of the design process is underpinned by technical knowledge which encompasses the contextual, historical, and technical understanding required for each strand. Cooking and nutrition* has a separate section, with a focus on specific principles, skills and techniques in food, including where food comes from, diet and seasonality.

The National curriculum organises the Design and technology attainment targets under four subheadings: Design, Make, Evaluate, and Technical knowledge. We have taken these subheadings to be our primary strands:

- Design
- Make
- Evaluate
- Technical knowledge

Cooking and nutrition are given a particular focus in the National Curriculum and we have made this one of our six key areas that pupils revisit throughout their time in primary school:

- Cooking and nutrition
- Mechanisms/ Mechanical systems
- Structures
- Textiles
- Electrical systems (KS2 only)
- Digital world (KS2 only)

5.1 Early Years Foundation Stage (EYFS)

In the Early Years Foundation Stage, children's design and technology skills start to take shape as they lay the foundation. Within this stage, there are numerous opportunities to engage in activities related to D&T across various learning areas. By the end of the Early Years Foundation Stage, most children should be capable of the following:

- Creating with a specific purpose in mind, utilising a range of materials.
- Demonstrating competent and suitable use of basic tools and techniques.
- Building and constructing with a diverse array of objects, making thoughtful choices about the materials they use and adjusting their work as needed.

- Selecting the appropriate tools and techniques for shaping, assembling, and joining the materials they are working with.

It's important to note that D&T activities in the EYFS should align with the developmental stage of the children, and they should differ from activities conducted in Key Stage 1 (KS1).

5.2 Key Stage (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.

When designing and making, pupils should be taught 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.

5.3 Key Stage (KS) 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.

When designing and making, pupils should 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, 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

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. 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.

5.4 Programmes of Study

Our long-term plan maps out the themes covered in each term during the Key Stage. For each year group, this is usually a discrete D&T, a Cross-Curricular topic and a topic which focuses on a specific Designer, Engineer or Chef.

	Autumn term	Spring term	Summer term
EYFS	Seasonal projects	Food – Cooking and Nutrition	Structures Junk-modelling
Year 1		Food: Preparing fruit and vegetables Textiles Templates and joining techniques	
Year 2	Mechanisms OR Wheels and axels	Food: A Balanced Diet Gascoigne MasterChef	Structures Freestanding structures
Year 3	Mechanical systems Pneumatics	Food and nutrition (savory) Eating seasonally	
Year 4		Textiles 2D Shape to 3D shape product Inc. Fastenings	Structures/Control/Electrical Shell structures using computer-aided design (CAD)
Year 5		Textiles Combining different fabric shapes Using computer-aided design in textiles /CAD	Food and nutrition Celebrating culture and seasonality Soups
Year 6		Structures/Electrical & Mechanical Systems: Frame/Gears or Pulleys Crumble/Micro:bit includes	

		Monitoring and Control Food and nutrition Celebrating culture and seasonality A three-course meal	
--	--	---	--

6. Cross-curricular links

D&T is inherently interdisciplinary and connects with several subjects including:

- > Maths: Understanding measurements, proportions, and geometrical designs.
- > Science: Applying scientific principles to design and create prototypes.
- > Computing: Using software for design purposes and understanding the role of technology in product design.
- > Art and Design: Enhancing creativity and design aesthetics.
- > Physical Education: Understanding materials and designs used in sports equipment.
- > Geography: Considering environmental impacts and sustainable design.

7. Assessment and recording

7.1 Assessment

Gascoigne Primary uses assessment to enable staff to understand what pupils have learnt before, what they need to learn now and what they will learn next.

Formative and summative assessment

The impact of D&T can be constantly monitored through both formative and summative assessment opportunities. Each lesson includes guidance to support teachers in assessing pupils against the learning objectives. Furthermore, each unit has a unit quiz which can be used at the start and/ or end of the unit. Teachers keep records of assessments to track progress and identify areas for development.

Marking

Children receive regular feedback and D&T marking follows the school's marking policy.

7.2 Recording

In order to record evidence in children's lime green books for Design and Technology at Gascoigne Primary, teachers should follow the D&T guidance. For each learning step, they will use designated sections in the books for different stages of the design process: brainstorming, planning, creating, and evaluating. Children are encouraged to sketch their initial ideas, annotate with labels and descriptions, and take photographs of their practical work at various stages. They should also include written reflections on what worked well and what could be improved. This multimodal approach not only documents their journey but also helps develop a range of skills, from creative thinking to critical evaluation, aligning with the National Curriculum's objectives.

8. Resources

8.1 Educational Equipment

Our school is equipped with a variety of resources for D&T, including a dedicated D&T cupboard, tools, materials, and digital technologies. We also ensure regular professional development for staff in the latest

D&T teaching methods and resources. When the resources are in the classroom pupils are expected to take an increasing level of responsibility for that organising and respecting the resources.

The class teacher is primarily responsible for ensuring the safety of the children during the lesson by instructing them in the safe and appropriate use of any equipment. The class teacher is responsible for the general care of the equipment during the lesson by instructing the children in the correct use of the equipment and by replacing them safely after use. Teachers should report damage to equipment to the D&T leader as soon as possible.

8.2 External speakers, local museums, trips

Our Design and Technology curriculum is enriched through various external initiatives:

- **Industry Professionals:** Inviting engineers, architects, and designers for workshops and talks, giving students insights into real-world applications of D&T.
- **Museum and Exhibition Visits:** Taking students to technology museums and design exhibitions to inspire and educate them about historical and contemporary developments.
- **Community Projects:** Engaging students in design projects that address local community needs, fostering practical skills and community involvement.
- **Technology Workshops:** Partnering with tech companies for sessions on robotics, coding, or digital design to enhance digital literacy.
- **Design Challenges:** Encouraging participation in design and technology competitions to promote innovation and teamwork.
- **Student Showcases:** Displaying student projects within the school and community to celebrate their achievements and creativity.

These initiatives aim to provide a hands-on, real-world context to our Design and Technology curriculum, enhancing learning experiences and preparing students for future endeavours in these fields.

9. Roles and responsibilities

9.1 Headteacher

The headteacher at our school will:

- › Support the subject leader but also hold them to account for the effectiveness of the subject
- › Support staff through the provision of training and resources
- › Monitor the planning and delivery of the subject
- › Ensure the requirements of the National Curriculum are met
- › Ensure this policy is reviewed according to the timescales set out

9.2 Subject leader

The subject leaders at our school will:

- › Prepare and review subject policy and curriculum plans
- › Promote the study of the subject throughout the school
- › Monitor the teaching and assessment of the subject
- › Attend appropriate CPD
- › Stay informed regarding developments in the study and teaching of the subject
- › Evaluate resources
- › Provide training and CPD to staff on the subject curriculum and its delivery, and keep them informed about subject developments nationally

- Assess the impact of the subject curriculum on pupils' learning and development
- Make presentations to governors on the subject and how it is being taught

9.3 Link Governor

The link governor responsible for Art and Design at our school will:

- Monitor the impact of the subject across the school and on pupils
- Monitor teacher workload and professional development
- Ensure subject action plans are suitable
- Monitor the quality of resources
- Keep track of pupil and parent engagement with the subject
- Keep up to date with the curriculum (what's taught, why it's taught, and how it's taught)

9.4 Classroom teacher

Classroom teachers at our school will:

- Teach and assess the subject according to the principles laid out in this policy
- Report to the subject leader
- Maintain subject knowledge and appropriate CPD
- Ensure the health and safety of children at all times

Additional support and advice on safety can be found on the CLEAPPS website. The link to the website is: <http://primary.cleapss.org.uk/Resources/Doing-Things-Safely/>

9.5 Parents

The parent community at our school will:

- Make sure their children are prepared for learning
- Monitor the completion of homework

10. Inclusion

Our D&T curriculum is inclusive, ensuring all pupils, irrespective of their background or ability, have access to a high-quality D&T education. Adaptations and differentiated learning strategies are employed to meet the diverse needs of our students.

This can be achieved by offering a range of materials and tools that cater to various skill levels and physical abilities, incorporating assistive technology where needed. Lessons should be planned with flexible, differentiated instruction, allowing for both group collaboration and individualised support. Furthermore, celebrating cultural diversity in design projects can help engage and represent all students.

Further information can be found in our Inclusion and SEND policy and information report.

11. Links to other policies

This subject policy links to the following policies and procedures:

- Art and Design Policy
- Science Policy
- Health and Safety Policy
- Computing Policy
- Inclusion and SEND Policy

12. Monitoring and review

This policy will be reviewed every two years, involving staff, governors, and other stakeholders in the evaluation and development process.