# Design and Technology Policy

## DUKE OF NORFOLK CE PRIMARY SCHOOL

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# 1. Design and Technology Curriculum Intent

## 1.1 Aims of this Policy

This policy aims to:

This document reflects the Duke of Norfolk Primary School's values and philosophy in relation to the teaching and learning of Design and Technology. It sets out a framework within which both teaching and non-teaching staff can operate and gives guidance on planning, teaching and assessment.

The policy should be read in conjunction with the Curriculum Map and the Vocabulary Map for Design and Technology.

Our Design and Technology policy covers all of the statutory expectations as set out in the National Curriculum for England 2016 (DfE). It also reflects requirements for inclusion and equality as set out in the Special Educational Needs and Disability Code of Practice 2014 and Equality Act 2010, and refers to curriculum-related expectations of governing boards set out in the Department for Education's Governance Handbook. In addition, this policy acknowledges the requirements for promoting the learning and development of children set out in the Early Years Foundation Stage (EYFS) statutory framework.

## 1.2. A.S.K and Our Design and Technology Curriculum

### SMSC Statement

At the Duke of Norfolk CE Primary School, we recognise that the personal development of pupils spiritually, morally, socially, and culturally, plays a significant part in their ability to learn and achieve. We therefore aim to provide an education that not only provides pupils with the required knowledge and skills in Design and Technology, we provide opportunities to explore and develop their own values and beliefs, spiritual awareness, high standards of personal behaviour, a positive, caring attitude towards other people, an understanding of their social and cultural traditions and an appreciation of the diversity and richness of other cultures. We use the acronym **A.S.K** (**Attitude, Knowledge and Spirit**).

### Design and Technology provides opportunities to promote the following:

**Spiritual development:** Through helping pupils to reflect on their own and others ideas, and wonder about the purpose of human technological achievement. D&T education encourages pupils to appreciate and reflect upon the aesthetic nature of materials and design.

**Moral development:** Through helping pupils to reflect how Design and Technology affects the environment and our social surroundings (e.g. pollution, factory conditions and Fairtrade.)

**Social development:** Through helping pupils to recognise the need to consider the views of others when discussing creative ideas, taking into account the design criteria as well as others ideas to fulfil the criteria. Pupils are encouraged to consider the safety of those around them, as they move about the classroom and use equipment.

**Cultural development:** Through exploring Design and Technology's contribution to different cultures and how this has developed these cultures. While also valuing and reflecting on the responses of people from other cultures towards Design and Technology.

## 1.3. Intent of Our Design and Technology Curriculum

At Duke of Norfolk Primary School, we believe that high-quality Design and Technology lessons will engage and inspire children to think innovatively and develop creative understanding, which will provide them knowledge for the wider world. The enthusiasm and confidence that pupils gain from Design and Technology will transfer to other subjects in the curriculum. The students get the creative, technical, and practical knowledge allowing pupils to engage successfully in a world that is becoming more technologically advanced through well-designed and carried out learning activities. They gain a firm foundation of knowledge and skills to see them equipped to take on further learning in High School.

**Our aims are also underpinned by the National Curriculum aims, which state:**

The national curriculum for design and 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.

## 1.4. Design and Technology Curriculum Organisation

**How the Design and Technology curriculum is organised:**

- The curriculum for Design and Technology is specifically designed for children to build on prior knowledge and skills, and although working on a two-year cycle the curriculum is split into phases to ensure that the progression remains chronological.
- Curriculum mapping for Design and Technology is split into six themes. These themes are:
  - Mechanisms and Mechanical Systems
  - Structures
  - Textiles
  - Electrical Systems
  - Food Prep and Cooking
  - Food and Nutrition
- As part of the Design and Technology curriculum, Design, Make, and Evaluate objectives are inter-woven into units across the KS1 and KS2 curriculum.
- Six units are taught over the course of each phase, teaching Design and Technology three half terms per academic year. This allows sufficient time to cover the statutory content of Design and Technology along with enrichment opportunities.
- Whilst the Nursery and Reception cover the Statutory EYFS Framework, mapping for Design and Technology makes clear the foundations that are to be laid in this vital stage. Where possible, these link to the Seven Areas of Learning and Development.

# 2. Design and Technology Implementation

## 2.1. Planning

Planning for each unit of work is done on the school's agreed format for Medium Term Planning. This planning format makes explicit the links between prior and subsequent learning, sets out the pedagogical approach, makes clear how learning will be differentiated, and the vocabulary to be secured.

EYFS use a different planning format due to the inter-related nature of their curriculum, but this planning makes clear the Design and Technology objectives for easy monitoring.

Planning is shared across the phase to that children access the same learning, and teachers share the planning workload.

Planning is stored on the shared server for easy access and monitoring.

## 2.2. Resources

- Resources are available in the art cupboard behind the classroom.
- The subject leader will audit resources, to ensure we have the correct resources and amounts to match our topics.
- A range of materials and tools will be provided for Key Stage 1 and 2 children within classrooms including: paper, card, reclaimed materials, textiles, square section wood, hole punches, scissors.
- Food resources, tools and equipment are kept in the food store area of wither the staff room or kitchen.
- Resources will be audited at the end of each academic year, checking the art cupboard and any items that reside in each department. Staff can come to the subject lead to request further resources which will be budgeted and checked over by a member of the SLT.

## 2.3. Teaching and Learning

Design and Technology is taught through a topic approach alongside Art, History and Geography. Our creative curriculum is carefully planned to engage and motivate all our learners. The activities in design and technology build upon the prior learning of the children. Children in their designing and making will apply knowledge and skills of: textiles, food, mechanisms and structures. Throughout the D&T process, pupils will have the opportunity to develop their skills, with our carefully built curriculum which allows pupils to build on their prior knowledge through clear component goals which ensures continuity and progression. The curriculum ensures increasing challenge for the children as they move up through the school.

Effective questioning techniques will be used to further develop pupil's subject knowledge asking questions relating to moral and cultural development as they progress throughout the curriculum.

## 2.4. Inclusion

Teachers set high expectations in Design and Technology for all pupils. They will use appropriate assessment to set ambitious targets for all, based on our curriculum maps, and plan challenging work for all groups, including:

- More able pupils
- Pupils with low prior attainment
- Pupils from disadvantaged backgrounds
- Pupils with SEND
- Pupils with English as an additional language (EAL)

Teachers will plan lessons so that pupils with SEN and/or disabilities can study Design and Technology, wherever possible, and ensure that there are no barriers to every pupil achieving.

For example, the Design and Technology curriculum is mapped so that learning steps can be broken down to match a child's cognitive stage, however, as each strand has a different design, make and evaluate component goals (e.g. the Structures strand covers topics where you are making free-standing structures), we will use our expertise and knowledge of the child to plan accordingly.

There are different ways we may do this, depending on the needs of the child.

- It might be more suitable to track back through the strand to find an appropriate aim for children to work on. Using an example from Year 3/4 ***'What techniques can help us make free-standing structures?'*** teachers may select aims from a previous phase, which although are under a different 'topic', can be adapted to fit in with the current class topic. For example, **'explore how simple structures can be made stronger, stiffer or more stable'** from Year 1/2 could easily be applied to the creation of a photo frame.
- It might be most appropriate to break the composite learning aim into smaller steps. An example is the Year 5/6 aim to ***'apply a wide range of techniques a decorative yet functional phone/tablet case'*** which could be broken down to include just one aspect of the technical knowledge such as **'running stitch'**.

Where there are physical barriers, appropriate adaptions will be made to ensure children can access the learning at the appropriate level. Teachers will seek advice and support from the SENDCo when necessary.

Teachers will also take account of the needs of pupils whose first language is not English. Design and Technology lessons will be planned so that teaching opportunities help pupils to develop their English, and to support pupils to take part and achieve.

Further information can be found in our statement of equality information and objectives, and in our SEN policy and information report.

## 2.5. Assessment and Recording

> Teachers should use regular formative assessments to assess children's progress in Design and Technology throughout each topic. Formative assessments should be used to inform teaching and ensure pupils have understood the concepts taught or whether they should revisited; as well as to support pupils to self- evaluate and self- improve.

> Summative assessments are used across year groups at the end of each topic, this will be presented in many different ways, such as a justification to why their model is useful and how it has met the design criteria, a presentation or discussion on the skills they have learnt.

> Children's progression in Design and Technology is monitored throughout the year and reported on to parents in end of year reports.

> Annual scrutinies will be carried out by the DT coordinator to ensure children are making progress.

> Children will record their work in their Art and Design books, pupils will begin using these books September 2022, which will present a clear indication of progression as pupils will use these books from Year 1 to Year 6.

> The Subject Co-ordinator will keep a photographic portfolio of designs, drawings, pictures and finished products. These can be used for assessment purposes and for monitoring progression through year groups.

## 2.6. Roles and Responsibilities

### 2.6.1 The governing body

The governing body will monitor the effectiveness of this policy and hold the headteacher to account for its implementation.

The governing board will also ensure that:

- A robust framework is in place for setting curriculum priorities and aspirational targets for Design and Technology
- Maintained schools only: Enough teaching time is provided for pupils to cover the National Curriculum and other statutory requirements
- The school is complying with its funding agreement and enough teaching time is provided for pupils to cover the requirements of the funding agreement
- Proper provision is made for pupils with different abilities and needs, including children with special educational needs (SEN) in Design and Technology
- The school implements the relevant statutory assessment arrangements
- It fulfils its role in processes to disapply pupils from all or part of the National Curriculum, where appropriate, and in any subsequent appeals

### 2.6.2 Headteacher

The headteacher is responsible for ensuring that this policy is adhered to, and that:

- All required elements of Design and Technology, including those aspects which school chooses to offer, have aims and objectives which reflect the aims of the school and indicates how the needs of individual pupils will be met
- The amount of time provided for teaching Design and Technology is adequate and is reviewed by the governing board
- Where appropriate, the individual needs of some pupils are met by permanent or temporary disapplication from all or part of Design and Technology
- They manage requests to withdraw children from Design and Technology, where appropriate
- The school's procedures for assessment of Design and Technology meet all legal requirements
- Proper provision is in place for pupils with different abilities and needs, including children with SEN

### 2.6.3 Subject Lead for Design and Technology

The Design and Technology leader will:

- Be the advocate for Design and Technology in school
- Provide advice or guidance to staff, when necessary
- Keep abreast of local and national developments in Design and Technology and disseminate relevant information to staff
- Provide or source appropriate CPD to all staff, or targeted groups/individuals, as required
- Set a timetable of monitoring and evaluation (see Monitoring) to monitor effectiveness of Design and Technology and use to inform action planning and subject development
- Report findings of monitoring to SLT and Governors regularly

- Feedback monitoring to staff in a timely and professional manner
- Monitor to appropriate storage and responsible use of stock
- Co-ordinate any display of Design and Technology work.
- Ensure the subject leader file is kept current
- Collect a portfolio of children's work, including photographs of, and examples of pupils' work

#### 2.6.4 Teaching and Learning Staff

Teaching and learning staff will:

- Ensure that the Design and Technology curriculum is implemented in accordance with this policy
- Engage actively with professional development and feedback in [subject] in order to improve teaching and learning

# 3. Impact

## 3.1 Expectations

### End of KS1 Expectations for Design and Technology

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.

### End of KS2 Expectations for Design and Technology

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.

## 3.2 Monitoring and Evaluation

The subject leader will create an annual timetable of monitoring and share it with SLT at the start of the academic year. This will include the planned methods of monitoring, the suggested dates, and the focus of monitoring, which may be informed by the School Improvement Plan, or the Design and Technology action plan.

## 3.3 Methods of Monitoring

Methods of monitoring Design and Technology may include:

- Lesson observations (to be agreed as part of the formal Performance Management process) or informal learning walks
- Interviews or questionnaires with children
- Interviews or questionnaires with staff/parents
- Looking at books or recorded work

## 3.4 Purpose of Monitoring

The purpose of monitoring is so that subject leaders, SLT and Governors can answer the following questions:

- What are the standards in Design and Technology across the school?
- Does the Design and Technology curriculum meet our statutory requirements?
- Does the Design and Technology curriculum keep up-to-date with local and national changes?
- Is the Design and Technology curriculum effectively organised and applied for our context?
- Is the Design and Technology curriculum being implemented effectively and in line with this policy?
- Where is there evidence of high-quality teaching and learning? What is enabling this?

- Where is there evidence of inconsistent quality in teaching and learning? What is the barrier?
- Do we have sufficient resources to implement Design and Technology effectively?
- What is the current picture in Design and Technology? What enhances provision? What are the barriers?
- What are the development priorities for Design and Technology?
- Is assessment in Design and Technology effective? How do we know?
- What are the priorities for staff development?
- Are resources being effectively and responsibly managed?

## 3.5 Recording and Reporting Monitoring

Subject leaders may report findings in their monitoring in the following ways:

- Feedback meetings with SLT
- Written report on agreed monitoring proforma
- Written feedback to teaching staff
- Collated data from surveys/questionnaires
- Newsletters to children/parents
- Updated action plans with impact evidence

Governors monitor coverage of National Curriculum subjects and compliance with other statutory requirements through:

- Meetings with subject link governor (1-2 times per year)
- Written report/Presentation to governors – annually

## 3.6 Policy Review

This policy was written by Kellie Wilson (DHT) and Anna Bynon (subject leader) in February 2022.

It will be reviewed by the subject leader and approved by governors every three years, or sooner if required.