The Federation of Spixworth Schools

Design Technology Policy

Agreed by SLT: Summer 2024

To be reviewed: Summer 2027

Intent

Overall curriculum rationale

This document is a statement of the aims, principles and strategies used for the development of the curriculum undertaken within The Federation of Spixworth Schools. This policy promotes best practice and establishes consistency in teaching and learning across the federation. It also takes into account the diversity of our learners, providing equality of opportunity for all, alongside varied learning experiences that lead to a consistently high level of pupil attitude and achievement in Design Technology.

At The Federation of Spixworth Schools we will offer a challenging, engaging Design Technology curriculum that reflects this inspiring, rigorous and practical subject. Using creativity and imagination children will design and make products, including through cookery, that solve real and relevant problems, within a variety of contexts, considering their own and others' needs, wants and values.

Legal framework

This policy has due regard to all relevant legislation and statutory guidance including, but not limited to, the following:

- DfE (2021) The Statutory Framework for the Early Years Foundation Stage (EYFS)
- DfE (2013) National Curriculum in England: Art and Design programmes of study: key stages 1 and 2

This policy operates in conjunction with the following school policies:

- Equal Opportunities Policy
- Marking and Feedback Policy
- SEND Policy
- Curriculum Policy
- Curriculum risk Assessment

Aims

The Federation of Spixworth Schools understands that D&T allows pupils to solve problems, think creatively and develop ideas. D&T offers pupils a chance to use creative thinking and activity within a defined purpose and tangible outcome. The federation is committed to nurturing pupils' curiosity and creativity, as well as preparing them for living in a modern world where technology is rapidly changing and advancing.

In teaching D&T, we aim to help 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.

Implementation

EYFS Educational Programme
Taken from the Statutory Framework for the early years foundation stage January 2024 – Expressive Art and Design:

The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.

EYFS Early Learning Goals:
The design and technology curriculum in the EYFS focuses on the specific area of expressive arts and design.
ELG: Creating with Materials
Children at the expected level of development will:
- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function
- Share their creations, explaining the process they have used
- Make use of props and materials when role playing characters in narratives and stories.
- Pupils will be taught to:
- Safely use and explore a variety of materials, tools and techniques.
- Represent their own feelings through art, as well as music, dance, role play, storytelling and D&T.
- Use construction kits and other craft materials to explore design and technology independently through play, being supported by adults in role of play partner.

Key Stage One
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.

Cooking and nutrition

- Learn about where common local produce is grown in the UK. That food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world
- Know that seasons may affect the food available how food is processed into ingredients that can be eaten or used in cooking

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

Lower Key Stage Two (Years 3 and 4)

Design

- Use and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.
- Generate, develop and communicate their ideas through discussion, annotated sketches.

Make

- Select from and use a 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 a range of existing products.
- Evaluate their ideas and products against their own design criteria and consider ways to improve their work.
- Technical knowledge
- Apply their understanding of how to strengthen, stiffen and reinforce structures.
- Understand and use mechanical systems in their products such as levers, and linkages.
- Begin to explore, make and represent simple electrical circuits to create a functional product.
- Understand and demonstrate how electrical systems have an input and output process.
- Use simple programming software on a computer to control their products by inputting simple algorithms.

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.
- 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.

Upper Key Stage Two (Years 5 and 6)

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

- with growing confidence, select from a wide range of tools and equipment, explaining their choices
- Know and understand the functional properties and aesthetic qualities of a range of materials and components best suited for the project.
- Independently plan by suggesting what to do next
- create step-by-step plans as a guide to making

Evaluate

- Investigate and analyse a range of existing products such as completing a simple survey of a product analysis and use this to inform their design outcomes.
- 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
- Use and apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products
- Understand how mechanical systems such as cams or pulleys or gears create movement
- Show how more complex electrical circuits and components can be used to create functional products
- Apply their understanding of computing to program, monitor and control their products.

Cooking and nutrition

- Understand the origin of ingredients can come from all around the world and that ingredients that require more heat/ light and specific growing conditions are dependent on the distance near the equator.
- Apply the concept of an Eatwell plate to the meals throughout the day. Be able to talk about some of the consequences of a poor diet.
- Know that different food and drink contain different substances – nutrients, water and fibre – that need for health
- To have experienced a range of cooking techniques and start to be able to explain why some are healthier than others.
- To begin to know that recipes can be adapted to change the appearance, taste, texture and aroma

<u>Curriculum delivery</u>

Throughout the federation, Design and Technology is taught as a discreet lesson and as part of cross-curricular themes when appropriate.

<u>Teaching and learning approaches</u>

The federation uses a variety of teaching and learning styles in D&T lessons, 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 federation aims to do this through a mixture of whole-class teaching, group work, and individual activities. Pupils are given the opportunity to work on their own and collaborate with others, listening to their classmates' ideas and treating these with respect.

Principles for effective teaching include:

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

Strategies for effective teaching include:

- Ensuring the teaching methods used suit the purpose and needs of pupils.
- Providing a meaningful context and clear purpose when assigning tasks.

Investigating, disassembly and evaluative activities.

- Using focussed practical tasks to help pupils make and evaluate products.
- Ensuring tasks are built on skills and understanding.

Planning expectations

All relevant staff members are briefed on the school's planning procedures as part of staff training.

- Teachers will use the key learning content in the DfE's statutory guidance 'National curriculum in England: Design Technology programmes of study'.
- Lesson plans will demonstrate a balance of interactive elements used in teaching, ensuring that all pupils engage with their learning.
- Long-term planning will be used to outline the units to be taught within each year group.
- Medium-term planning will be used to outline the vocabulary and skills that will be taught in each unit of work, as well as highlighting the opportunities for assessment.
- Medium-term plans will identify learning objectives, main learning activities and scaffolding.
- Medium-term plans will be shared with the Design and Technology Subject Leader to ensure there is progression between years.
- All lessons will have clear learning objectives, which are shared and reviewed with pupils.
- Cooking and nutrition is part of the Design and Technology curriculum once per year, with additional lessons being taught as part of cross curriculum themes.

Equipment and resources

The federation 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. Teachers will be required to maintain the tools and equipment in their room.

Pupils may occasionally be asked to bring materials from home if they can; however, to allow all pupils the same opportunities, pupils that are unable to do this will be provided for.
Food technology resources will be kept in the school cookery room/area fridge labelled.
At the start of every school year, the D&T subject leader and SLT will assess the school's D&T tools and materials to ensure there is sufficient equipment for pupils, allowing funds to be allocated where necessary.

Health and safety

Specific considerations for this subject can be found in the Curriculum Risk Assessment, which is reviewed annually. A log is kept of all staff who have read and understood this assessment each year.

Cross curriculum links

English

- D&T offers the opportunity to reinforce what pupils have been learning during English lessons. Discussion, drama and role-play are important methods that the federation employs to help pupils develop an understanding of people's different views and opinions of D&T and society.

- Evaluating products requires pupils to articulate and formulate their ideas to compare their views with other pupils'; through discussion, pupils will learn to justify their own views and clarify their design ideas.

Maths

- D&T will assist pupils in learning about shape and size and will make use of what they have already learned in maths lessons. Pupils will carry out investigations – by doing this, they will learn to read and interpret scales, measure, collect and present data, as well as draw their own conclusions.

PSHE

- D&T lessons will be used to teach pupils how to discuss their own work and the work of others; in addition, pupils will be taught about health and hygiene, including diets, and how to prevent disease from spreading when working with food.

Spiritual, moral, social and cultural (SMSC) development

- Teaching D&T offers opportunities to support the social development of pupils through the way they are expected to work with each other in lessons. D&T helps pupils to develop a respect for other pupils' abilities. Working in groups encourages collaboration and gives pupils the opportunity to learn from each other and share ideas and feelings.

Computing

- ICT enhances the teaching of D&T and provides pupils with additional equipment, extending the possibilities for developing, sharing and recording their work.
- Utilising ICT also benefits pupils by helping them collect information and present their designs and ideas through a range of design and presentation software.

Inclusion and equality of opportunity

- We are an inclusive federation that ensures all pupils are provided with equal learning opportunities, regardless of their characteristics or backgrounds.
- Teachers will adapt how they deliver the D&T curriculum based on the needs of pupils.
- In order to ensure pupils with SEND achieve to the best of their ability, teachers will adapt targets and the delivery of the curriculum for these pupils.
- The planning and organising of teaching strategies for each subject will be consistently reviewed to ensure that no pupil is at a disadvantage.
- The federation aims to maximise the use and benefits of D&T as one of many resources to enable all pupils to achieve their full potential.

Impact

Assessment and reporting

Pupils' D&T work may be assessed throughout the design process and by teachers judging recorded work. 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.

The majority of assessments will be conducted through observations and discussion.

Assessments will be recorded in the end of year reports to parents. A selection of work may be retained as evidence or photographed for this purpose.

Evidence of learning may be recorded on Tapestry in EYFS/KS1.

Staff training

All staff have access to training. This may include but is not limited to the Design and Technology leader:

- Remaining up-to-date with the latest developments in Design Technology through subscriptions to relevant journals, attendance at relevant courses, etc.
- Passing on any newly acquired knowledge/skills to staff members, where appropriate.

Monitoring and evaluation

The staff and Governors are committed to maintaining standards, establishing high expectations, and promoting effective teaching and learning. Procedures for monitoring and evaluation involve all members of the federation community as part of the monitoring cycle.

A commitment to Assessment for Learning (AfL) endorses the federation's participation in the National Curriculum and demonstrates an ethos in which the personalities, strengths and needs of children are considered and addressed individually. The monitoring and evaluating of practice enables the progress of individuals to be seen within the class and whole-federation contexts of school and staff development.

The main purpose of monitoring, evaluation and review is to ensure that all members of the federation community perform their roles effectively in order to maintain high standards of learning and teaching and raise achievements for all.

The range of approaches in monitoring and evaluating may include:

- Moderation Exercises/ Internal Standardisation – a comparison of children's work across classes and year groups
- Book Looks
- Questionnaires/ Surveys/ Audits
- Learning Walks
- Whole-federation self-evaluation
- Review meetings with staff and pupils
- The inspection process.

Roles and responsibilities

The Role of the Governing Body and Executive Head teacher is to:

- Approve and monitor the content of this policy.
- Liaise with the Executive Head, Heads of Schools, subject leaders and teachers with regards to pupil progress and attainment.
- Nominate a Governor to have specific responsibility for Curriculum including oversight, support and challenge
- Ensure the curriculum is inclusive and accessible to all.

The Role of the Head of School and Curriculum Leader is to:

- Devise long and medium term plans for the curriculum in collaboration with teachers, subject leaders and other members of the SLT.
- Communicate the agreed curriculum to the governing board on an annual basis.
- Ensure the curriculum is inclusive and accessible to all on a day-to-day basis.
- Assist teachers and subject leaders with the planning and implementation of the curriculum, ensuring their workload is manageable.
- Ensure the curriculum is implemented consistently throughout the federation, ensuring any difficulties are addressed and mitigated as soon as possible.

The Role of the Subject Leader is to:

- Provide a strategic lead and direction, ensuring appropriate coverage of the curriculum.
- Keep up to date with developments in subject, at both national and local levels.
- Lead sustainable improvement through supporting colleagues and others.
- Monitor pupil progress.
- Provide efficient resource management.
- Review the way subjects are taught in the federation and plan for improvement linking to whole school priorities.
- Ensure the School Improvement Plan priorities are monitored and consistently met.
- Monitor how their subjects are taught ensuring that appropriate teaching strategies are used.
- Reviewing curriculum plans for their key areas ensuring there is full coverage of the National Curriculum and that progression is planned for.
- Accurately judge standards within their subjects so they indicate the achievements of children at each key stage and indicate expectations of attainment.

The Role of the Class Teacher is to:

- Demonstrate a high level of knowledge of each subject they teach.
- Plan lessons with clear learning objectives that pupils understand.
- Demonstrate an enthusiasm for all themes and subjects.
- Know children as individuals, tailoring reaching to their needs.
- Identify barriers to learning and put strategies in place to overcome them.
- Build and maintain relationships with parents.
- Be able to accurately advise parents on how to further support their children at home.
- Reporting to parents on their child's progress across all areas of learning and development.
- To be an advocate of all learning to all learners.
- Be willing to be a learner as well as a teacher.
- Take on the responsibility for leading on a subject area.
- Act as a support partner for all other curriculum areas.
- Challenge and inspire pupils, expecting the most of them.
- Use a variety of methods to enable all pupils to learn effectively and will manage pupils well, insisting on high standards of behaviour at all times.
- Use time, support staff and other resources effectively.
- Use dialogue with pupils about their progress and their next steps.
- Reflect on their personal strengths and weaknesses and to be proactive to plan their own professional development needs

The Role of the SENCO is to:

- Collaborate with the Executive Head, Head of School, Curriculum Leader and teachers to ensure the curriculum is accessible to all.
- Ensure teaching materials do not discriminate against anyone in line with the Equality Act 2010.
- Carry out SEND assessments where necessary and ensuring pupils receive the additional help they need.
- Liaise with external agencies where necessary to ensure pupils who require additional support receive it.

<u>Review</u>

- This policy is reviewed every 3 years by the SLT.
- Any changes made to this policy will be communicated to all members of staff and relevant stakeholders.