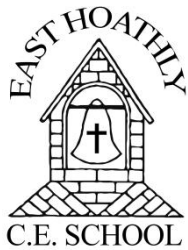


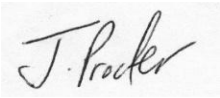


# PIONEER

FEDERATION



## Policy DT

Review cycle	1 / 2 / 3 years	
Approved by	Full Governing Body/ <b>Executive Headteacher</b>	
Changes made in this review cycle	December 2024	
Linked policies	Teaching and Learning	
Signed		Date: January 2025
Position	Executive Headteacher	
Date of next Review	January 2026	

## **PIONEER FEDERATION**

### **Design and Technology Policy**

#### **INTENT**

Design and Technology (D&T) is an integral part of the Pioneer Federation curriculum. Our ambitious D&T curriculum is framed around four key strands: clay modelling, construction, sewing, and cooking/nutrition.

These strands provide a platform for children to explore the key elements of D&T;

#### **design, make, evaluate and technical knowledge.**

These strands not only foster creativity, innovation and teamwork but also encompass a broad spectrum of practical skills and knowledge that are essential for pupils' subject learning. D&T at Pioneer Federation is a subject that sparks curiosity, develops problem solving, and instils a growth mindset in our students, equipping them with the skills they need for success in an ever-changing world.

Throughout the key stages, our D&T curriculum is designed to be engaging, challenging and relevant to the world in which our pupils' live. We aim to provide pupils with opportunities to develop their skills, knowledge and understanding of materials, products and design whilst considering their own needs as well as the needs and values of others. They will understand the purpose and use of a sketchbook and use it as a meaningful tool in their journey as a designer. Opportunities to evaluate and reflect upon past and present design approaches are embedded within units of learning. Through careful questioning we enable meaningful exploration and experimentation allowing the discovery of solutions to relevant problems. This ensures that our pupils not only acquire practical skills but also become critical thinkers, creative problem-solvers and informed risk takers.

#### **IMPLEMENTATION**

The D&T curriculum map shows how each of the four strands (clay modelling, construction, sewing, and cooking and nutrition) are sequenced and revisited across the two cycles from EYFS to KS2. Teachers use the curriculum maps and the progression document as a framework to plan and progress children's understanding of design, making, evaluating and technical knowledge. They enable children to revisit and reconnect with already taught knowledge and skills. New knowledge, understanding and skills are built upon within each lesson and unit, allowing pupils to engage in the iterative process of designing, making and evaluating.

Sketchbooks are an integral tool in developing and deepening children's understanding of design, critical thinking and exploration.

#### **IMPACT**

Through our D&T curriculum provision children will be able to:

- Develop and apply their knowledge and understanding of designing, making and evaluating to solve practical problems across the four strands.
- Develop a range of technical skills whilst working with materials and tools
- Develop their knowledge of which tools, equipment and materials to use to make their products.
- Carry out research and ask questions about existing products
- Design, make, and evaluate a variety of products, considering the needs and wants of themselves and others, with a strong emphasis on iterative design and testing.
- Develop resilience through critical thinking and problem solving, including constructively evaluating their own work and the work of others
- Use subject specific vocabulary to demonstrate understanding
- Show progress and application of skills in their sketchbooks, models, prototypes and final pieces
- Work individually and collaboratively in a positive, safe and responsible manner, adhering to health and safety guidelines and best practices
- Develop a greater appreciation of the role of design and technology in everyday life and its impact on society and the environment, including sustainability and eco-friendly design principles

## **Aims and objectives**

D&T can be broken down into design, make, evaluate and technical knowledge.

Our objectives for children in the teaching of D&T are:

### **Design:**

- to develop knowledge and understanding of design through research.
- to engage in peer discussions about existing products and designers and use this knowledge to inform their own decisions
- to be informed about a range of existing products and designers in order to develop a design criteria that meets the needs of individuals or groups.
- to design innovative, functional and appealing products that meet the design criteria
- to generate, develop and communicate their ideas through discussion, annotated sketches, diagrams models and prototypes.

### **Make:**

- to create products that are fit for purpose
- to select from a wide range of tools and equipment to perform practical tasks (i.e. cutting, shaping, joining and finishing).
  - To apply their knowledge and understanding of materials, ingredients and components and select them based on their practical and aesthetic properties and, where appropriate, taste
  - To develop a range of technical skills whilst working with different materials and tools across the four strands.
  - to make a product that shows a progression of technical skills and knowledge of a range of products and designers.
  - to ask and answer questions to support the ongoing evaluation of a design process
  - to evaluate and solve practical problems through the use of sketchbooks, modelling and testing ideas.

### **Evaluate:**

- To explore and evaluate a range of existing products in order to inform their own designs
- to think critically and evaluate their ideas and products against their own design criteria
- to consider the views of others in order to make informed decisions and to improve their work.
- to develop the confidence and independence to evaluate and reflect upon their own and other's designs in a positive and constructive way
- to develop resilience through critical thinking, problem solving and evaluating
- to work individually and collaboratively in a safe and responsible manner, adhering to health and safety guidelines and best practices in their chosen activity area.
  - to develop a greater appreciation of the role of design and technology in the wider curriculum and the world in which we live, including its impact on the environment.

### **Technical Knowledge:**

- to apply their understanding of how to build structures and to strengthen, stiffen and reinforce more complex structures.
- to understand and use mechanical systems [for example, levers, sliders, wheels and axles], in their products
- to understand and use electrical systems in their products.
- to apply their understanding of computing to program, monitor and control their products
- to understand and apply the principles of nutrition and learn how to cook.

## **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.

Pupils should be taught to:

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from
- 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

## **Roles and Responsibilities**

It will be the responsibility of the D&T leader to ensure that:

- Support is given to colleagues in their teaching, by keeping them informed about developments within the curriculum
- Sketchbooks will be monitored on a regular basis to ensure a progression of skills throughout the school
- Planning is monitored by heads of schools and evaluated by the D&T leader to ensure consistency of approach to the teaching of D&T.

## **Teaching and Learning Approaches**

We employ a range of teaching and learning approaches to engage students in D&T across the strands. These include practical hands-on activities, group work, research and investigation, and the use of technology such as computer-aided design software where applicable. Our teachers encourage students to be curious, take risks, and learn from mistakes, fostering a growth mindset in the process. Practical skills are honed through guided instruction and independent exploration, allowing students to develop a deep understanding of the subject matter.

## **Sketchbooks**

All sketchbooks should include a core skills sheet at the front on the inside cover (also known as a D&T Toolkit) for EYFS, KS1 and KS2. These core skills should be referred to, when appropriate by teachers and pupils to understand what it means to be a 'Pioneer Designer'.

D&T leads to provide a topic cover for KS1, LKS2 and UKS2 per unit. These sheets outline the key skills and knowledge taught within the unit. There is a list of key vocabulary and definitions and depending the ability of the class, teachers can choose to provide the definitions or ask children to write/scribe their own. This vocabulary will be developed and evidenced within the sketchbook by the pupils to show understanding and progression. Prior to starting the unit, pupils will be asked to reflect on the knowledge they already know about the unit of work. Teachers can use this to ensure they provide progression in learning for their current cohort. All children will have a D&T sketchbook from Year 1 to Year 6.

Sketchbooks will be used:

- to form a progression and assessment of a child's design skills.
- to record and explore thoughts and processes
- to show records of designers studied
- to show evidence of skills and key language used
- to allow different ideas to form and be developed in a creative way
- to annotate, think critically and reflect upon their own work as well as a range of designers' work.

### **Accessibility in Design and Technology**

All children are able to access D&T at Pioneer Federation, regardless of their level of ability. Alternative and/or adapted provision is always available should a child with additional needs require a different way of achieving the lessons' learning objective. We achieve this through the use of different media, tools or ways of scaffolding support.

### **SEND**

At Pioneer Federation we are committed to providing a teaching environment conducive to learning for each child, who is valued, respected and challenged regardless of their ability, race, gender, religion, social background, culture or disability. All pupils, including those who are most able, shall have the opportunity to develop their knowledge, skills and understanding. This will be achieved through Quality First Teaching; teachers' planning will reflect a programme of learning whereby all pupils will be presented with appropriately challenging tasks.

Our inclusive curriculum will be provided through:

- differentiated to enable all learners to succeed
- responding to diverse needs of individuals
- providing Deeper Thinking question for reflection by all

### **Equal Opportunities and Differentiation**

All children throughout the school experience the whole range of activities, irrespective of gender, disability or culture. The opportunities available within art can be used to challenge stereotypes. Children are encouraged to develop their own ideas in D&T, and be given the opportunity to extend their own individual work in order to attain their full potential.

### **D&T Curriculum Planning**

D&T is a statutory foundation subject in the 2014 National Curriculum. We use the national programmes of study as the basis for our curriculum planning in D&T.

We carry out the curriculum planning in D&T in three phases: long-term, medium term and short-term, these plans are based upon a progression of skills grids (See progression document) for Key Stage 1, Lower Key Stage 2 and Upper Key Stage. Our year group curriculum map plans the themes covered in each year in two cycles.

Our medium-term plans give details of each unit of work for each term. These plans define what we will teach, and ensure an appropriate balance and distribution of work across each term. The subject leader is responsible for keeping and reviewing these plans.

We plan the activities in D&T so that they are either reinforcing or building on the children's prior learning as seen in the progression document. While we give children of all abilities the opportunity to develop their skills, knowledge and understanding, we also plan progression into the scheme of work, so that there is an increasing challenge for the children as they move up through the school.

### **Assessment**

We assess the children's work in D&T while observing them working during lessons. Children's D&T work and photographs of them working are used as evidence to support assessments. Reconnection discussions are used at the start of each lesson to assess prior learning and retention. Teachers record the progress made by children against the learning intentions for their lessons. At the end of terms 2, 4 and 6 teachers make a judgement against the age related expectations for the Key Stages using Target Tracker that will, over time, show an informed judgement about the depth of learning and the learning that has been remembered and built upon..

D&T leads are able to view other schools, progress and attainment across EYFS, KS1 and KS2 within the Federation. The teacher records the level that each child has reached, and then uses this information to plan future work. This method of recording also enables the teacher to make an annual assessment of progress for each child, as part of the child's annual report to parents and carers. We pass this information on to the next teacher at the end of each year.