Policy
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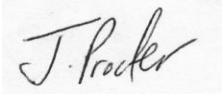
Review cycle	1 / 2 / 3 years	
Approved by	Full Governing Body/Executive Headteacher	
Changes made in this review cycle	September 2022	
Linked policies	Teaching and Learning	
Signed		**Date:** September 2023
Position	Executive Headteacher	
Date of next Review	September 2024	

PIONEER FEDERATION

Design and Technology Policy

1. D&T in Our School

Design and Technology (D&T) is an integral part of the Pioneer Federation curriculum. Our ambitious D&T curriculum is framed around four key activity areas: sculpture, construction, sewing, and cooking. Each of these activities provides a unique platform for pupils to explore the key themes of designing, making, evaluating and developing technical knowledge. These activity areas not only foster creativity and innovation 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, encourages risk-taking, and instills a growth mindset in our students, equipping them with the skills they need for success in an ever-changing world. We also incorporate the important dimension of Food and Nutrition through cooking into our D&T curriculum.

Our D&T curriculum is designed to be engaging, challenging and relevant to the world in which our pupils' live, allowing them to explore, experiment and create in diverse and meaningful ways. We believe in providing pupils with opportunities to develop their skills, knowledge, and understanding in a hands-on and enjoyable manner, while also nurturing their passion for design and making. This approach ensures that our pupils not only acquire practical skills but also become critical thinkers, creative problem-solvers and informed decision-makers.

2. Aims of D&T

In line the Primary National Curriculum, the aims of the Pioneer Federation D&T curriculum are as follows:

- To inspire and nurture creativity, innovation and a passion for design and making, encompassing sculpture, construction, sewing, and cooking.
- To develop practical skills that enable students to design and create products, fostering their ability to work with various materials and tools.
- To encourage students to think critically, solve problems and make informed decisions, allowing them to develop a sense of agency and independence.
- To develop confidence in evaluation and reflecting upon their own and other
- To foster an understanding of the role of design and technology in society, including the cultural, historical, and ethical dimensions and its impact on the environment.
- To provide opportunities for cross-curricular learning and links to real-world applications, enhancing the relevance and engagement of the subject.

3. Outcomes of D&T

At Pioneer Federation, we aim for students to achieve the following outcomes in D&T:

- The ability to apply their knowledge and understanding of design and technology to solve practical problems, whether in the context of sculpture, construction, sewing, or cooking.
- The development of a range of practical skills in working with materials, tools, and techniques across the four activity areas.
- The capability to 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.
- The capacity 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.
- 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.

4. Coverage

Our D&T curriculum encompasses the four activity areas: sculpture, construction, sewing, and cooking. Each of these areas is structured to embed the key themes of the National Curriculum, including design, make, evaluate, and technical knowledge. Within these activities, students will explore the creative design process, apply their practical skills, evaluate the quality of their creations, and gain technical knowledge relevant to their chosen area.

The coverage includes a wide range of content, such as:

- Sculpture: Exploring the world of artistic expression through sculpting various materials, allowing students to design, create, and critically evaluate their own artistic pieces.
- Construction: Building and making structures and mechanisms using a variety of materials, fostering design thinking and engineering skills.
- Sewing: Developing textile skills, including designing and making fabric-based products, while also delving into the science and technology behind textiles.
- Cooking: Exploring the art and science of food preparation and nutrition, allowing students to design and create culinary delights while understanding the technical knowledge behind food and nutrition.

5. Organisation and Planning

I. Foundation Stage

Children in the Foundation Year will undertake investigative and skills-based tasks during independent working time. The Design and Technology area will be available to them on a daily basis and they will be encouraged to undertake focused practical tasks through directed and self-initiated stimuli. They will be provided with resources based on topics within the focus of the classroom and will be encouraged to design and develop ideas independently. Children in the Foundation Stage work on a range of creative themes and tasks, and their work in Creative Development links closely to other areas of the Foundation Stage Profile, especially Physical Development.

II. Key Stage 1

Through four practical themes of 'sculpture', 'sewing', construction' and 'food and nutrition', pupils will experience a variety of creative and practical activities, where they will be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. Pupils will work in a range of different contexts, for example: the home, school, gardens, playgrounds, the local community, industry and the wider environment].

When designing and making, pupils should be taught to:

a. 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.

b. 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.

c. Evaluate

- Explore and evaluate a range of existing products.
- Evaluate their ideas and products against design criteria.

d. 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.

Key Stage 1 children will undertake one unit of work per term, at least. They will also have opportunities during Design and Technology lessons to develop their own ideas and generate designs independently. Progression of Design and Technology skills will be monitored by staff formally and informally with references to expectations from the National Curriculum. Planning will follow Medium term planning linked to National Curriculum guidelines.

III. Key Stage 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:

a. 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.

b. 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.

c. 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.

d. 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.

IV. Food 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:

a. Key stage 1

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

b. Key stage 2

- 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.

6. Organisation

Children will be taught by Foundation Stage staff or Key Stage 1 and 2 staff. External specialists will be used when possible. Students in school will be encouraged to consider the benefits and learning opportunities possible through Design and Technology.

7. Teaching and Learning Approaches

We employ a range of teaching and learning approaches to engage students in D&T across the four activity areas. 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.