

# MARISH



## Academy Trust


## Design Technology Policy

2021 - 2022

Authors: DT subject leaders

### **Summary**

This document sets out how Design Technology is taught at Marish Academy Trust and our long term plan for the delivery of the Design Technology Curriculum.

## **Contents**

Contents.....	2
1 Introduction .....	3
2 Aims .....	3
3 Delivery of Curriculum .....	3
4 Inclusion.....	5
5 Assessment, roles and resources.....	6
6 Health and Safety .....	6
7 Revision History .....	7
8 Approval History .....	8

## **1. Introduction:**

Marish Academy Trusts prides itself on giving all students the opportunity to explore and build on their experiences and knowledge, developing resilience and building aspirations through research and investigating skills.

Design and technology prepares children to take part in the development of tomorrow's rapidly changing world. Creative thinking encourages children to make positive changes to their quality of life. Through designing, creating and evaluating children are encouraged to become autonomous and creative problem-solvers, both as individuals and as part of a team. It enables them to identify needs and opportunities and to respond by developing ideas and eventually making products and systems. Through the study of design and technology they combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industrial practices. This allows them to reflect on and evaluate present and past design and technology, its uses and its impacts. Design and technology helps all children to become discriminating and informed consumers and potential innovators.

## **2. Aims**

In Design Technology, our intent is that children become explorative and inquisitive creators who, through research, discussion, practically making and evaluating, develop a passion for the subject and the ability to work constructively and productively both independently and with others. Encouraging students to use their initiative and ask questions to become confident researchers.

- Develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making.
- Enable pupils to discuss how things work, and to draw and model their ideas.
- Encourage children to select appropriate tools and techniques for making a product.
- Prepare for adult life by exploring attitudes towards the world and how we live and work within it.
- Develop an understanding of technological processes, products, their manufacture, and their contribution to our society.
- Help children appreciate the need to take account of the necessity for safety, both for themselves and those around them.

## **3. Delivery of Curriculum**

### **Foundation Stage:**

Teaching in the Foundation stage is cross-curricular over the seven areas of learning. We encourage the development of skills, knowledge and understanding that help nursery and reception children make sense of their world as an integral part of the school's work. This learning forms the foundations for later work in design and technology. These early experiences include asking questions about how things work, investigating and using a variety of construction kits, materials, tools and products, developing making skills and handling appropriate tools and construction materials safely and with increasing control.

Pupils are provided with opportunities that encourage exploration, observation, problem solving, critical thinking and discussion. These activities, indoors and outdoors, attract the children's interest and curiosity.

## **Key Stage 1 and 2:**

Design Technology is taught within our Creative Curriculum, encouraging the reinforcement of skills and knowledge by forging links with other subjects.

At the beginning of each topic pupils are asked to use their own experience to develop and communicate design ideas about a topic. This is then displayed and added to throughout the project. Each year group has a skills ladder which shows progression from Year 1-6. The content of the topic is driven by pupils but skills to learn are controlled by the class teacher in reference to the skills ladder. Additionally, Primary key learning skills (cross curriculum skills) also drive the lesson at the planning stage.

### **Key stage 1 breadth of study:**

#### **Key stage 1 pupils should:**

- Be developing their ability to design purposeful, functional and appealing products for themselves and others based on design criteria.
- They should generate, develop, model and communicate their ideas through a range of means including: discussion, drawing computing and prototypes.
- They should select and use a range of tools and equipment to perform practical design tasks such as cutting, shaping, joining and finishing and make use of a range of materials, textiles and ingredients.
- Pupils should be able to explore and evaluate a range of existing products and evaluate their own ideas and products against their research and design criteria.
- They should build structures and develop their technical knowledge on how these can be made stronger, stiffer and more stable.
- Use technical knowledge in a range of design technology topics to explore mechanics, cooking and nutrition.

### **Key stage 2 breadth of study:**

#### **Key stage 2 pupils should:**

- Use research to develop design criteria to inform the creation of innovative, functional, appealing products that fit a purpose; these can be aimed at particular individuals or groups.
- Continue to generate, develop, model and communicate their ideas; building on their experiences in key stage 1 to create 4D learning through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes and computer-aided design.
- Build on their experience to select from and use a wider range of tools and equipment to perform practical tasks.
- Investigate and analyse a range of existing products and evaluate their ideas and own products against their design, considering how to improve their work.

- Understand how key events and individuals within Design and technology have helped shape the world they live in today, making links to their own lives.
- Continue to develop technical knowledge to understand reinforcement in complex structures; mechanical systems and their products; electrical systems and products and apply an understanding of computing to programme, monitor and control their products.
- Build on knowledge of cooking and nutrition to apply principles of a healthy and varied diet, prepare and cook dishes and understand seasonality of ingredients and how they are grown, reared and caught.

### **Delivery of curriculum through Virtual learning (due to Covid 19):**

Although the majority of students are now back at school full time, due to Covid - 19, Marish will be using Google classroom to deliver both theory and practical lessons for students to complete at home whilst self-isolating rules apply. They will be guided through the lessons via detailed and differentiated PowerPoints and resources to develop threshold concepts during lockdown or quarantine.

When students have to use home learning, students will focus on research and design elements of the threshold concepts; practical lessons will be adapted to make prototypes or predictions where students are able to access materials and recourse that are available to them.

Students will be given options to create more open ended projects to enable all students to access the learning.

## **4. Inclusion**

### **Equal Opportunities and EAL:**

At Marish Academy Trust we aim to provide equal opportunity for all pupils whatever their age, ability, gender, race or background. We want all our pupils to achieve their full potential during their time with us. As such, teachers work to ensure that our expectations, attitudes and practices enable all pupils to reach their potential.

Where particular pupils have learning and assessment requirements which must be addressed in order to overcome barriers to learning, for example as a result of disability, or linked to the pupils' progress in learning, learning support assistants or class teachers take into account of these requirements by:

- Providing all pupils with EAL with opportunities to achieve in this subject area. When appropriate, activities are differentiated so that all learners can access the curriculum. At specific times, the EAL support team work alongside pupils to support them with their learning.
- Marish Academy Trust is committed to ensuring equal opportunities of all pupils with any form of disability and will ensure that disabled pupils are treated favourably in any procedures and practices. Children bring different experiences and talents to D.T. The qualities they already possess should be valued, whilst opportunities for widening their experiences need to be created. When a pupil's disability has been disclosed, the school will ensure reasonable adjustments are put in place so that they can have full access to the curriculum.

### **Special Educational Needs:**

DT should be an enjoyable, stimulating experience for all pupils. Its Visual, Auditory and Kinaesthetic skills approach enable any pupil with Special Educational Needs to fully participate in lessons. The varieties of areas in DT (woodwork, textiles, cooking, graphic design etc) mean that pupils with abilities in different areas will be able to achieve in this subject.

Well- managed group work and / or allowing children to collaborate means that pupils with reading or writing difficulties can be helped by other pupils. Teachers should be prepared to adapt activities or give extra help where needed. Well prepared stimulating activities should increase motivation and reduce problems of a behavioural or emotional nature.

In many cases the action necessary to respond to an individual's requirements for curriculum access will be met through greater differentiation of tasks and materials. Where pupils need access to specialist equipment or adapted activities teachers will refer to and implement the pupils' statement of special educational needs and work closely with representatives of other agencies who may be supporting the pupil.

## **5. Assessment, roles and resources:**

### **Assessment and record keeping:**

The DT subject leaders, Creative curriculum leaders and senior management are responsible for observing practice and monitoring the quality and impact of DT teaching and learning. Teachers analyse pupil's progress at the end of each school year to complete annual report to parents.

In relation to marking, teachers should also refer to the school's marking policy for detailed guidance. For DT, this includes traffic lights, verbal feedback and small group or class evaluations/ discussions (with an emphasis on positive aspects of children's work) next steps to move learning on. Through the use of Proof of Progress assessments (POP Tasks), teachers can identify and analyse a pupil's progression alongside the individual milestones of the threshold concepts which are available in the milestone document. This in turn will inform the teacher of the progress which leads to an accurate and fair assessment of that child ready for the end of year assessments and pupil reports.

### **Resources:**

Each school has a wide range of resources to support the teaching of DT. These are gathered as the budget allows. Resources for each year group are stored in the subject leader's classroom and the DT/Art cupboard and shared as needed.

In addition, the subject leaders can provide access to a range of practical resources and external experts to enhance pupil's learning across the key areas studied.

### **ICT:**

ICT enhances our teaching and learning in DT, wherever appropriate, in each key stage. Pupils will be provided with opportunities to develop and apply their ICT capability to support their learning in Design Technology. They will use the Internet selectively to find information, digital cameras to take pictures, email to communicate with people in other places and databases/word processors/spreadsheets to handle and present information. Opportunities for embedded ICT as a tool to support learning and teaching are identified in curriculum planning.

### **Role of the subject leader:**

- Monitoring and support to planning and ensure coverage of key skills- Leading CPD training to ensure that teachers are aware of the threshold concepts as set out in the subject overview.
- Analyse each topic of planning across the trust, creating POP tasks to accommodate topics taught.
- Access to practical resources, materials and equipment in order to enable students to explore and develop
  - Lesson observations/ sharing good practise
  - Ensuring common standards and formats for recording and assessment



## **6. Health and Safety**

A safe working environment and ways of working need to be encouraged from the earliest stage and safe practices should be understood by voluntary helpers.

All areas must be in the direct vision of the teacher and there should be enough space for each child and group to work comfortably.



hearing, dominance of left or right hand, poor fine motor skills or other Special educational needs and make suitable arrangements to allow the pupil to operate effectively.

**THE USE OF SHARP EDGE TOOLS SUCH AS WOOD CHISELS AND LARGE KITCHEN KNIVES SHOULD BE AVOIDED IN PRIMARY SCHOOLS.**

**Craft knives should only be used by older children (Yr.6) under direct supervision. Always use with a safety metal ruler and preferably on a cutting mat. Teach children to keep their fingers behind the cutting edge of sharp tools.**

## **Tools**

Tools which present a safety hazard, such as a glue gun, saws, other tools which possess sharp blades or points, need to be secured away from general tools. The safe use of tools should be modelled, by the teacher, before any practical work is undertaken.

### **(a) Saws**

Never saw directly on the table. Always use a bench hook or G-cramp the material in some way. Show the children how to start a saw cut by drawing the saw towards them to make a notch. When sawing, the effort is needed on the push stroke. Keep your hand and arm in line with the saw cut. Support the material when nearly finished to prevent splintering.

### **(b) Drills**

Children need to be shown how to change twist drills, how to hold a hand drill and how to keep it at right angles to their work. When drilling, turn the handle in a clockwise direction and continue turning the same way when removing the drill bit from the hole.

### **(c) Glue guns**

Children should experience a variety of ways of joining materials other than with a glue gun. However, a glue gun is very useful for joining wood, metal and certain plastics. It is recommended that the cooler type of glue gun should be used only by children from Year 4 upwards, under the close supervision of a teacher.

### **(d) Working with food**

Cooking utensils and work areas should be kept meticulously clean. Children should learn simple personal hygiene rules such as wearing a clean apron, washing hands before handling food and not eating food as they are cooking.

## **7.Revision History**

<b>Version</b>	<b>Date</b>	<b>Author</b>	<b>Comments</b>
1.0	29/01/16	K.L	
2.0	27/01/17	N.A	
3.0	29/01/19	K.L	
4.0	19/01/2021	RT/SS.L/PS	

## **8. Approval History**

**Version    Approved                  Comments**