The Mosley Academy
Subject Leader Curriculum Overview – Design Technology
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The National Curriculum for Design Technology aims to ensure that all pupils by the end of Year 6:

- 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.

EYFS	**Children explore and use a variety of media and materials through a combination of child initiated and adult directed activities.** **Expressive Arts and Design (Being Imaginative)** Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories. **Expressive Arts and Design (Exploring and Using Media and Materials)** Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. **Physical Development (Moving and Handling)** Children handle equipment and tools effectively, including pencils for writing.

Key stage 1

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 and school, gardens and playgrounds, the local community, industry and the wider environment].

When designing and making, pupils should be taught 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, 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.

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:

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.

Intent

Our curriculum offers clear and comprehensive skills and knowledge progression in line with the National Curriculum and Early learning Goals and is based on the KAPOW Long term plans. Weekly curriculum time is allocated in Key Stage 1 and 2 of 1 hour per week. This may be blocked into longer periods of time, for example to allow for a focus week or a project. The use of a system of long, medium- and short-term planning will facilitate the organisation of a broad, balanced and coherent curriculum. Knowledge, skills and understanding are progressively built upon through each of the areas of experience of designing, making, evaluating, technical knowledge and cooking and nutrition. Through a progression of activities, we will build on and develop, children's design, making and evaluating skills and achievements.

At The Mosley Academy our children will present the following characteristics of learners:

Willingness to take creative risks to produce innovative ideas and prototypes.	An excellent attitude to learning and independent working. The ability to use time efficiently and work constructively and productively with others.	The ability to carry out thorough research, show initiative and ask questions to develop an exceptionally detailed knowledge of users' needs.	The ability to act as responsible designers and makers, working ethically, using finite materials carefully and working safely.	A thorough knowledge of which tools, equipment and materials to use to make their products.	The ability to manage risks exceptionally well to manufacture products safely and hygienically.

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
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Key concepts

1. Design	2. Make	3. Design & make	4. Explore wider issues and consider consequences

Develop ideas	Master techniques	Take inspiration
DT Long Term Plan followed to ensure progression of skills and knowledge across school. that facilitates the organisation of a broad, balanced, coherent, and differentiated curriculum.	We have an emphasis on healthy eating and seasonality in our food and nutrition units of work and prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.	A wide range of resources are available throughout the school, linked to the units covered in each year group. Use of tools and resources build as pupils progress through school.
DT is taught discretely, timetabled once per term, making links with other areas of the curriculum, particularly maths This may be blocked into longer periods of time, for example to allow for a focus week or a project.	A range of resources are available in school to allow children to work practically. These are reviewed annually and before the start of each unit.	The following areas are covered as pupils progress through school • Food and nutrition • Textiles • Mechanisms and Mechanical Systems • Structures • Electrical Systems
Where possible the teaching and learning links Design Technology to topics and other areas of the curriculum, especially linking to the spiritual, moral, social and cultural well-being of the individual.	We are assisted by the Kapow scheme for our DT curriculum. This ensures our teachers have access to appropriate CPD for the elements we teach. We are also supported by JTMAT DT network meetings to support our subject leader.	

Independent learning: In Design Technology children may well be asked to solve problems and develop their learning independently. This allows the children to have ownership over their curriculum and lead their own learning in Design Technology.
Collaborative learning: In Design and Technology children may well be asked to work as part of a team learning to support and help one another towards a challenging yet rewarding goal.

<u>At The Mosley Academy we understand that SEND can be categorised in four main ways:</u>
social, emotional, and mental health **cognitive and learning** **communication and interacting** **physical and/or sensory**
We aim to understand individual barriers to learning and adapt lessons accordingly to enable SEND pupils to feel successful, as well as improve their understanding of concepts and retention of knowledge. In school, this support may include some of the following methods: the use of visual or practical resources, the use of adult support, differentiating by outcome according to the child's needs, pre-teaching key vocabulary, providing templates to scaffold, the use of spaced repetition to improve memory, consideration of the type of task e.g. group, partnered, individual.

Impact

All children use technical vocabulary accurately and pupils are expected to know, apply and understand the matters, skills and processes specified. Children improve their enquiry skills and inquisitiveness about the world around them, and their impact through art and design on the world. Children will become more confident in analysing their work and giving their opinion on their own and other works of art. Children show competence in improving their resilience and perseverance by continually evaluating and improving their work. All children in school can speak confidently about their art and design work and their skills.
Ongoing assessments take place throughout the year. Teachers use this information to inform future lessons; ensuring children are supported and challenged appropriately. Children in EYFS are assessed within Expressive Arts and Design and their progress is tracked termly and age-related expectation levels are reported to parents at the end of the reception year.

Monitoring through: Learning Walks Pupil Voice Book Scrutiny	Increased Cultural Capital through an exposure to a wide range of vocabulary.	Broad, balanced curriculum where skills and knowledge are embedded and create a shift in long term memory. Provision is adapted so that it is suitable for all groups of learners, including SEND.