

OWLs Academy Trust

Langmoor Design & Technology Policy

At our school, pupils' Design & Technology capability is developed through combining the children's designing and making skills with knowledge and understanding in order to design and make products fit for their intended purpose.

Design and Technology should always be a meaningful, relevant and an enjoyable activity for all children, and should also build upon their prior knowledge and learning. It should embody some of the highest forms of creativity. It should stimulate pupil's imaginations, challenge their problem-solving skills and hone their practical techniques.

At Langmoor we have chosen to use the Projects on a page scheme of work provided by the Design & Technology Association <https://www.designtechnology.org.uk/for-education/primary/>

Our aims:

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and wellbeing of the nation

Throughout our Early Years, Key Stage 1 and Key Stage 2 we aim to equip pupils with knowledge, skills and attitudes in order to prepare them to meet with the technological demands of the future.

In order to achieve this, we need to ensure that pupils have the opportunities to:

- Increase their knowledge of great designers and craft-makers and how design has changed over time and varies throughout the different cultures.
- Use language related to design to evaluate their own work and the work of their peers.
- To explore different techniques such as sculpture, crafting and designing products.
- To go through a creative process with their designs and use new techniques to explore their ideas.
- To record their design experiences and produce end products.
- Develop their capability to create high quality products

The main areas that children will focus on using our Scheme of Work will be Mechanisms & Structures, Slides & levers, Textiles, Electrical and mechanical systems and food technology.

Our expectations:

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

By the end of the EYFS, children should:

- Explore design by experiencing and experimenting with different media and materials in different ways.
- Manipulate different materials to achieve a planned effect.
- Experiment with different ways of changing the things they have made.
- Create for a purpose and talk about what they have made.
- Select tools needed to shape, assemble and join the materials they are using.
- Use materials appropriately and safely.

By the end of KS1, children should:

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].

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

By the end of KS2, Children should

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].

- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at 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.
- 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.
- Explore and evaluate a range of existing products.
- Evaluate their ideas and products against design criteria.
- 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.

How design and technology is delivered in our school

In EYFS, key skills are delivered through a theme and topic-based curriculum that reflects the individual interests of the children. Design and technology skills are revisited and built upon throughout each term.

Langmoor uses the Primary split curriculum approach where DT alternates each half term with Art & Design. Staff have used the resources provided by The DT Association and Projects on a page to tailor their scheme of work to our school and the needs of our children. Staff regularly liaise with the subject lead through meetings, monitoring and ongoing professional discussions to feedback on the suitability of the scheme and any changes/adaptations that may need to be made.

How is design and technology resourced?

Resources - tools, materials and equipment are stored in Design Technology Store which is located outside the Year 4 classroom. Specific K'nex equipment is also located here. Emphasis is on respect and care for the working environment, paying regard to the economy of use of materials together with safe return and storage.

New or replacement resources will be ordered by the Design and Technology Coordinator.

Who delivers design and technology?

It is the responsibility of all teaching staff to plan and teach Design Technology. Staff will be kept up to date with the latest developments in Design & Technology and all have accounts with the Design & Technology association where CPD is available for free. The co-ordinator will assist staff members with planning lessons and training in the use of equipment where necessary.

The Co-ordinator's role in the management of Design and Technology is as follows:

- Review the policy and scheme of work at intervals. Liaise with staff members to identify training needs and resources.
- Co-ordination - Monitoring teaching and learning, ensuring consistent approaches throughout the school. Establishing documentation building in continuity and progression between year groups. Checking procedures for assessing, recording and reporting are maintained.
- Staff development and support - assist staff with Design & Technology activities. Arrange INSET as the budget allows.
- Resources - advise on safety issues regarding Design & Technology activities. Ordering of resources.
- Liaison - Communicate current developments to staff members and Governors.
- Participate in opportunities for professional development provided by support agencies.

Monitoring and Evaluating

The subject co-ordinator has collated the assessment documents from The Design & Technology Association and presented these into a format that allows for termly assessment of skills and attainment. Assessment is split into 5 main criteria:

- Design
- Make
- Evaluate
- Technical knowledge
- Food technology

Teachers assess children against the end points set out by the scheme and make judgements based on class discussions, engagement, uptake and application of skills and pupil feedback.

Inclusion

At Langmoor the Design & Technology curriculum is taught to all pupils, it provides learning opportunities that enable all pupils to make progress. Each child is assessed as an individual and activities are planned accordingly. Teachers plan differentiated activities for pupils with special needs and organise support where appropriate. Every effort is made to build on individual children's strengths and interests. The DT Co-ordinator monitors the learning opportunities provided for pupils with special needs and supports staff in their planning.

Gifted and talented pupils

Gifted and talented pupils are monitored by both the DT Co-ordinator and the Gifted and Talented Co-ordinator. Pupils who have reached a higher level of attainment than the majority of their peer group will, where possible, be given opportunities to work with older children who have reached a similar level. Teachers will provide a higher level of challenge for gifted and talented pupils to ensure that they continue to develop new skills.

Health and safety

Working safely in the classroom is the responsibility of everyone; staff, children and adult helpers. Children must be taught about the safety procedures for using tools, materials and equipment relating to holding, using equipment and moving around the room safely. They need to be reminded of this before every lesson. As part of their training, children should be encouraged to assess safe and unsafe situations. They also need to be taught

safety as consumers, as designers and as makers of products. If staff have concerns regarding Health and Safety in Design & Technology, they should ask advice from the Design & Technology co-ordinator or the Health and Safety Governor. All tools and practical equipment should be kept in good condition and stored safely. Any potentially hazardous tools and materials are stored in an area that is inaccessible to pupils and they are only used with adult supervision.

Resources

Each classroom has a range of basic resources for use in Design & Technology. More specialised equipment is kept in the DT store. Textile resources are stored in the ICT suite. Although the budget for resources is limited we provide a good range of art materials and introduce children to new products whenever possible.

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