OWLs Academy Trust

<u>Langmoor Design & Technology Policy</u>

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 meaningful, relevant and an enjoyable activity for all children, and should also build on their previous knowledge. 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.

Our aims:

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.

By developing in children an understanding of how designers design and make things work, we can develop their confidence and ability enabling them to work through that same process.

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

- To increase pupil's 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.
- 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 Structures, Control and Mechanisms, Food, Textiles and Paper Technology.

Our objectives:

The children will:

- Be given opportunities to work from different starting points.
- Experience using different materials.

- Work on a range of tasks which are meaningful.
- Experience a variety of approaches when generating and communicating ideas.
- Evaluate their design ideas and their products as they develop.
- Produce a range of products and outcomes.
- Work independently and within a team.
- Apply their skills from other areas of the curriculum to Design and Technology.

Our expectations:

By the end of the EYFS, children should:

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

By the end of KS1, children should

- Use a range of materials creatively to design and make simple products
- Select materials, tools and techniques and explain their choices
- Understand simple mechanisms and structures
- Measure, assemble, join and combine materials in a variety of ways using basic tools safely
- Investigate and evaluate simple products, commenting on the main features
- Follow safe procedures for food safety and hygiene

By the end of KS2, Children should

- Use knowledge and understanding of a range of materials, components and techniques to design and make quality products, including the use of ICT
- Evaluate work as it develops and, if necessary, suggest alternatives
- Produce designs and plans, which list the stages involved in making a product, and list the materials used
- Accurately measure, mark, cut, join and combine a variety of materials, working safely and recognising hazards to themselves and others
- Understand the use of electricity and mechanical systems and more complex structures
- Evaluate what is or is not working well in a product

These objectives are built into the Scheme of Work for Key Stages 1 and 2, and into the Early Learning Goals. There is however, room for flexibility within the scheme where teachers can plan their own opportunities in order to meet these objectives.

We need to have a structured and well balanced programme of introductory experiences upon which children can later build. This needs to be a broad experience-based course whereby children have access to a wide range of equipment and materials and are taught specific skills which support their intentions and respond to their design needs. This is best achieved in an environment that is sensitive, supportive and stimulating and where children are provided with real design situations.

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.

In Key Stage 1 there is a three year rolling programme. In each term, a specific area has been allocated. The product to be made is decided within the Key Stage and where possible fits in with the main Curriculum topic.

In Key Stage 2 there is two year rolling programme. Again, a specific area is allocated in each term and these are linked with the main Curriculum topic.

Links with other curriculum areas
The critical evaluation skills developed through Design & Technology can enhance work in other curriculum areas. Likewise, children are encouraged to bring knowledge, understanding and skills from areas such as Science, Art and Maths to Design & Technology projects.

Numeracy
Art and Design supports the teaching of numeracy by developing the children's awareness of shape and pattern. Children may also be required to make calculations in their designs along with predictions and estimations. Design can be woven into problem solving and reasoning activities.

Literacy
Art and design requires child to create and follow instructions, to talk confidently about what they have made and continually look for ways in which to improve. Children use their speaking, listening and reasoning skills when designing a product and

justifying their design decisions. When creating products, children may be required to use their persuasive writing skills to 'sell' what they have designed.

Computing
Computing is used to support Art and Design teaching throughout the school. All children use software to explore shape, colour and pattern. Older children use digital and video cameras to develop ideas for their work and record observations. The internet is used to research the lives and works of other artists and designers and to collect visual and written information to use in developing ideas for art and DT work. The DT co-ordinator has also been liaising with the computing co-ordinator to look into the purchase of micro-bits that provide cross-curricular skills.

PSCHE
Design supports PSCHE in the curriculum by calling upon children to work as a team to create a product. By asking children to make honest and constructive observations about their own and each other's work. Children learn resilience and motivation through design technology.

History
Children are taught about the changes that have occurred in the world of design throughout history, including pivotal moments for the subject. They learn about famous crafts-makers and designers and are given the opportunity to look in depth at the skills and techniques these people employed.

Geography
Design technology differs from culture to culture and children get to explore different designs from across the globe, test them out and offer up their opinions.

Time allocation
One hour per week is allocated for Design & Technology. Teachers can decide how to organise this time depending on what is being taught. For example, teachers may prefer to teach Design & Technology for two hours per week for half a term and devote two hours per week of the other half term to teach Art. Block teaching for practical activities may be more advantageous.

How is design and technology resourced?

Resources - tools, materials and equipment are stored in Design Technology Store which is located outside the Year 3 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 the co-ordinator will assist staff members with planning lessons and training in the use of equipment where necessary.

How is design and technology managed in our school?

We use our own Scheme of Work, which has been written using the National Curriculum programmes of study for Design & Technology. This aims to provide continuity and progression of skills between and across year groups, developing a consistent approach to Design & Technology throughout Key Stages 1 and 2. Early Years are catered for through a series of activities linked to the 'Contribution of Design and Technology to the Early Years Goals' (Knowledge and Understanding of the World) and the 'Prior Learning' experiences for Year 1.

The Scheme of Work will be reviewed annually as children build up their repertoire of skills in order to ensure high quality products are produced and keep in line with technical changes.

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

1. Review the policy and scheme of work at intervals. Liaise with staff members to identify training needs and resources.
2. 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.

3. Staff development and support - assist staff with Design & Technology activities. Arrange INSET as the budget allows.
4. Resources - advise on safety issues regarding Design & Technology activities. Ordering of resources.
5. Liaison - Communicate current developments to staff members and Governors.
6. Participate in opportunities for professional development provided by support agencies.

Monitoring and Evaluating

The programmes of study statements have been used as a checklist to ensure full coverage of the curriculum and must be adhered to.
The National Curriculum requires assessment in the two elements of designing and making.
Learning objectives for each skill area are found in the Scheme of Work. These enable teachers to use these for Medium Term Planning, but will allow the product to be adapted to the current topic.
The Co-ordinator will monitor the quality of teaching and learning to ensure a consistent approach throughout the school.
Reporting to Parents
Parents' evenings and reports can be used to inform parents of their child's progress.

Teaching and learning
Are we meeting the needs of all our pupils?
At our school, we recognise that children learn in different ways so teachers employ a variety of teaching strategies. Children are provided with opportunities to work individually, in small groups, whole class situations and whole school activities. When planning, teachers need to consider differentiation. Differentiation should not be left purely to outcome.

Plans to include:
- Different levels of task
- A variety of teaching approaches
- Differing levels of support
- A range of resources
- Effective use of support staff where relevant

Inclusion

At Langmoor the Art and Design 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 Art 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 Art 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. Langmoor works with other schools in the Oadby family of schools to plan art workshops for gifted and talented pupils.

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 Art and Design. More specialised equipment is kept in the art cupboard in Class 3 and 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.

Year 6

Some of the Computing budget has been used to purchase 10 Microbits. These can be used for programming and design and serve a cross-curricular purpose. Year 6 children will be required to carry out a programming-based project for DT using a microbit to enhance their design that requires a certain element of programming.

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