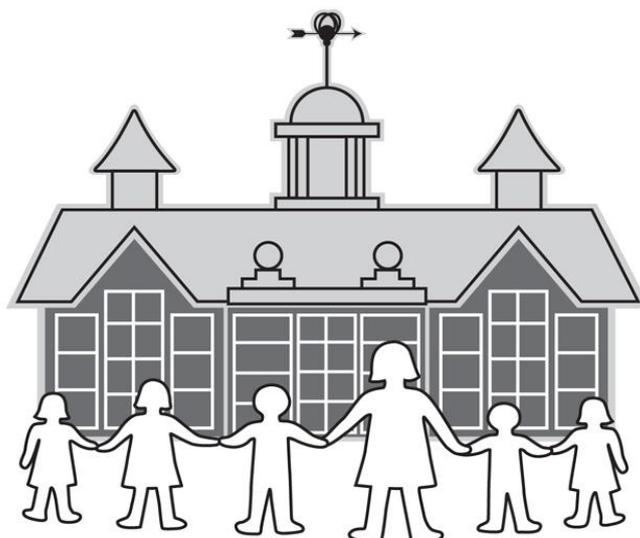


# North Ealing Primary School



## Design and Technology Policy

School lead for this policy: D Limliman	
Policy to be approved by the Headteacher	
Committee with oversight for this policy – Curriculum & Standards	
Policy last reviewed by the Curriculum & Standards Committee	14/06/2017
Policy last ratified and adopted by the Headteacher	14/06/2017
Policy / Document due for review	June 2021

# North Ealing Primary School Design and Technology Policy

## **Documents drawn on:**

- Early outcomes 2013
- National curriculum 2014 (Updated May 2015)
- NES Design and Technology Policy 2013
- Department for Education Design and Technology Programmes of Study for Key Stages 1-2

## **Statement of intent:**

Design and Technology involves the application of knowledge and skills when designing and making products and helps to prepare children for the developing world. The activities undertaken will enable our children to consider the needs of individuals and of society within the context of a caring community. The subject encourages children to use a range of materials and processes and to become creative problem-solvers, both as individuals and as part of a team. We aim to ensure that the activities undertaken in North Ealing School will impact on the children's local environment and support them in the wider world to become discriminating and informed consumers and potential innovators. It should assist children in developing a greater awareness and understanding of how everyday products are designed and made.

The purpose of this policy is to ensure the effective delivery of the National Curriculum for Design and Technology and to promote the delivery of the subject within cross-curricular activities.

In the Early Years, pupils will experiment to create different textures and to manipulate materials to achieve a planned effect. They will construct with a purpose in mind, using a variety of resources and simple tools and techniques competently and appropriately.

During Key Stage 1, pupils learn how to think imaginatively and talk about what they like and dislike when designing and making. They build on their early childhood experiences of investigating objects around them. They explore how familiar things work and talk about, draw and model their ideas. They learn how to design and construct objects safely and may use ICT as part of this process.

During Key Stage 2, pupils work on their own and as part of a team at a range of designing and making activities. They think about what products are used for and the needs of the people who use them. They plan what has to be done and identify what works well and what could be improved in their own and other people's designs. They draw on knowledge and understanding from other areas of the curriculum and use computers, software (such as SketchUp and Scratch) and hardware (digital microscopes/ data-logging packages) in a range of ways in order to develop their ideas.

Teaching will ensure that the specific expectations of 'knowledge and understanding' are applied when 'developing ideas', 'planning', 'making products' and 'evaluating' them.

### **Rationale:**

"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 well-being of the nation." (National Curriculum 2014)

### **Aims:**

North Ealing School endeavours;

- To develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making.
- To foster enjoyment, satisfaction and purpose in designing and making.
- To provide a range of structured and appropriately-differentiated activities which develop a breadth of experience and progression in skills. Where possible, these will relate to the interests and everyday experiences of our pupils.
- To develop knowledge and to teach skills in order to assist in the design and making of products successfully.
- To develop the children's knowledge of tools and to encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures.
- To help children become aware of and to investigate simple products through disassembly and evaluation.
- To provide adequate time frames, access to information, skills and resources in order to develop an effective, useful and appropriate end-product.
- To enable children to talk about how things work, and to draw and model their ideas;
- To provide equal opportunities for access to tools and skills and to develop the qualities, aptitudes, skills and intelligences of individual pupils.
- To use ICT software to assist our designing and learning.

### **Impact:**

Through learning the principles of design and technology in conjunction with other areas of the curriculum (Science/Maths/Computing etc.), pupils will develop their own capacity for individual excellence. Through individual and team endeavours, they will learn the necessity of clear planning, effective/efficient production, collaboration with others, self and peer-evaluation and flexibility. It will also provide them with opportunities to use computing skills in a range of practical applications.

These skills will have a clear impact on their ability to function in the world of work at a later stage of their lives as well as in the classroom and local community.

Additionally, they will learn to be resourceful and pro-active in everyday problem-solving situations through knowledge of the importance of flexibility of approach and through listening to the ideas of others. They will come to understand that they must take into consideration the function of the product and its users. Throughout the course of a project, they will be able to consider the implications of their choices of materials and, thereby, engage meaningfully with the Reduce, Re-use, Recycle agenda.

This policy will work to equip our children with the key skills of project-management, team-building and a sense of pride in their creativity. They will become more pro-active, more able to lead and more practical in their thinking and solving of problems that affect society.

### **Inclusion:**

- All pupils, regardless of race, religion, gender, class, educational need or disability will be given the opportunity to develop their design and technology skills and understanding in a safe and supportive environment.
- Teachers should be aware of the individual and differing needs of all pupils including those with physical, emotional and learning difficulties as well as those pupils identified (or being monitored) as able and talented.
- Alternative or adapted activities will be provided to overcome specific difficulties with tools, equipment and materials.
- Children with specific learning difficulties will be given more time, support or guidance as appropriate to complete the range of work. Additionally, opportunities to communicate their ideas through means other than writing and drawing will be provided for.
- Where needed and available, children will be supported by technological aids or specialist software.
- Where pupils are to participate in activities outside the classroom, a full risk assessment will be carried out prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

### **Assessment and Record Keeping:**

Teachers assess work in design and technology by making observations of the children working during lessons and assessment is used to inform future planning and to review children's capability. Design and Technology assignments are used throughout the key stages to assist with formative and summative assessment. At the end of a unit of work, children undertake a review of their work that focuses upon an evaluation of the finished product and an overview of the various tasks undertaken. Where appropriate, children will use design sheets or booklets to plan, record, assess and evaluate their work.

Due to the practical nature of design and technology, evidence of work undertaken by children can be in the form of teacher's notes or as a photographic record. Samples of the design process and end product are also valuable evidence.

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.

- The Early Years Foundation Stage (EYFS) Profiles and school tracking system (including Pupil Progress documents) are used to record assessments in Nursery and Reception.
- In KS1 and KS2 on-going formative assessment, both during and at the end of each unit to inform summative assessments. Children will be assessed at, working towards, expected and greater depths.
- Reference can be made to the level descriptors in the National Curriculum alongside the portfolio of examples produced by NES.

### **Implementation and Organisation:**

- Teachers ensure that the children apply their knowledge and understanding when developing ideas, planning and making products and then evaluating them. All ideas will be treated with respect.
- Design and Technology learning in the EYFS takes place within Understanding of the World and Expressive Art and Design and is based on the Early Years Outcomes Guidance for EYFS.
- The Design and Technology programme of study (for KS1 and KS2) is divided into 4 main areas:

#### **Design**

Pupils will design purposeful, functional, appealing products for themselves and other users based on design criteria that are fit for purpose and aimed at particular groups or individuals. Pupils will generate, develop model and communicate their ideas through discussions.

#### **Make**

Pupils will select from and use a range of tools and equipment to perform practical tasks. They will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics and functional properties.

#### **Evaluate**

Pupils will explore, evaluate, investigate and analyse a range of existing products. They will evaluate their ideas and products against design criteria and consider the views of others to improve their work.

#### **Technical knowledge**

Pupils will build structures, explore how they can be made stronger and apply their understanding of how to strengthen, stiffen and reinforce structures. They will explore and use mechanical systems in their products. In KS2 they will understand and use electrical systems in the products (for example series circuits incorporating switches, bulbs, buzzers and motors)

- Planning for KS1 and KS2 is organised in line with the framework for Design and Technology as set out by the National Curriculum 2014. Planning in Nursery and Reception is based on the Early Outcomes documents for the EYFS.

- Design and Technology is taught as a class activity for 1.5 hours a week, on a half-termly cycle, alternating with Art and Design. Further opportunities for design and technological learning will also present themselves within other subject areas.
- A range of teaching styles, taking advantage of the use of ICT (microscope/IWB/ video/ DVD as well as the available hardware and software available in the school) helps to promote a positive attitude towards design and technology.

### **Contribution of Design and Technology to teaching in other curriculum areas**

#### **English**

Design and Technology contributes to the teaching of English in our school by providing valuable opportunities to reinforce what the children have been doing in their English lessons. The evaluation of products requires children to articulate their ideas and to compare and contrast their views with those of other people. Through discussion children learn to justify their own views and clarify their design ideas.

#### **ICT**

ICT is used to support design and technology teaching when appropriate. The children also use ICT to collect information and to present their ideas through draw and paint programs.

#### **Personal, social, and health education and citizenship**

We encourage the children to develop a sense of responsibility in following safe procedures when making things. They also learn about health and healthy diets. Through their understanding of personal hygiene they also learn how to prevent disease from spreading when working with food.

#### **Spiritual, moral, social and cultural development**

Collaborative work in design and technology develops respect for the abilities of others and a better understanding of themselves. In addition, they develop a respect for the environment, for their own health and safety and that of others. They learn to appreciate the value of similarities and differences. A variety of experiences teaches them to appreciate that all people are equally important.

#### **Health and Safety:**

- Teachers always teach the safe use of tools and equipment and insist on good practice. Children should be strictly supervised in their use of equipment at all times.
- Direct safety instructions should be given to children each time they undertake a design and technology activity.
- The craft knives and rotary cutters will only be used by responsible Year 4, Year 5 and Year 6 children under direct supervision.
- The glue guns will be used by Key Stage 2 children only when supervised.
- Food will be brought and used on the same day it is needed as storage is difficult.
- Food safety procedures will be followed when preparing for food activities.

- Staff will ensure that allergies and permissions are planned for before any food items are used (lactose-intolerant/vegan/allergens etc.)

### **Resources:**

- Resources for each unit are stored in appropriate year groups or in the central resources room. Specialist resources need to be requested from the Design and Technology Co-ordinator in anticipation of teaching the unit.
- The Design and Technology Co-ordinator is available for support in areas of the curriculum where it is needed.

### **See also School Policies on:**

- SEN
- Inclusion
- EYFS
- Equal Opportunities
- Assessment and Record Keeping
- Teaching and Learning
- Health and Safety
- Able and Talented
- Computing
- Science