

WALFORD NURSERY & PRIMARY SCHOOL



Policy for DESIGN AND TECHNOLOGY

Reviewed and Updated: January 2024

Date for Review: January 2025

INTENT

A Walford Nursery & Primary School, children will:

- Demonstrate the ability to use time efficiently and work constructively and productively with others.
- Have the ability to carry out thorough research, show initiative and ask questions to develop an exceptionally detailed knowledge of users' needs.
- Exhibit the ability to act as responsible designers and makers, working ethically, using finite materials carefully and working safely.
- Have a thorough knowledge of which tools, equipment and materials to use to make their products.
- Show the ability to apply mathematical knowledge.
- Be able to manage risks exceptionally well to manufacture products safely and hygienically.
- Have a passion for the subject and knowledge of up-to-date technological innovations in materials, products and systems.

IMPLEMENTATION

What does our Design and Technology Curriculum look like?

Please refer to:

- our **Long Term Plan**, which demonstrates the progression of knowledge and skills within the whole school design & technology offer;
- our **Medium Term Plan** for each year group, which maps teaching and learning, knowledge and skills through a topic;
- our **Curriculum Map**, which details each year group / subject;
- our **'Knowledge Organisers'** which summarise the key knowledge and skills to be acquired and retained in a design & technology topic.

IMPACT

Our Design and Technology curriculum facilitates sequential learning and long-term progression of knowledge and skills. Teaching and learning methods provide regular opportunities to recap acquired knowledge through high quality questioning, discussion, modelling and explaining to aid retrieval at the beginning and end of a lesson or unit. This will enable all children to alter their long-term memory and know more, remember more and be able to do more as designers and makers.

Curriculum:

Pupils will be taught in line with the National Curriculum and will experience Design and Technology (D & T) as part of their cross-curricular learning where appropriate.

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in a 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].

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Nursery / Early Years Foundation Stage (Reception)

Children explore and select materials and equipment using skills such as cutting, joining, folding and building.

Key Stage 1

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.

Cooking and Nutrition

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.

Key Stage 2

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.

Cooking and Nutrition

- understand and apply the principles of a healthy and varied diet
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Organisation and time allocation

Time for DT lessons will be timetabled by individual teachers and will usually alternate with art units of work to ensure full coverage of the National Curriculum. Teachers may however use a stand-alone 'D.T day' to a particular project if this proves to be more practical. Each class is responsible for clearing up this area, encouraging children to store materials and equipment safely and neatly.

Planning and Adaptations

Planning sets the goals to which the children will be guided and will take account of the abilities of the children, allowing appropriate adaptations to ensure progression and continuity of subject coverage across the school.

To ensure progression across the key stages, long term plans will be highlighted to show the objectives covered. Planning will incorporate the elements of designing, making, evaluating and technical knowledge. See 'DT skills progression map' for further detail of the progression of skills for each term in each year group.

Outside experience

We should encourage links with Industry by contacting local producers, suppliers, shops etc. Visits should be arranged where possible. Individual teachers may choose to involve parents with DT projects, complying with school policy on visitors.

Resources

Resources are mainly stored in the resource room and in individual classes in the EYFS. An induction hob and cooker are found in the nursery and hall kitchen. Any cooking must be done under adult supervision; the adult is then responsible for turning the cooker off and ensuring the safety of this area.

Assessment, recording and reporting

Assessment is an integral part of the teaching of Design & Technology. Children's work is assessed through observations and informal judgements. On completion of a piece of work / DT project, the teacher marks and comments as necessary. At the start of every lesson, children will complete a 'Flashback 4' which consists of four questions linked to prior learning.

At the end of a lesson, children will demonstrate their learning by completing a NIKI (Now I Know It) evaluation. The teacher makes a summary judgement about the work of each pupil and this will be used as basis for assessing the progress of the child at the end of the year.

Nuggets of Knowledge are used to reinforce key knowledge, facts and skills in order to ensure that children learn more, know more and remember more. Throughout lessons, children are encouraged to consider, 'What will be in you take-away bag?' to focus on the retrieval of key nuggets of knowledge.

Formative assessment takes place in each lesson and is used to inform the next step in teaching and learning.

Written or verbal feedback (in line with school marking policy) is given to help guide children's progress and is used to support teaching and learning and inform future planning. The teacher assesses the children's progress based on their achievement of the learning objectives in lessons. Children are encouraged to assess their own learning through self-assessment. Feedback on attainment to parents will be given during end of year reports.

Assessment is based on the National Curriculum.

- As part of this inclusive subject, DT from children of all abilities will be displayed in their own classrooms.
- DT Books / Digital apps (Showbie / Seesaw) will be used for each year group to save photographs of DT work in progress and examples of completed work.
- Evidence of DT should also be shared on the school website and with DT curriculum lead.
- Children will be encouraged to use 'design, make and evaluate' recording sheets based upon their age and ability (starting from Year Two)
- Reports on individual children's progress are made at end of each national curriculum year.

Inclusion

All pupils, regardless of race or gender, shall have the opportunity to develop their design & technology capability. The school promotes equal opportunities and fairness of distribution of all resources.

SEND / Additional Needs

We recognise the advantages of the Design & Technology for pupils with additional needs and we ensure that Design & Technology lessons::

- address pupils' individual needs;
- increase access to the curriculum;
- improve language skills.

We promote equal opportunities for all children. All pupils follow the National Curriculum, including computing. Where appropriate, adaptations are made to ensure that all children are able to access and achieve the learning objective.

Health and Safety

The individual teacher ensures a safe working environment according to agreed safety procedures, allowing for risk assessment where needed. This is based upon school and county guidelines for health and safety practice. See Health and Safety Policy.

Health & Safety in Design and Technology

Tools

Children must be shown the correct way to use tools and must be closely supervised until they are competent.

These tools may be used independently after instruction:

- Scissors
- Sticky tape dispenser
- Stapler
- Hole punch

These tools may be used under close adult supervision:

- Handsaw
- Shape saw
- Hammer and nails
- Screwdriver and screws
- Low temperature glue gun (care must be exercised as they can still burn a little)
- Paper cutter

These tools may be used by the teacher to assist construction but must NOT be used by children:

- Hot glue gun
- Stanley knives (snips should be encouraged instead)

General Points

Ensure appropriate adhesives are used.

Ensure junk packages are clean and have not been used for holding hazardous materials.

Textiles

Risks to consider:

- Storage of sharp objects such as pins and needles.
- Follow instructions for the correct storage, use and disposal of fabric dyes and paints.

Electricity

The following points should be noted:

Explain to children that they should not experiment with mains electricity and should use batteries in commercially available appliances only when supervised by an adult.

It is inadvisable to use rechargeable batteries for home-made circuits.

Any electrical equipment must be plugged into a circuit breaker and must not be allowed to come into contact with water.

Take care during investigations i.e. sharp edges within torches.

Children should not investigate the rotating parts of mechanisms without adult supervision and only then when there is no risk of sudden rotation.

Pneumatics

Following points should be noted:

- Make sure components are clean and have not been used for medical purposes.
- Take care with syringe plungers as they can come out with some force.

Outdoor Visits

Any visits out of school need to be well supervised with appropriately briefed adult helpers supporting teaching staff.

Food Preparation

Teachers are informed at the beginning of each academic year of any dietary requirements or food allergies.

These points should be observed before food preparation:

- Surfaces cleaned down and wiped with antibacterial cleaner,
- A plastic cloth kept for food activities and used to cover wooden/old tables.
- Aprons to be provided.
- Access to hand-washing and washing up facilities.
- Appropriate storage facilities for food.
- Teach dangers of hot cookers/ utensils,
- Supervise use of knives, peelers & graters.

Monitoring

Monitoring is carried out by the Headteacher, a member of senior management or the Design & Technology Subject Leader, in the following ways:

- Informal discussion with staff and pupils (pupil voice)
- Work sampling and book trawls
- Classroom observation
- Planning scrutiny

Evaluation / Review

There is an annual review of this policy by the Design & Technology Subject Leader. The Subject Leader will report to the governing body on the progress of the children in Design & Technology and will meet with the designated governor to discuss and monitor the success of the teaching in Design & Technology.

This policy was updated in January 2024. The policy was adopted by the Standards, Teaching & Learning Committee of the Governing Body of Walford Nursery & Primary School in January 2024 and will be monitored annually.

Signed: Chair of Standards, Teaching and Learning Committee

Signed: Headteacher