



DT Policy

Introduction

Design and Technology prepares pupils to participate in an everchanging technological world by becoming discriminating, informed users and innovators of products. They learn to think creatively to improve the quality of life by looking for and responding to human needs, wants and interests. They combine their understanding of relevant and past design and technology with practical skills to design, make evaluate and amend their own products; and to build on their skills for both independent learning and team work. We would hope that the activities undertaken during their time at Nansledan school will also reflect the children's local environment and support them in the wider world. Design and technology offers opportunities for children to:

- Develop their capability to create high quality products through combining their designing and making skills with their knowledge and understanding.
- Develop valuable teamwork skills and listen to and respect others' opinions.
- Nurture creativity and innovation.
- Develop their capability to create high quality products through combining their designing and making skills with knowledge and understanding
- Nurture creativity and innovation through designing and making
- Explore values and attitudes towards the made world and how we live and work within it.
- Develop an understanding of technological processes, products, their manufacture and contribution to society.
- Research and explore past design and technology and use this knowledge in their own designing
- Understand and apply the principles of nutrition and learn how to cook.

Our Design and Technology Curriculum Intent

To build and apply a repertoire of technical knowledge, understanding and skills (drawing on disciplines such as mathematics, science, engineering, computing, art, textiles and cooking) in order to design, make and evaluate a wide variety of high-quality prototypes and products based on the principles: user, purpose, functionality, design decisions, innovation and authenticity.

Through this inspiring, rigorous and practical subject, children will gain the expertise to take risks, and become resourceful, enterprising and capable citizens needed to excel in an increasingly technological world.

Our Aims

Through our teaching of Design and Technology, we aim to:

- Develop pupils' creative, technical and practical expertise.
- Stimulate pupils' interest and enthusiasm for designing and making.
- Encourage children's capability and confidence in their own ideas.
- Provide pupils with an understanding of the ways in which people from the past and present have used Design and Technology to meet their needs.
- Develop pupils' curiosity and interest in the designed and made world.
- Foster a sense of responsibility in pupils to use a range of tools and materials safely.
- Promote an ability to criticise constructively in order to evaluate their own ideas and products and those of others.
- Encourage pupils to take risks, and become resourceful, enterprising and capable citizens needed to excel in an increasingly technological world.
- Provide pupils with a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.
- Instil a love of cooking

Our Design and Technology lessons

At Nansledan School, our Design and Technology (D&T) lessons follow and cover all aspects of the National Curriculum, utilising the 'KAPOW' national scheme of work (which is endorsed by the Design and Technology Association). In KS1 and KS2, D&T is taught as part of a half termly topic, alternating with Art and Design. All classes will have a scheduled Design and Technology lesson each week of the half term following one D&T project, covering a particular aspect:

- Mechanisms
- Structures
- Textiles
- Cooking and nutrition
- Electrical systems (KS2 only)

All projects include the three types of activity:

- Investigative and Evaluative Activities (IEAs) where children learn from a range of existing products and find out about D&T in the wider world.
- Focused Tasks (FTs) where they are taught specific technical knowledge, designing skills and making skills.
- Design, Make and Evaluate Assignment (DMEA) where children create functional products with users and purposes in mind.

Design and technology is taught as an integral part of the creative curriculum at Nansledan. We follow the Kapow scheme of work, but tailor our administration of the lessons to suit our individual children's interest, events in the local community or class topics. We create focused practical tasks that are planned by the class teacher following the Kapow structure, to develop and practise particular skills and acquire knowledge. Meaningful assignments set within purposeful contexts are used by class teachers. Where appropriate they

are also linked to other subjects to encourage children to appreciate the importance of using different skills in conjunction.

During D&T lessons, technical skills are carefully demonstrated and modelled first, then with encouragement, scaffolds and peer-collaboration, children can subsequently explore and practice this themselves. We teach children to work collaboratively, use trial and error and then reflect on those experiences; focusing on the process of the project, as well as the finished product.

When designing and making, the children are 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 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
- Understand and use electrical systems in their products
- Apply their understanding of computing to program, monitor and control their products

Key skills and key knowledge for Design and Technology have been mapped across the school to ensure all learning is sequential and progressive between year groups, using our curriculum tool from Kapow. This also ensures that there is a context for the children's work in Design and Technology; that they learn about real life structures and the purpose of specific examples, as well as developing their skills throughout the programme of study. The Kapow scheme of work is a spiral curriculum, with key areas revisited again and again with increasing complexity, allowing pupils to revisit and build upon their previous learning.

Inclusion in Design and Technology

At Nansledan, we recognise our responsibility to provide a broad and balanced curriculum for all our pupils. Through our teaching in D&T, we provide learning opportunities that match the needs of children with specific learning needs and those children who are gifted and talented. We consider the targets set for individual children on provision maps or in some cases, their Individual Education Plans (IEPs).

In Design and Technology, we make sure we:

- Set suitable learning challenges for all learners (e.g. able children in Key Stage 1 may be able to use more complex lever and linkage mechanisms normally taught in Year 3 or 4, or children who have difficulty making their own patterns for memory boxes could be supported by choosing from a range of templates to support their learning).
- Respond to children's diverse needs by using a wide range of cultural images and products when choosing designs.
- Address gender stereotypes (e.g. female engineers and male fashion designers).
- Actively encourage all children's design ideas and value all suggested ideas.
- Adapt activities and instructions for children with special needs, disabilities and English as an additional language (EAL)
- Encourage all children to achieve as much independence as is compatible with their disability
- Identify the gifted and talented children and challenge them further (e.g. more open-ended design briefs, adapted design briefs specifying user requirements, planning and carrying out independent research, teaching designing, making and evaluating at a higher level, grouping more able children together to challenge each other's' thinking).
- Provide quality first teaching and use Teaching Assistants to support where necessary.

Care is taken in planning suitable D&T activities for children with special educational needs and or disabilities; we plan activities that will ensure some success and independence but will not be beyond the child's capabilities and competence. We make sure that children are not put at risk because they have a limited understanding of safety. The following questions are considered:

- Can the child understand very simple instructions and follow them?
- Has the child a physical disability which might affect the safe use of tools?
- Are there holding devices which would make it easier for the child?

Our Assessment of Design and Technology

At Nansledan, our children are regularly assessed in their D&T capability throughout D&T projects as we observe children during lessons as well as reflecting on their final product, in line with the school's assessment policy. At the end of each unit, all children complete an end of unit quiz, which supports the teacher with assessing which children are 'emerging', 'expected' or 'exceeding'. This information is recorded onto DT unit assessment sheets and is kept in the class teachers DT folder.

Health and Safety within Design and Technology

Nansledan School is committed to its responsibilities under the 'Health and Safety at Work Act 1974' and all other relevant statutory regulations to provide a safe and healthy environment for pupils and staff during D&T lessons.

The safety and hygiene of the children within each class is the responsibility of the class teacher (these expectations also apply to student teachers who must be made aware of their responsibilities by both their school mentor and their professional tutor.) If for any reason this responsibility cannot be accepted, it must be discussed with the management team leader before any activities take place.

All areas must be under the direct vision of the teacher and there should be enough space for each child to work comfortably. Teachers should be aware of any physical limitations which a pupil may suffer (e.g. height, eyesight or hearing) and make suitable arrangements.

Health and safety awareness is a central part of children's learning in Design and Technology; children are taught about hazards, risks and risk control and how to recognise hazards.

First aid

All staff understand the school's procedures for first aid, know where the nearest first aid box is kept, and the person(s) responsible for first aid. All accidents, however minor, are recorded.

Classroom Management and Organisation

Safe working practices in Design and Technology depend on common sense, good management and organisation. The following rules apply to all D&T lessons:

- Teachers and teaching assistants always set a good example of safe practice for children to follow.
- Teachers and teaching assistants always give a clear demonstration of how to use a tool safely and how it should be transported around the room in a safe manner.
- Children are constantly reminded about using tools and equipment safely.
- Children are encouraged to develop confidence and a sense of responsibility for themselves and other children.
- Tools and materials are organised- untidiness and poor preparation of tools and equipment can create hazards.
- Children are encouraged to keep their work area organised and to collect and return tools safely and systematically.
- Teachers will ensure safe workstations are set up for the use of tools such as glue guns (year 3/4), craft knives and junior hacksaws (year 5/6).
- Clearly stated rules about safe practice are provided; children are clear about the distinction between tools for general use and those which can only be used under direct supervision.
- Unnecessary movement of children around the room is discouraged.
- Correct levels of supervision are adhered to.
- Children only use the tools and equipment appropriate for their age group, maturity, behaviour and ability.
- We count all potentially risky tools and equipment (glue guns, junior hacksaws, craft knives, vegetable knives, sewing needles, fabric scissors, vegetable peelers and graters) before the lesson and again when they have been handed in.
- Even if children have used them before, we always start our lessons with a reminder of how to use the tools and equipment safely.

Food Hygiene and Safety

At Nansledan, we ensure that children prepare to and cook safely and hygienically. We know that some children choose to avoid some types of food because they are:

- Particularly sensitive to certain foods and become ill after eating products which are harmless to most other people.
- Allergic reactions can occur within minutes of eating just a small amount of food or ingredient and may prompt an anaphylactic reaction, which can be life-threatening.
- Intolerant, with the inability to digest foods such as eggs, gluten and dairy products.
- Prohibited for religious or cultural reasons.

Cooking utensils and work areas should be kept meticulously clean. Children should learn simple personal hygiene and food preparation rules.

Tools

Tools that present a safety hazard such as a glue gun or craft knife need to be secured away from general tools. Children should be trained to use tools safely from an early age. Children are suitably supervised depending on the level of risk when using different tools. With practice, children will develop skills and therefore competency, which means the level of supervision could be decreased. Only their teacher will know when to reduce supervision. It is also essential that the supervising adult (teaching assistant) is also competent and capable of carrying out the required level of supervision. Meeting before the lesson to jointly trial and plan the activity is by far the most effective way of doing this.

If during the planning we realise that we cannot provide a suitable level of supervision for the class, we make one of these choices:

- Modify the planning so that we can work with a manageable group while the rest of the class carry out a related task.
- Postpone the activity until a suitable level of supervision can be arranged.
- The activity is not done at that time.

Roles and Responsibilities:

- The Design and Technology Subject Leader is responsible for:
- Inspiring D&T throughout the school.
- Reviewing and updating the D&T policy, action plan and scheme of work.
- Monitoring the teaching and learning of D&T.
- Purchasing D&T resources and equipment.
- Offering support and advice on possible D&T teaching activities to all staff.
- Monitoring the storage of the D&T resources and equipment.
- Networking with other D&T specialists, to ensure subject knowledge is up to date with initiatives and any changes.

Teachers are responsible for:

- Reading this policy.
- Including effective D&T teaching and learning activities in their MTP.
- Assessing pupils in D&T, in accordance with the school assessment policy.
- Informing the D&T Subject Leader of any resources required for their class.

- Managing the D&T resources and equipment for their own phase; returning equipment and storing it safely; ensuring this cupboard is always neat and tidy and resources are stored safely.
- Inspecting tools and equipment before and after use to ensure they are in good working order.
- Reporting missing and or broken items to the D&T Subject Leader.
- Ensuring safe working practices with tools and equipment during D&T lessons.

The Head Teacher and Senior Leadership Team are responsible for:

- Supporting the Design and Technology Subject Leader
- Allocating the Design and Technology budget.

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April 2023