



NORTH WEST LONDON JEWISH DAY SCHOOL

DESIGN & TECHNOLOGY

POLICY

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Written by Brenda Mailer

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.

1. **Designing and Making assignments** will provide pupils with the opportunity to develop products that meet real needs. They will draw upon their designing and making skills and use their knowledge and understanding of the context for which the product is to be used.
2. **Focused practical tasks** will give the pupils the opportunity to learn and practice particular skills and knowledge, using the range of tools and materials used in construction technology, food technology and fabric technology.
3. **Investigating, disassembling and evaluating** simple products will give children the opportunity to explore existing products and to gain an insight into why particular materials are used in specific places; methods of manufacture and to discuss the suitability of the product for its purpose.

Aims and Objectives.

The National Curriculum for design and technology aims to ensure that all pupils:

Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world

Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users

Critique, evaluate and test their ideas and products and the work of others

Understand and apply the principles of nutrition and learn how to cook.
Develop the understanding of technology in our every day life and develop the technology capability of all pupils with respect to the whole curriculum.

Link Design and Technology with Art and Design, Science and Information Technology

Link Design and Technology with Limmudei Kodesh eg healthy eating with Tubishvat, making a sukkah for Sukkot.

Enable pupils to operate effectively in the real world through the development of positive attitudes and the use of selected contexts, encouraging responsibility for their own actions.

Develop pupils' creative, logical and imaginative thinking in a constructive manner for all ages.

For pupils to experience a wide range of equipment and materials.

For pupils to develop appropriate skills necessary for achieving technology activities.

To inculcate good health, and safety attitudes and habits.

To encourage co-operation among pupils in both designing and making activities.

To encourage pupils to have a sense of satisfaction in their own work, but also to be able to evaluate their work, identifying strengths and weaknesses.

To encourage pupils to appreciate the work of others.

Subject Content

Early Years Foundation Stage

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an interactive process of designing and making. The children work through Developmental Matters (Nursery and Reception) and Early Learning Goals (Reception). They enjoy weekly baking and cooking, regular woodwork sessions, building with a variety of small and large construction toys and use tools such as scissors, glue sticks daily when exploring media and material. They use a variety of technological toys including cameras, bee-bots, iPads and the Interactive White Board.

Developmental Matters to Early Learning Goals in the Early Year's Foundation Stage Curriculum for Nursery and Reception

Understanding of the World

The world

Developmental Matters-30-50-Nursery

Talks about why things happen and how things work

Developmental Matters-40-60-Reception

Looks closely at similarities, differences, patterns and change.

Early Learning Goal-Reception

Children know about similarities and differences in relation to places, objects, materials and living things.

They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes.

Technology

Developmental Matters-30-50 Nursery

Shows an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones.

Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.

Support and extend the skills children develop as they become familiar with simple equipment, such as twisting or turning a knob.

Developmental Matters 40-60-Reception

Uses ICT hardware to interact with age-appropriate computer software.

Early Learning Goals-Reception

Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes

Expressive Arts and Design

Exploring and using media and material

Developmental Matter-30-50—Nursery

Uses various construction materials.

Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces.

Joins construction pieces together to build and balance.

Realises tools can be used for a purpose.

Developmental Matters-40-60-Reception

Manipulates materials to achieve a planned effect.

Constructs with a purpose in mind, using a variety of resources.

Uses simple tools and techniques competently and appropriately.

Selects appropriate resources and adapts work where necessary.

Selects tools and techniques needed

Early Learning Goal-Reception

Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function

Physical Development

Moving and Handling

Developmental Matters-30-50-Nursery

Uses one-handed tools and equipment, e.g. makes snips in paper with child scissors.

Developmental Matters-40-60-Reception

Uses simple tools to effect changes to materials.

Handles tools, objects, construction and malleable materials safely and with increasing control.

Early Learning Goal-Reception

Children show good control and co-ordination in large and small movements.

They move confidently in a range of ways, safely negotiating space. They handle equipment and tools effectively, including pencils for writing.

Health and self-care

Developmental Matters-30-50-Nursery

Understands that equipment and tools have to be used safely

Developmental Matters-40-60-Reception

Shows understanding of the need for safety when tackling new challenges, and considers and manages some risks.

Shows understanding of how to transport and store equipment safely. Practices some appropriate safety measures without direct supervision.

Early Learning Goal-Reception

Children know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe. They manage their own basic hygiene and personal needs successfully, including dressing and going to the toilet independently.

Communication and Language

Understanding

Developmental Matters-30-50-Nursery

Understands use of objects (e.g. "What do we use to cut things?")

Beginning to understand 'why' and 'how' questions.

Developmental matters-40-60-Reception

Listens and responds to ideas expressed by others in conversation or discussion.

Early Learning Goal-Reception

Children follow instructions involving several ideas or actions. They answer 'how' and 'why' questions about their experiences and in response to stories or events

Subject content

Key stage 1

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

Key stage 2

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

Design and technology - Key stages 1 and 2

Cooking and nutrition

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. Pupils should be taught to:

Key stage 1

Use the basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from.

Prepare and cook food related to the Jewish festivals.

Key stage 2

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.

Cook food linked to the Jewish festivals

Developing the needs of all pupils

1. Equal Opportunities

Both boys and girls will have access to all design and technology activities, in constructional technology, food technology and fabric technology. From the earliest years they will learn to use a range of tools, suitable for their age range, progressing up to real workshop tools.

2. Special Educational Needs

Classes as a whole will be participating in very similar tasks, but more challenging tasks will be provided for the more able and those who have developed greater skills. Challenging, yet achievable tasks will be provided for the less able. Those with physical difficulties will be provided with sprung scissors, and smaller tools, for easier manipulation.

3. Left Handed Pupils

Special care must be taken to ensure that left-handed pupils have access to tools specific to their needs wherever possible. Aids such as vices, scissors and the positioning of left-handed children themselves should be on the left-hand side of tables. Groups of left-handed children will require specific training in the use of aids and tools to enable them to reach their fullest potential in design and technology.

Resources

All resources for Design and Technology are purchased by the class teachers or in the case of Healthy Living Week by the Design and Technology, Science and PE Co-ordinators. The school has a Creative Curriculum Room which is shared by Key Stage 1 and Key Stage 2 and resources are bought regularly. The use of recycled materials is encouraged. Any resources or tools that are in need of replacement should be requested in the stock book. The Key stage co-ordinators should be informed immediately of any tools that are damaged or in need of repair.

Safety

- Safety is paramount. All teachers should ensure that they have adequate training in the use of tools, both hand powered and electrically powered, and that they can teach children how to use them safely and effectively.
- Teachers must be aware of the separate electrical circuits, be able to operate the cut-out switches in the event of an emergency and be able to restore the circuits to normal use.
- Hacksaws, hammers and knives are stored in locked cupboards and drawers. These must be kept locked at all times, and the keys are located above child height and out of sight.
- Children should be shown the correct methods for handling all tools, from scissors to saws.
- The use of junior hacksaws should be supervised in small groups, and the use of craft blades (upper juniors, and at the discretion of the class teacher) should be with direct adult supervision, and close guidance.
- All tools are to be maintained to a high standard of efficiency. No damaged tools are to be used by pupils or teachers.
- Appropriate hygiene measures should be observed during food lessons.

- When undertaking food preparation lesson, tables should be covered (with clean, disposable table covers) and only **blue** plasters should be worn. These are kept by the Welfare Officer.

Assessment and Recording of pupils' work

In The Early Years Foundation Stage, in both Nursery and Reception, children's progress will be assessed through Developmental Matters in the children's Learning Journeys and on Primary Target Tracker. In Reception children's progress will be recorded through Developmental Matters and the Early Learning Goals in the children's Learning Journeys and on Primary Target Tracker and at the end of the Summer term in the Early Years Foundation Stage Profile.

In Key Stage 1 it is not expected that pupil's complete written records of their own work, although this can be incorporated with English work at times. Children will draw and discuss their ideas, and evidence can be collated through photographs, displays and the compilation of class books.

At Key Stage 2 it is expected that pupils have individual evidence of the design process, through sketches, diagrams, lists or written accounts. They should take the evaluation process further thorough adapting their original designs, and evaluating their finished product. In the Junior classes, pupils will be encouraged in the self assessment of their work by completing evaluation sheets.

In Key Stage 1 and Key Stage 2, at the end of a unit of work, the teacher will complete an assessment sheet indicating a summary of the activities, the broad levels of achievement, with any general comments. They should identify above and below average achievers, and any pupils who missed the activity, and this information is passed on to the next teacher at the end of the academic year. Summative assessments should be shown according to the level descriptors for Design and Technology in the National Curriculum.

Most assessments will be made by the teacher observing, talking and listening to individual pupils and groups whilst they are working through their activity. Further evidence can be acquired by collecting the drawings, plans and sketches a child has made as well as judging the end product. For all Key Stages, it is expected that photographic records will be kept of the artefacts produced.

QCA Units

Key Stages 1 and 2 follow the QCA Scheme of Work for Design and Technology. Teachers may adapt their units, but must ensure that the relevant curriculum areas indicated by that unit are covered, and that the learning objectives are achieved.

Class	QCA Unit	Title	Focus
Year 1	1A	Moving pictures	Mechanisms: card levers and sliders
	1C	Eat more fruit and vegetables	Food utensils, safety. Food choices.
	1D	Homes	Stable structures and hinges.
Year 2	2A	Vehicles	Wheels and axles.
	2C	Winding up	Pulleys - wheels with handle for leverage.
	2D	Joseph's coat	Sewing. Range of fabrics. Repeat patterns.
Year 3	3A	Packaging	Structures and materials.
	3B	Sandwich snacks	Food preparation. Simple cooking techniques. Hygiene.
	3C	Moving monsters	Syringe movement.
Year 4	4B	Storybooks	Mechanisms - levers and pop-ups. Finishing techniques.
	4E	Lighting it up	Electrical control. Switches.
	5B	Bread	Food - cookers. Chemical changes. Safety.
Year 5	4A	Money containers	Textiles - fastenings. Seams. Stitching.

	5A	Musical instruments	CD-Rom research. Stable structures.
	5C	Moving toys	Cam mechanisms.
Year 6	6A	Shelters	Stable structures. Tubular frames.
	6B	Slippers	Structures - textiles. Joining materials.
	6D	Controllable vehicles	Electrical/computer control. Motors.