

Aims, Objectives and Vision for Design & Technology

At Annie Lennard we value learning and teaching Design Technology as it 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.

At Annie Lennard School (ALS) all pupils will be entitled to experiences in Design & Technology, which are:

- Inspiring, rich, varied and enjoyable.
- Challenge them to their full potential.
- Offer learning experiences of the highest standard possible; irrespective of gender, ethnic background, age or disability.

The Design & Technology curriculum is designed to provide experiences which cover the full range of individual strengths and abilities through the widest possible range of activities.

Roles and Responsibilities

The Design & Technology Lead will:

- Maintain the Design & Technology resources in the central resource base. Orders will be placed where needed for materials and media required to teach the subject.
- Manage the use of the allocated Design & Technology budget with guidance from the Business Manager, SMT and Administrative staff.
- When placing orders, ensure that any orders take into account 'value for money' principles.
- Monitor the progress of pupils within the Design & Technology curriculum on a termly basis by using Target Tracker.
- Present reports to the SMT and Governing Body when requested to.
- Support staff with planning, delivery and understanding of the Design & Technology curriculum.
- Deliver continuing professional development (CPD) for staff with regards to Design & Technology.
- Promote the importance of teaching Design & Technology at ALS and following the National Curriculum.
- Continue to develop their own CPD for Design & Technology.
- Monitor and review the effectiveness of the Design & Technology Programme being delivered at ALS.

Staff will:

- Promote a confident, positive attitude towards the learning and use of design & technology making it an enjoyable experience;
- Enable the pupils to be able to observe, use first-hand experience and have the confidence to create their own ideas.
- Develop their ability by using a range of materials, tools, and techniques within Design & Technology lessons.
- Ensure all materials and equipment are treated correctly and safely at all times in order to maintain an effective supply for all pupils to access.
- Report any damaged or depleted stock or materials to the Design & Technology Lead.
- Foster an enjoyment and appreciation of art, both looking at their own work and the work of others.
- Increase the pupils' knowledge of artists, craftspeople and designers who have influenced work in this area from a range of cultures and time periods
- Help them gain a critical awareness of Design & Technology's place within different periods and cultures.
- Follow the National Curriculum for Design & Technology. (See Appendix 1)
- Consider all appropriate health and safety requirements with regards to the safe use of materials, tools and equipment.

Pupils will have the opportunity:

- To develop an enjoyment of Design & Technology and see themselves as designers.
- To be able to express their own ideas through designing and making and give meaning to the world around them.

- To be able to use a range of materials, tools and techniques at a comfortable level for them.
- To be able to be critical in evaluating their own and other people's work, giving an opinion on what they think might improve the piece of work.
- To develop an awareness of how Design & Technology relates to other areas and the influence it has upon the world in which we live.

The SMT and Governors:

It is the responsibility of the Governors to ensure that as well as fulfilling their legal obligations, they should also make sure that:

- All pupils make progress in achieving the expected educational outcomes with regards to Design & Technology;
- Design & Technology is well led, delivered, effectively managed and well planned;
- The quality of Design & Technology provision is subject to regular and effective self-evaluation;
- Teaching is delivered in ways that are accessible to all pupils with SEND;
- The subjects are resourced, staffed and timetabled in a way that ensures that the school can fulfil its legal obligations.

The SMT will support the Design & Technology Lead to ensure that all staff are aware of the school policy, and that they work within this framework. The SMT, along with the subject Lead, will monitor this policy on a regular basis.

Parents and Carers are expected:

- To be understanding and supportive of our aims in learning and teaching Design & Technology.
- To support the pupils with any Design & Technology that they may undertake at home.
- To help develop a child's talent for Design & Technology where necessary and value it as a subject.
- To encourage and praise their child's effort with Design & Technology.

Implementation of the Design & Technology Curriculum

Early Years Foundation Stage

- Design & Technology is part of the 'Expressive Arts & Design' and 'Understanding the World' elements of the Early Years Foundation Stage statutory framework. (See Appendix 2)
- Designing and making is one of the aspects of 'Understanding the World.'
- Pupils will have regular teacher led Design & Technology based activities where skills are demonstrated and taught.
- Pupils will have frequent opportunities to practise and develop their Design & Technology skills and explore techniques during child initiated and teacher directed activities.

Key Stages 1 and 2

- Pupils have timetabled lessons and follow the National Curriculum (See Appendix 1) targets within topic style work and/or stand-alone key skills lessons. These timetabled lesson may be in the form of small lessons or, where it lends itself, longer whole 1-2 day projects. This is to enable pupils to see a process from beginning to end when producing a specific piece of work or completing a given Design & Technology project.
- Design & Technology lessons may link to other topics but this is not a necessity. It is perfectly acceptable for Design & Technology lessons to be independent of other areas. Where possible and appropriate, links to other subjects should be made.
- Pupils are given a wide range of experiences and access to safely use different materials, tools and processes. With these they are encouraged to develop their own makes and inventions.
- A range of different styles and techniques are shown which cover the key elements of food technology, making, designing, technical knowledge and evaluating.
- Pupils are given opportunities to look at the work of famous engineers, chefs and designers.
- There is clear progression of Design & Technology throughout the school.
- All pupils will record their ideas, designs, inventions and makes in a personal learning log in the form of a book or a folder which will follow them through from year 1 to year 6.
- Pupils in each key stage are able to consolidate their learning from previous key stages by practising and using the techniques that they were shown.
- There will be focussed food technology lessons in each year groups across the whole school.

Teaching and Learning Styles

Teaching and learning styles will differ depending on the lesson and will address the individual needs of the pupils. At ALS we utilise many learning and teaching styles. Pupils should be given opportunities to experience different approaches to Design & Technology including those that involve working individually, in small groups and as a whole class.

Inclusion and Differentiation (also- see SEND policy)

We teach Design & Technology to all pupils, in accordance with the school curriculum policy of providing a broad and balanced education to all pupils. Teachers provide learning opportunities matched to the needs of all pupils (including those with Special Educational Needs).

Inclusive practice in Design & Technology should enable all pupils to achieve their best possible standard; whatever their ability, and irrespective of gender, ethnic, social or cultural background, home language or any other aspect that could affect their participation in, or progress in their learning.

To overcome any potential barriers to learning in design and technology, some pupils may require opportunities to work in ways that avoid contact with materials to which they may be allergic to.

Where pupils have dietary requirements for health or religious reasons they must be catered for and provided for safely. For further information, please see the Design & Technology Risk Assessment.

Resources

Design & Technology resources will be stored in classrooms or in the central resource area in the hall. Resources will be ordered via the Design & Technology Lead. Food Technology equipment is kept on the trolley in a central area. Sharp knives are to be kept separately and in an area where pupils do not have access freely.

It is important that all materials and equipment are handled in an appropriate manner in order to maintain their quality. Any damaged equipment must be reported to the Design & Technology Lead in order to replace or repair it. Any resource which becomes depleted must also be reported to the Design & Technology Lead in order to replenish.

An annual audit of resources will be carried out to identify current stock and equipment available for teaching purposes.

Various websites are subscribed to by the school which can be accessed by all staff to aid the planning and delivery of quality effective Design & Technology lessons.

Health and Safety

Health and Safety arrangements must be considered when planning to use any tools, materials and equipment. Pupils will need suitable supervision in order to use the equipment safely.

When teaching food technology, all pupils with dietary requirements **MUST** be considered and provided for safely with alternatives where available. Any cooking utensils and equipment **MUST** be cleaned thoroughly after use and steam cleaned in the kitchen area. (Please liaise with Mrs Long to do this.)

All staff delivering food technology lessons will need to have been trained on food hygiene procedures.

For further information please see the Risk assessment for Design & Technology.

Assessment and recording

Assessment should be linked to planning at all times. Teachers will record pupil's progress, every half term, on Target Tracker by recording the sublevel they have achieved. (At present we do not use the year group targets on Target Tracker as they are not specific to our Scheme of Work.)

Data will be monitored at the end of each term by the Design & Technology Lead to track pupil progress against the National Curriculum requirements.

Monitoring and review

Monitoring will take place in the routine of the whole school agenda. Staff meetings will be allocated across the academic year for staff training, upskilling and work trawls to ensure the curriculum's effectiveness, moderate pupils' work and to identify any training needs which need to be put in place.

The Head teacher, Senior Management Team and Design & Technology Lead will monitor the effectiveness of this policy on a regular basis.

The Head teacher and Design & Technology Lead will report to the governing body on the effectiveness of the policy and if necessary, make recommendations for further improvements.

Appendix 1:

Design and technology programmes of study: key stages 1 and 2

National curriculum in England

Purpose of study

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.

Aims

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.

Attainment targets

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.

Schools are not required by law to teach the example content in [square brackets].

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 iterative 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 iterative 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.

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.

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.

Appendix 2

Learning Requirements – Statutory Framework for the early years foundation stage (April 2017)

Understanding the world

People and communities:

Children talk about past and present events in their own lives and in the lives of family members. They know that other children don't always enjoy the same things, and are sensitive to this. They know about similarities and differences between themselves and others, and among families, communities and traditions.

The world:

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:

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 materials:

Children sing songs, make music and dance, and experiment with ways of changing them. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

Being imaginative:

Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories.