



Design and Technology Policy

DEFINITION

Design and Technology is a subject where pupil's capability in designing and making is developed through combining their skills with knowledge and understanding. At Alexandra Infants' we view Design and Technology as a subject which allows pupils to apply their knowledge and understanding in a creative way to design, make and evaluate products as well as develop their technical knowledge.

"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 Document 2014)

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
- Retrieve and interleave knowledge and skills to build mastery over time.

TEACHING OBJECTIVES

EYFS

The updated and revised Development Matters, Expressive arts and design states, "It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe," (July 2021).

Pupils should have the opportunity to:

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
- Share their creations, explaining the process they have used.

Key stage 1

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**
 - Construction**
 - Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
 - Mechanisms**
 - Understand and use mechanical systems in their products [for example, levers, sliders, axels and wheels].
 - Cooking and Nutrition**
 - Use the basic principles of a healthy and varied diet to prepare dishes
 - Understand where food comes from.
 - Textiles**
 - Measure, cut and join textiles; and explain why they have been used.
 - Use of Materials**
 - Measure and join materials, as well as understanding how to make them stronger.

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 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
- **Technological 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 programme, monitor and control their products.
- **Cooking & Nutrition**
 - understand and apply the principles of a healthy and varied diet
 - cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet
 - become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes]
 - understand the source, seasonality and characteristics of a broad range of ingredients

CREATIVE CURRICULUM OVERVIEWS

Separate overviews for the delivery of design and technology are available on the school websites. These detail the topics through which the curriculum content, knowledge and skills are delivered.

PLANNING

Teachers from Foundation Stage to Year 6 plan to ensure full coverage of the skills relating to the design and technology curriculum for that year group throughout the year.

EYFS

Skills, techniques and processes should be taught discretely as and where appropriate, to prepare pupils in developing these in Key Stage 1. These should include – investigating, skills-based work and focused practical tasks. There are many opportunities for linking a particular skill with a theme and/or text, and this should be utilised to enable pupils to meet the Early Learning Goals. The Kapow scheme of work and a long term overview is in place to provide teachers with an overview from which they are able to plan in both the medium and short term.

KS1 and KS2

Design and Technology lessons should be planned with the view to enable pupils to use the design, make, and evaluate process. This provides pupils with the opportunity to develop as designers as well as evaluators of their own work. The Kapow scheme of work and a long term overview is in place to provide teachers with an overview from which they are able to plan in both the medium and short term.

This will also provide teachers with ample time to place any orders of specific materials and/or resources required through the Design and Technology subject leader.

The particular skills to be taught will be taken from the National Curriculum, and the curriculum overview provided by the subject lead will ensure clear progression over time.

RECORD KEEPING, ASSESSMENT AND REPORTING

As in all other areas of the curriculum, assessment is an integral part of the teaching process. Class teachers should keep records of work carried out by pupils in the class floor books, as well as levels of achievement of the work in the form of measurable success criteria. Photographs and videos are also a useful tool to keep as a reminder of pupil achievements, particularly in the form of pupil evaluation.

Formative assessment is used to guide the progress of individual pupils in Design and Technology. It involves identifying each pupil's progress in each aspect of the curriculum, determining what each pupil has learned and therefore what the next step in their learning should be. Formative assessment is ongoing and carried out informally by the teachers in the course of their teaching as well as through the highlighting of a success criteria for every child at the end of each lesson.

As for the recording of summative assessment, the Design and Technology assessment tool is used at the end of a taught unit and will identify the pupils that are working below, working at and working above age related expectations.

MONITORING

Teaching and Learning in design and technology is monitored regularly by the subject leader. This includes the following:

- Medium term plans are reviewed and annotated prior to being used in order to support teachers planning and ensure learning opportunities are maximised
- Floor books are scrutinised to ensure curriculum coverage is being followed and consistency across cohorts is visible
- Pupil voice gives the pupils the opportunity to discuss and demonstrate their learning

INCLUSION

At Alexandra Infants' and Junior School, it is our belief that all pupils have an equal right to a broad and balanced curriculum, which enables them to reach their full potential. Through our teaching we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs; those with disabilities; those who are deemed more-able and talented; and those who are learning English as an additional language. We make all reasonable adjustments to achieve this. For further details, see the relevant separate policies: Special Educational Needs; SEND Information Report; Equality Policy and Scheme; Able and Talented; English as an Additional Language (EAL).

We strive to ensure that all pupils, staff and members of our school community are treated fairly and equally. All pupils have equal rights to access all areas of the curriculum regardless of race, gender, religious beliefs, sexual orientation and/or disability. Within this subject area, the senior leadership team (SLT) and all staff endeavour to provide the appropriate provision for this to be able to occur. This policy follows the guidelines and practices that are stated and outlined in the Alexandra Infants' and Junior School's Equality Scheme. Please see this policy for further detail.

EQUAL OPPORTUNITIES

Our Design and Technology curriculum is designed to excite, inspire and engage young children in positive and inclusive learning opportunities. We believe that pupils should be actively engaged in authentic and exciting lessons where they are able to take ownership of their learning. By giving the pupils opportunities to design, make and evaluate their own products, we aim to develop confident, competent learners. We embrace connections to other areas of the curriculum in order to provide context and real life opportunities for the children. This enables them to see the value of Design and Technology across the curriculum, as well as in its own right. The curriculum area also promotes language development and offers lots of speaking and listening opportunities for the pupils when talking about their products.

HEALTH AND SAFETY

Pupils should always work in a safe environment, both inside and outside of the classroom. All staff are responsible for checking that equipment and resources used within lessons are safe, as well as ensuring the environment is safe and purposeful for learning.

PARENTAL INVOLVEMENT

As with all other areas learning, we utilise the support of parents and carers to help us to maximise the development of each pupil's potential. This includes parental support with any research or homework projects which may be set. We may also invite parents or visitors to come in to support with the learning in school, either in sharing a particular skill or providing additional adult support.

Updated December 2022 (S. Heath – D&T Subject Coordinator)

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