



Balfour Junior School
Design and Technology Policy

Purpose of this Policy

To provide clear guidance on the aims, teaching and learning, marking and assessment of design and technology in order to promote continuity and development of the subject throughout the school.

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.

(From the National Curriculum for England and Wales; Design and Technology).

Aims

The aims of design and technology (taken from the National Curriculum for England and Wales; Design and Technology) are to:

- ❖ 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.

Teaching and Learning

All children are to have access to a range of activities that encourage children to develop and apply their understanding of skills and processes.

Teachers will:

- ❖ Encourage pupils to work independently and as part of a team in order to complete designing and making activities.
- ❖ Provide opportunities for children to explore the purpose of products and how they meet the needs of the intended audience.

- ❖ Create an environment in which children feel safe to challenge themselves in addition to reflecting upon and evaluating their work.
- ❖ Enable pupils to draw upon their knowledge and understanding from other areas of the curriculum, for example:
 - Mathematics – measuring, drawing and interpreting tables, graphs and bar charts.
 - English – planning, reasoning, evaluating and reflecting.
 - Science – predicting and fair testing.
 - Art – designing, recording visual information, aesthetics.
 - History – how design and technology has developed and is developing over time.
 - ICT – control technology or handling information through databases and spreadsheets.
- ❖ Provide opportunities for children to develop their skills through working with a range of materials and tools.
- ❖ Provide opportunities for children to develop their understanding of nutrition and healthy eating.

Planning

When planning design and technology lessons, teachers will:

- ❖ Follow the planning format currently used in school.
- ❖ Include a clear learning objective and success criteria that will then be displayed during the lesson.
- ❖ Build upon prior learning with planned progression for all.
- ❖ Link to the year group topic where possible and be recorded alongside topic work in the children's topic books.
- ❖ Plan units of work, as specified in the National Curriculum for England and Wales, that allow children to design, make, evaluate and develop their technical knowledge.
 - Design:
 - Allow children to carry out research in order to develop design criteria for innovative and functional products that appeal to the intended audience as well as being fit for purpose.
 - Explore their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.
 - Make:
 - Choose and accurately use appropriate tools and equipment in order to complete practical tasks.
 - Choose a wide range of materials and components when completing practical tasks including construction materials, textiles and ingredients taking in to consideration their functional properties and aesthetic qualities.
 - Evaluate
 - Explore and look closely at a range of existing products to inform their own creations.
 - Evaluate their own ideas and products against their own design criteria as well as others' views in order to develop and improve their work.
 - Develop an understanding of how key events and individuals in design and technology have helped shape the world.
 - Technical knowledge
 - Apply and develop their understanding of strengthening, stiffening, and reinforcing increasingly complex structures.
 - Apply and develop their understanding of mechanical systems including gears, pulleys, cams, levers and linkages.

- Apply and develop their understanding of electrical systems in their products, for example series circuits including switches, bulbs, buzzers and motors.
- Apply and develop their understanding of computing to programme, monitor and control products.
- ❖ Incorporate opportunities for cooking and nutrition to be explored during design and technology units of work. This should allow for children to:
 - Apply and develop their understanding of a healthy and varied diet.
 - Prepare and cook savoury dishes using a range of cooking techniques.
 - Develop an awareness and understanding of seasonality including a knowledge of where and how ingredients are grown, reared, caught and processed.

Marking

Marking will:

- ❖ Be of a consistent standard across the school and year group.
- ❖ Encourage peer and self-assessment with clear success criteria to enable this.
- ❖ Encourage reflection upon work, skills used and progress throughout the unit of work.

Assessing and Reporting

Teachers will:

- ❖ Informally assess pupils during lessons through questioning and discussion.
- ❖ Assess in-line with the new curriculum objectives.

Gifted and Talented

Children who are identified as being 'Gifted and Talented' in this area of the curriculum will be given opportunities to nurture and further develop their skills and talents in the subject.

Health and Safety

It is important pupils are taught to use equipment safely and competently. They should be enabled to develop their understanding of tools and their awareness of health and safety, including how to minimise risks to both themselves and others. It is recognised that this can only happen when children are introduced to tools and equipment in a safe and controlled environment and not through avoiding the use of tools and equipment.

Teachers will:

- ❖ Be responsible for the safe storage and use of tools and materials in their own classrooms.
- ❖ Be responsible for returning tools and materials to its correct storage after use.
- ❖ Introduce and supervise the use of tools and materials appropriately including the use of hardboard to protect surfaces when using tools.
- ❖ Children will be encouraged to wear the appropriate protective clothing.

Pupils will be taught:

- ❖ About hazards, risk and risk control.
- ❖ To recognise hazards, assess risks and take steps to control the risks to themselves and others.
- ❖ To use information to assess the immediate and cumulative risks.
- ❖ To manage their environment to ensure the health and safety of themselves and others.
- ❖ To explain the steps taken to control risks.

Food Technology

Teachers will:

- ❖ Be aware of food allergies and take this in to consideration when completing cooking and nutrition units of work. Parents will be informed prior to cooking and nutrition units of work taking place.
- ❖ Oversee and develop an awareness and understanding of basic hygiene practises including washing hands, cleaning surfaces before and after preparation and tying hair back.
- ❖ Vigilantly supervise children when they use cooking equipment.

Specialised equipment including glue guns, saws, knives and hand drills.

Teachers will:

- ❖ Supervise the use of specialised equipment.
- ❖ Designate an area for the use of the specialised equipment with a controlled number of children in the area at any one point.
- ❖ Leave the item glued when using glue guns to cool for at least one minute.

If a child should injure themselves, a first aider should be consulted immediately and the incident recorded appropriately.

The role of the Design and Technology Coordinator

The design and technology coordinator will:

- ❖ Inspire enthusiasm for the subject.
- ❖ Offer advice to staff when necessary.
- ❖ Monitor progression across the key stage.
- ❖ Monitor coverage of the National Curriculum through the monitoring of plans and work.
- ❖ Manage a budget and the ordering and maintain of materials in school in consultation with other members of staff.
- ❖ Take the lead in policy development and update the policy when required.