Our rationale

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

At Airedale Junior School we plan the topics that prepare children to take part in the development of tomorrow's rapidly changing world. Creative thinking enables children to make positive changes to their quality of life. DT encourages children to become autonomous and creative problem-solvers, both as individuals and as part of a team. It helps them to identify needs and opportunities and to respond by developing ideas, and eventually making products and systems. Through the study of design and technology, they combine practical skills with an understanding of aesthetic, social and environmental issues, as well as of functions and industrial practices. This allows them to reflect on and evaluate present and past design and technology, its uses and its impacts. Design and technology helps all children to become discriminating and informed consumers and potential innovators.

Aims: Intent

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.

Curriculum and Subject Content: Implementation

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.

Food Technology

- 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.

DT Curriculum Map

	Term 1.1	Term 1.2	Term 2.1	Term 2.2	Term 3.1	Term 3.2
Year 3			Sandwich Boxes	Greenhouse Structures		Catapults
Year 4	Saxon Purses	European Structures		Construction Kits		
Year 5		Rag Cloths			Cam Toys	
Year 6		Light Boxes				Pneumatics

N.B Food Technology is taught through the Change4Life programme at different stages throughout each year.

Resources

Each class/year group is responsible for their own design and technology stock. This is ordered based on topics that are approaching and to replace any used stock that is ongoing throughout the year. Stock is kept in classrooms or a designated area for each year group e.g. stockrooms.

Health and safety

In this subject, the general teaching requirement for health and safety applies. We teach children how to follow the relevant procedures for food safety and hygiene.

Monitoring and Evaluation: Impact

Throughout the term/year a range of monitoring activities are conducted in-line with the schools monitoring calendar such as: lesson observations/drop-ins, book/work scrutiny, pupil voice, and display audits alongside planning scrutinies. This enables the design and technology leader to constantly monitor their subject area, identify needs for CPD and/or peer support, while keeping abreast of standards in design and technology across school.

Assessment

Assessment in design and technology is based upon knowledge and understanding. At Airedale Junior School we use a range of assessment materials to ensure that children are making appropriate progress, including assessment tasks, observations and experiments. Pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programmes of study.

Assessment should:

- Be formative and summative
- Be used to inform the teacher for future planning
- Promote continuity and progression
- Form the basis for reporting to parents
- Be based on observation, participation and written outcomes

The National Curriculum has no prescribed assessment for Design Technology. However, assessments are made towards the end of each unit of work. Ongoing peer critique for group work take place as well teacher assessment. Class teachers are responsible for recording achievement of children working below, at or above age related expectations for their age. All staff at Airedale Junior School strive to ensure that our children reach their full potential in design and technology and that they understand and enjoy their experiences. They ensure that tasks are differentiated appropriately to match the needs of all pupils, including those with Special Educational Needs. We have a tracking system within school, to follow and accelerate pupils progress. The school design and technology coordinator monitors progress through the school by sampling children's work at regular intervals.

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