Policy & Procedure

Thornton Primary School

Design Technology Policy 2024-2027

This policy is reviewed every three years and was agreed by the Governing Body of Thornton Primary School in Spring 2024**and will be reviewed again in Spring 2027**

Signed: _____ Chair of Teaching & Learning

Date: _____

Non-Statutory Policy

Our aim is to develop confident and enthusiastic learners who are always respectful of each other and the staff. We want them to build a strong appreciation of their own positive attributes as well as those of the other children and, in doing so, to develop a 'can-do' attitude to learning, and the community in which they live, through consistent focus upon:

Excellence
Independence Enthusiasm Equality
Responsibility Empathy
Confidence Perseverance Care
Aspiration
Respect
Pride Tolerance
Teamwork Challenge Integrity
Enjoyment

Thornton Primary School
Achieving Success By Working Together

Aims and objectives in Design Technology (Intent)

The teaching of Design Technology at Thornton Primary School will help pupils to develop the skills and practical expertise needed to participate in an ever increasing technological world.
The teaching of Design Technology will provide children with opportunities to:

- Design and make products that solve both real and relevant problems within a variety of contexts.
- Design and make products for themselves or other users to design criteria.
- Be able to clearly state the purpose of their products.
- Draw on their own experiences and also their use of existing products which they have explored and evaluated. .
- Explore materials, components and construction kits, make prototypes and test and evaluate their products.
- Select from a range of materials and equipment and be able to explain their choices. As children's knowledge of these aspects progress, they will be encouraged to do this with more independence.
- Experience a variety of different ways to assemble, join and combine materials using a range of different techniques and also investigate how to make structures stronger, stiffer and more stable.
- Be able to clearly state how their products work using their developing technical language and drawing on their knowledge and understanding of other subjects that link such as Science, Mathematics and Computing.
- Be introduced to a range of mechanisms that provide different types of movement such as axels and wheels, sliders, levers and linkages, winding mechanisms and pulleys, to developing more sophisticated methods, such as cams and electronics.
- Be able to name and sort foods into the main five groups from 'The Eatwell Plate' and know that everyone should eat five portions of fruit or vegetables a day.
- Learn skills and techniques such as cutting, peeling and grating safely and have the opportunity to cook a range of dishes.
- Explore the use of Information and Communication Technology.
- Be inspired by inventors, designers, engineers, chefs and manufacturers who have developed ground breaking products.

Teaching and learning (Implementation)

Children are introduced to a range of carefully selected exploration tasks to build up skills and knowledge and design and make tasks as they progress through KS1 and KS2. These link to other curriculum areas such as Topic, Science and English. Design Technology lessons are usually blocked into theme days but can form a short series of weekly lessons where this is deemed more appropriate. Careful selection of tasks ensures progression in terms of knowledge, skills, techniques and technical vocabulary development. The children have opportunities to apply these to design and make tasks as they further progress up the school. There are many opportunities for recapping of knowledge and skills as links to previously learning are incorporated into teaching.

Children work from a variety of starting points to put their work into context. In Key Stage 1, this takes the form of stories children may have been studying during English lessons, progressing to design and make challenges relating to topic and other subject study further up the school. Local, industrial and wider environment contexts are also linked such as in geographical and historical contexts. For instance, in Year 1 Geography, children learn about the immediate area around school and visit the local playground. This leads onto investigating structures and making their own play equipment structures. Investigating mining in the local area in Year 4 leads onto making structures with winding mechanisms and the study Ancient Greece in Year 5 links to researching early automata and developing the use of winders and cams.

Children are encouraged to think about who the products they design and make are for. In KS1 this will be mainly for themselves but as children progress up into KS2, the users will become less familiar for example, designing for people they meet in the local community or visitors into school. They will also be provided with the opportunity to clearly state the purpose of their products. In KS2, this will go beyond the simple statements they make in KS1 as children will be prompted by a range of questions. Deeper thinking in KS2 is encouraged by asking children to think further about how their products will appeal to their intended users and consider meeting the user's needs, wants and preferences. Gathering of information about the needs and wants of individuals will start to form part of the design process in early KS2, this research becoming more extensive as children progress further up the school. Children will be asked in Key Stage 1 to explain how their product works progressing to more detailed explanations in KS2. They will be encouraged to use their knowledge and understanding of Science where relevant.

In KS1, children are limited to a number of simple design criteria to help them to develop their ideas. In KS2 children will progress onto generating their own design criteria after initial modelling by the teacher and/or whole class discussions. Towards the end of KS2, they will be confident in doing this independently.

Drawing on their own experiences to generate ideas will form an important part of the design aspect in Design Technology. As children progress through the school, they will be encouraged to draw on products they see at home, in school and in the environment and also utilise their experiences of Design Technology to generate ideas for their own designs. In KS2, they will be introduced to the work of designers, inventors, engineers, chefs and manufacturers to inspire them. Children will progress from making templates and mock-ups in KS1 to model their ideas using prototypes and pattern pieces. Use of making prototypes in KS2 is also developed in order to provide an opportunity to test and evaluate prior to going on to creating the final product.

Simple design sketches in KS1 are developed into more detailed, annotated sketches in KS2 including cross-sectional drawings and exploded diagrams to help children to develop and communicate their ideas. As children progress further, they will be encouraged to become independent in choosing which type of drawing best suits their product design. Children will be encouraged to consider how realistic their designs are and be encouraged to start to become increasingly innovative by introducing some unusual or new elements to their designs whilst still ensuring their final outcomes are fully functional and fit for purpose.

In KS1, children will be introduced to a range of materials and tools suitable for the task. As children progress, they will select with more independence and make selections that are appropriately matched to the skills and techniques they will be using and be given the opportunity to be able to

explain their choices. Children will be taught skills of how to measure, mark out, cut, shape, assemble, join, combine and apply finishing techniques with increasing accuracy.

In early KS2, children will be introduced to using a computer to control products (Year 4 – designing and making an electric night light). Their computing knowledge and skills will focus on physically controlling output devices, in Year 4 this being a bulb whilst in Year 5/6 this progresses onto more complex flowchart programmes involving LEDs and bulbs and motors when they are asked to design a fairground ride.

By the end of each Key Stage, pupils will know, be able to apply and understand the knowledge, skills and processes specified in the programmes of study in the National Curriculum.

Teaching Design Technology to children with special needs

We teach Design Technology to all children, whatever their ability, in accordance with the school curriculum policy of providing a broad and balanced education to all children. Teachers provide learning opportunities matched to the needs of children with learning difficulties, and our work in Design Technology takes into account the targets set for individual children in their Individual Support Plans (ISPs).

Assessment, Recording and Impact of the Curriculum

Teachers assess children's work in Design Technology by making informal judgements as they observe them during lessons. On completion of a piece of work, the teacher provides feedback as necessary. At the end of the year, the teacher makes a summary judgement about the work of each pupil in relation to the Symphony Non-Core Age-Related Attainment Expectations. We use this as the basis for assessing the progress of the child and we pass this information on to the next teacher at the end of the year.

The impact of our curriculum is measured in terms of the extent to which pupils have developed new knowledge, understanding and skills and that they can use and recall this with fluency.
In Design Technology, this will be measured by:

- Regular knowledge check activities and evaluations of design and make assignments
- In school attainment tracking
- Engagement in enrichment activities
- Route to Resilience activities
- Pupil voice – questionnaires, pupil book and learning reviews
- Subject Leader monitoring – Lesson visits, scrutiny of books, assessment, pupil interviews and questionnaires
- Governor monitoring
- Attendance data
- Behaviour Logs

The Design Technology curriculum and resources used are evaluated annually.

Resources

There are sufficient resources for all Design Technology units in the school.

Monitoring and review

The Design Technology subject leader is responsible for the standard of children's work and for the quality of teaching in Design Technology. The work of the subject leader also involves supporting colleagues in the teaching of Design Technology, being informed about current developments in the subject and providing a strategic lead and direction for the subject in the school. The Design Technology subject leader is responsible for providing the headteacher with an action plan in which s/he evaluates the strengths and weaknesses in the subject and indicates areas for further improvement. The teaching of each area of learning will be monitored through the Core Strategic Plan by the subject leaders in the first instance and then by the Senior Leadership Team. Subject leaders engage, on a curriculum subject monitoring rota/when DT is deemed to be a priority, in planned discussions with partner Governors to monitor and evaluate their area of the Core Strategic Plan. Governors file reports on their findings, the results of which can be found in the relevant folder in the Head teacher's office.

Health & Safety

The children use a range of equipment in accordance with health and safety requirements. Risk Assessments are referred to where necessary when using tools and also during food technology lessons.

Inclusion

Our school is an inclusive school. We aim to make all pupils feel included in all our activities. We try to make all our teaching fully inclusive. We recognise the entitlement of all pupils to a balanced, creative curriculum. We have systems in place for early identification of barriers to their learning and participation so that they can engage in school activities with all other pupils. We acknowledge the need for high expectations and suitable targets for all children.

Equality Statement

At Thornton Primary School, we actively seek to encourage equity and equality through our teaching. As such, we seek to advance the equality of opportunity between staff or children who share any of the following characteristics:

- gender;
- ethnicity;
- disability;
- religion or belief;
- sexual orientation;
- gender reassignment;
- pregnancy or maternity.

The use of stereotypes under any of the above headings will always be challenged.