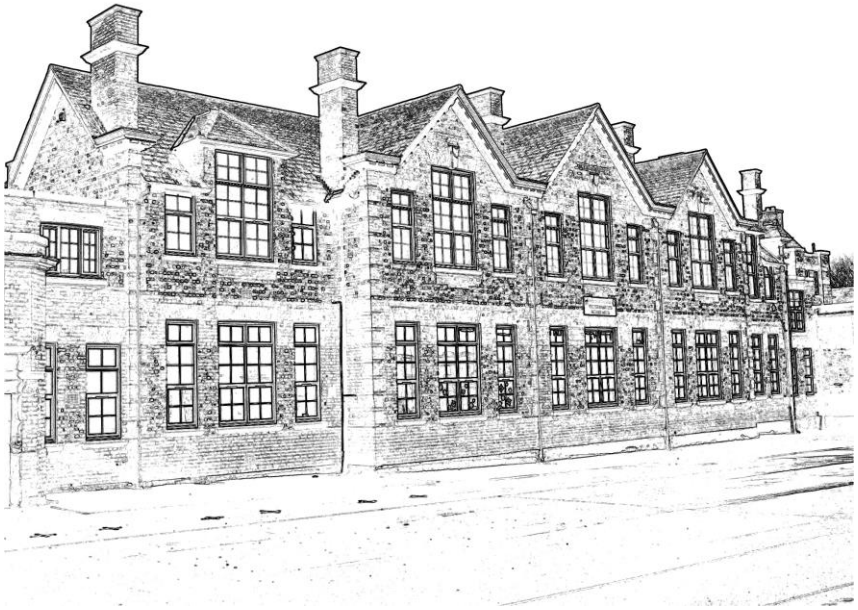
Timothy Hackworth Primary School

'Respectful and resilient; being the best that we can be.'

Design and Technology Policy

CRC Article 28: All children have the right to a good quality education.



Date policy approved/adopted:	**October 2023**
Next review date:	**October 2024**
Approved by:	**Governing Body**
Head Teacher Signature:	*L. Boulton*
Governor Signature:	*P. Crook*

Design and Technology Policy

CRC Article 28: All children have the right to learn.

Date of Policy: October 2023

Review Date: October 2024

Subject Lead: Miss M. Pascoe

Governors for Design and Technology: Mrs. C. Mulley
Curriculum and Standards Committee

This policy should be read in conjunction with our Respectful Relationships Policy. All policy and practice in Timothy Hackworth Primary School respects children's dignity.

Our Timothy Hackworth School Vision

May our Rights Respecting School be a happy place for us all to learn; where every one of us is valued and safe in our Timothy Hackworth School Family. May we all be the best that we can be by making a positive difference to each other, our community in Shildon and the wider world in which we live.

Mission Statement (written by children):

We would like our school, which reflects British Values, to be at the heart of the community, sharing, supporting and learning together with everyone as equals. Our children have the right to high quality learning experiences to help them to be the best that they can be.
We encourage our children to be creative, unique, open-minded and independent individuals, respectful of themselves and of others in our school, our local community and the wider world.
We aim to nurture our children on their journey through life so they can grow into safe, caring, democratic, responsible and tolerant adults who make a positive difference to British Society and to the world.

Values

Ours is a happy school with high hopes and ambitions for all our children and we welcome working in partnership with parents and carers to ensure that everything is done in the best interests of the children at all times.

All of our staff take their responsibility towards the children seriously and they strive to help each child reach their full potential as global citizens physically, emotionally, socially and academically. We are fully committed to the UNITED NATIONS CONVENTION ON THE RIGHTS OF THE CHILD.

To us, every child is unique and precious and we endeavour to foster a high level of motivation towards learning and behaviour. We are committed to the basic skills of English and Maths.

At all times, we aim to centre the teaching in an atmosphere of mutual respect and personal respect. A high quality education is the right of every child, and at Timothy Hackworth Primary School, we embrace that responsibility and strive to achieve it for all our pupils.

Equalities Information

This policy should be read in conjunction with our school's 'Equalities Policy Statement', 'Equalities Objectives Summary' and 'Equalities Information and Objectives'.

We welcome our duties under the Equality Act 2010 to eliminate discrimination, advance equality of opportunity and foster good relations in relation to age (as appropriate), disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex and sexual orientation.

Rationale

At Timothy Hackworth Primary School, we aim to inspire all children to reach their full potential. In Design and Technology this means ensuring a curriculum that is fully inclusive of all children.

Design and Technology is an inspiring, rigorous and multifaceted subject that constitutes an essential element in the provision of a broad and balanced curriculum.

On one hand, we live in a technological age, surrounded by sophisticated products and systems that have been designed and manufactured for us by other human beings, working together, in a complex range of activities and interactions. On the other hand, despite technological advances, individuals within our rising global (and indeed local) population still face everyday challenges of how to feed, clothe, secure shelter and care for themselves in a rapidly changing world.

Design and Technology occupies a unique and privileged position that spans these two viewpoints. It offers children the opportunity to combine creative, academic and practical skills to design and make products that solve real and relevant problems faced by the civilisations that humankind has created, considering the needs, wants, values, cultures and beliefs of oneself and others.

Aims of Design and Technology at Timothy Hackworth Primary School

We aim to inspire our children to develop a passion for Design and Technology and an ambition to acquire and subsequently apply the following subject-specific skill set more widely, in order to make positive changes to their lives and be the best that they can be. We encourage our children 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 responsibly design and make high quality prototypes and products for a wide range of users;
- critique, evaluate and test ideas and products, and the work of others;
- understand and apply the principles of nutrition and learn how to cook.

We aim for our children to ultimately:

- adopt a balanced diet as part of a lifelong healthy lifestyle;
- be ready and motivated for the next stage in their education;
- be confident, discerning, informed and articulate consumers – to have 'a voice' and be taken seriously, as children and into adulthood;
- be enterprising, resourceful, capable, conscientious, respectful and responsible citizens – the parents, carers, educators, employers and employees of future generations;
- be potential pioneers and innovators in today's rapidly changing world.

Entitlement

This Design and Technology Policy relates to all pupils attending Timothy Hackworth Primary School. All children have the right to access all elements of the National Curriculum, appropriate to their abilities in tandem with the school's relentless focus on high standards and expectations of all pupils.

Our Intent, Implementation and Impact in Design and Technology

Intent

In its simplest terms, Design and Technology is about solving problems to meet human needs. Whilst learning how to undertake this challenge, learners develop an array of transferable skills. These include a foundation of basic skills (like measuring materials) combined with a range of higher order thinking skills (like analysis and evaluation). We strive to ensure our pupils also have the opportunity to demonstrate resilience, resourcefulness, reflectiveness and reciprocity and have the ambition to be successful learners.

Implementation

Our whole school overview and short term planning for each year group cater for the full range of abilities. Sequences of learning are carefully planned and developed to provide required coverage across respective Key Stages.

Design and Technology requires that children use their technological knowledge, practical skills, creativity and flair to design, make and evaluate. Projects are based around a range of contexts and require children to design **Something,** for **Somebody,** for **Some purpose** ("The 3 S's") to give relevance and authenticity to their designs. All six Design and Technology principles below are addressed in each project:

1. User – children should have a clear idea of who they are designing and making products for, considering users' wants, needs, values, interests, cultures, beliefs and preferences;

2. Purpose – children should be able to clearly communicate the defined task that each product that they design and make is intended to perform; pupils' products are evaluated through use;

3. Functionality – children should design and make products that work effectively in order to fulfil users' needs, wants and purposes;

4. Design decisions - children are to be provided with opportunities to make their own design decisions, allowing them to demonstrate their creative, technical and practical expertise, and use learning from other subjects;

5. Innovation - children are to be provided with scope to be original with their thinking;

6. Authenticity - children should design and make products that are believable, real and meaningful to themselves and others.

In order to realise our intent to develop our children's resilience, resourcefulness, reflectiveness, reciprocity and the ambition to be successful learners, we strive to provide lessons that provide them with opportunities to:

- acquire and develop a specific knowledge and skills set within the subject, managing distractions and persevering when challenges are encountered;
- apply their knowledge and skills beyond the subject, using research and analysis, curiosity, reasoning, imagination and creativity;
- look back to what they know, recalling and selecting important information and key points, evaluating, making informed decisions and then formulating plans to solve real life problems in new or unfamiliar contexts;
- listen, share ideas, empathise with the wants, needs, values, cultures and beliefs of others and ultimately work collaboratively towards an end goal.

Children's working in Design and Technology will be recorded in the Black Book with examples being shared and celebrated on the school website.

EYFS and Reception

Design and Technology makes an important contribution in all areas of learning of the Early Years Foundation Stage.

Learning can indeed be developed in every area of provision wherever the children have opportunities to discuss ideas, construct, make things move, squash and squeeze materials, fold, cut, join and decorate, explore natural phenomena and to make and taste a range of food.

Early Design and Technology work involves the children exploring by using their senses, trying things out, looking to problem solve and adapting their thinking as they work.

Children use their imaginations and learn through sensory play. Stimulating learning opportunities are provided through a balance of adult led and child led activities, offering children first-hand experience in indoor and outdoor settings and by using role play.

Children learn to question, appreciate and understand the manmade world in a genuinely Design and Technology way by:

- investigating existing products (including disassembling products to learn about how they work);
- exploring the environment;
- designing and making.

Children are taught specific design and make skills using food, textiles, a range of construction materials and various construction kits. With practise, they develop their ability to choose suitable materials and appropriate tools and equipment for a task. A range of contexts is presented to provide opportunities for the children to make their own design decisions, and to discuss them meaningfully with an adult, with a focus on:

- user;
- purpose;
- function;
- aesthetics.

Learning typically involves physically arranging, constructing and combining materials, ingredients and components using a range of methods and tools with many opportunities being offered for the children to talk about their design decisions.

Children take part in many cooking activities where they practise stirring, mixing and pouring ingredients and observe changes when their ingredients are combined, blended or cooked.

The design process in the very early stages is recognised as the thinking, imagination and the willingness to change and modify ideas. Children are encouraged to observe, explore, solve problems, think critically, make decisions and adapt their work as they go. Adults act as role models as the children learn, sensitively offering suggestions, giving purposeful feedback and offering further challenge by observing what the children are seeking to achieve. They scaffold learning by encouraging each child to use a developing vocabulary as they try out ideas and test their theories.

Design and Technology activity in Early Years provides opportunities to develop reasoning and problem solving skills and practise mathematical concepts such as size, shape, capacity, number, length, height and comparison in practical ways using meaningful and relevant real-world scenarios. Children learn and use appropriate vocabulary relating to their Design and Technology activity.

Towards the end of the EYFS, the children may complete some drawing before designing, but it is more widely (and usefully) done retrospectively. Children may also record their experiences through writing or by making a recording or model.

Children are taught to work responsibly and may discuss reasons that make activities safe or unsafe; for example, hygiene, electrical awareness, and appropriate care when tasting different foods. They are encouraged to work cooperatively and are taught about the importance of respecting everyone’s right to be safe from this early age.

KS1 and KS2

One Design and Technology project is taught per term in KS1 and KS2.

Projects match National Curriculum objectives, with each of the following being delivered in each year group:

KS1

- cooking and nutrition;
- textiles;
- structures and mechanisms.

KS2

- cooking and nutrition;
- textiles;
- structures and mechanisms;
- electrical systems and control.

Design and Technology is taught progressively to enable children to develop by consolidating and building upon previous skills and knowledge as they move through school.

KS1 and KS2 Design and Technology lessons include the following elements in each project:

- IEAs (Investigative and Evaluative Activities);
- FTs (Focused Tasks);
- a DMEA (Design, Make and Evaluate Assignment).

Impact

Impact is measured by the child's progress against their expected outcomes and their ability to meet the key aims of the National Curriculum for Design and Technology.

The impact of our school approach will enable our pupils to:

- gain a greater understanding of what the term 'design' means and its importance and relevance in our rapidly changing, technological world;

- gain a greater understanding of the scale and complexity of real-world manufacturing, industrial practices and systems and control;
- reflect on the real world in which we live, including the contribution that high-quality design and technology contributes to the creativity, culture, wealth and well-being of the nation;
- reflect on the real world in which we live, including the social, moral and environmental impact of design and technology in relation to society and the well-being of our planet;
- be aware of and reflect upon the impact of past design, technology and manufacturing on daily life and the wider world;
- think, speak and work as designers, technologists and manufacturers, using subject specific vocabulary, emulating industry by working both individually and as part of a team and by using time efficiently, constructively and productively;
- acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art;
- research, investigate and ask questions to develop knowledge of users' needs;
- communicate and express thoughts and ideas by speaking, drawing, painting, modelling and CAD;
- know which tools, equipment, materials and ingredients and techniques to select to make products;
- show initiative, manage risks, act responsibly and ethically, work safely and hygienically and use finite materials with due care and consideration;
- apply mathematical knowledge and skills accurately;
- evaluate outcomes and performance, recognising success and learning from mistakes;
- enjoy learning and independent working;
- successfully apply the knowledge and skills acquired and developed in Design and Technology to other areas of their life and the curriculum;
- successfully apply the knowledge and skills acquired and developed in other areas of their life and the curriculum to Design and Technology.

Design and Technology and Cross-Curricular Links

Design and Technology links to many areas of the curriculum and design and technological activity can contribute significantly to the development of:

- basic practical, social and academic skills;
- more complex and challenging practical skills that require increased levels of control and dexterity;
- more complex higher order thinking skills;
- communication and presentation skills – verbal, written, using CAD (Computer Aided Design) and through artistic expression;
- creativity, flair and innovation;
- ICT skills;
- personal health and well-being.

The wider curriculum provides excellent opportunities to appreciate the role of Design and Technology in many aspects of our everyday lives, allowing children to use transferable skills and the design process as a problem-solving model in a variety of contexts. It is the right of every child to know about the world in which they live.

More Able and Talented Learners

The Design and Technology Subject Lead will promote the following key strategies for maximising progress and enabling learners to meet their full potential:

- the use - by all - of open-ended questioning where a learner's first response may then be further developed and so encourage deeper thinking;
- valuing a growth mindset that encourages learners to risk failure. Instead, viewing it as a crucial part of the learning process that avoids the pitfalls of playing it safe and success meaning only doing things that they can get completely right or find easy;
- encouraging the provision of open-ended opportunities for learners to take more ownership of the direction or form that their learning takes;
- praising high levels of effort, progress and attainment whilst making sure that a focus on the next steps is a valued part of the ongoing learning process.

Special Educational Needs and Disabilities

The SENDCO will support identified SEND pupils, their parents and staff, to ensure information on individual children with Special Educational Needs supports their teaching and learning.

Our school meets the needs of children with Special Educational Needs and Disabilities with a curriculum that allows for appropriate differentiation. This may be by outcome, task, resources, support, interest or ability groupings as appropriate.

The expectation is that SEND pupils will progress at the same rate as non-SEND pupils due to carefully planned provision. Expectations of all pupils, including those of SEND pupils, will be high. SEND pupils will be expected to be the best that they can be.

Assessment

We consider that assessment is part of the whole school curriculum. It is the responsibility of all staff and should provide a supportive framework for teachers and children.

Assessment is not just about the National Curriculum, but needs to take into consideration all design and technological learning which is an outcome of the school curriculum. Assessment in Design and Technology is only a part of the school policy on assessment as a whole.

There should be ongoing assessment for learning (AFL) or formative assessment of all children ensuring that the development of concepts, skills and attitudes is measured through everyday teaching. This will, of course, include a variety of contexts.

Teachers will need to make judgements about children's ability. These must be judgements supported by evidence which can be understood by other teachers, by parents and by the children themselves. Evidence of ability will be demonstrated by children in the course of their Design and Technology learning.

Attainment in Design and Technology is measured by the child's progress against their expected outcomes and their ability to meet the key aims of the National Curriculum for Design and Technology.

Learning will be assessed using:

- teacher assessment;
- monitoring by The Design and Technology Subject Lead.

Monitoring and Evaluation

Pupils will have their development and performance monitored through a range of assessment techniques to ensure that they make progress to their full potential.

The Design and Technology Lead works alongside teachers to provide tailored support to discuss, plan and implement a range of assessment and moderation strategies.

The monitoring of Design and Technology teaching and learning in our school will take place through the:

- monitoring of short term planning by the Design and Technology Lead;
- observations and Learning Walks by the Design and Technology Lead and SLT where appropriate;
- discussion during curriculum development staff meetings in order to further develop provision and practice, respond to queries, check progress, review resources etc.;
- informal discussions between staff and the Design and Technology Lead;
- the completion of any whole school Design and Technology project where work/evidence is gathered, across the whole range of ages in the school;
- scrutiny of Black Books, displays and any other evidence of achievement, by the Design and Technology Lead and SLT;
- pupil interviews conducted by the Design and Technology Lead;
- checking of children's standards of work against agreed criteria e.g. teacher assessment.

Teacher assessments are moderated by Senior Leaders and Subject Leads to ensure parity. Assessment data is robustly and rigorously analysed and outcomes shared with staff.

Continuing Professional Development

The Design and Technology Lead is a member of DATA.

The Design and Technology Lead continues to attend Local Authority Subject Leader Network Meetings in order to ensure that the Design and Technology Lead and wider staff are aware of the latest information and curriculum developments in Design and Technology.

Staff are also provided with regular, planned, internal and external CPD opportunities where relevant and as appropriate.

Display and Resources

Our school 'Climate for Learning in Classrooms' document, outlines the resources and display requirements for each classroom, which includes reference to specific resources and displays to support pupils' learning. As part of this, existing products and exemplar materials to support children to grasp concepts will be available. Design and Technology related vocabulary is displayed so that children use this in the communication of their understanding. There should be, where possible, current and relevant children's Design and Technology work on display in classrooms and in other areas of the school in order to encourage a positive attitude and enthusiasm towards Design and Technology for all groups of children.

Parents and Carers

We recognise that parents make a significant difference to children's progress in Design and Technology and encourage this partnership. Supporting children to practise any aspect of the Design and Technology curriculum with the children is encouraged.

Homework

Maths tasks are given weekly for homework, which, given the close links between Maths and Design and Technology, benefit the children in both areas of the curriculum.

Our Governing Body

There is a dedicated Governor for Design and Technology who liaises with the Design and Technology Lead on a regular basis.

The Governing Body will provide support and challenge and are kept up to date with developments in Design and Technology through meetings with the Design and Technology Lead, through the Head Teacher's Report to Governors, subsequent discussions during Full Governing Body Meetings and Curriculum and Standards Committee Meetings.

The Governing Body will be provided with regular updates regarding the implementation and monitoring of this policy.

The Curriculum and Standards Committee will ratify and review the policy.

Conclusion

At Timothy Hackworth Primary School a whole range of experiences and opportunities will be provided for all pupils across a broad and balanced curriculum which reflects school, local, national and global perspectives.

The curriculum offer is routinely reviewed to monitor its Intent, Implementation and Impact.

All children have the right to a high quality education; our Design and Technology Policy is designed to help to ensure that all pupils have access to this right.