Confidence, Achievement, Respect, Enthusiasm

Policy Title: Design Technology

Policy Folder: Subjects

Last Review: May 2022

Next Review: May 2025

Led By: Steven Thomas

Responsible Committee: SD Committee

Introduction

Alongside our curriculum intent, our CARE values (confidence, achievement, respect, enthusiasm) underpin everything that we do as a school. We all aim for our school to be a happy place where good behaviour is expected and all children enjoy their educational journey.

At Lantern Lane, we aim to be a Dyslexia Friendly School. It is our intention that pupils will be able to achieve their cognitive potential in design technology, regardless of any difficulties spelling, reading, writing or any other traits commonly associated with dyslexia.
In order to achieve this potential, teaching will apply principles of quality first teaching such as reducing cognitive load and providing scaffolding. Where reading is required, appropriate support will be provided (for example paired reading, pre-reading opportunities, inclusive technology etc). Pupils will be given a variety of ways to show their understanding across a sequence of learning, appropriate to the learning intention (for example diagrams, labelling, building prototypes, oral presentations, group work, digital recording).

In our teaching of the three areas of design technology (construction, textiles, food and nutrition), we also contribute to the development of the children's spiritual, moral, social and cultural understanding by encouraging their creativity and imagination, to design and make products within a variety of contexts, whilst working with others, considering their own and others' needs, wants and values. Pupils should develop and refine a broad range of subject knowledge and skills and draw on learning from other curriculum areas. Pupils should learn how to take risks whilst working safely with a range of tools and materials. Children are therefore provided with many opportunities to evaluate, refine and improve the work they do in order to overcome problems they are presented with.

This policy has been written to formally record the teaching, monitoring and assessment of design technology at Lantern Lane Primary & Nursery School.

The policy aims to:

- Identify what is intended to be taught and how it should be implemented.
- Identify the overall structure and framework of the design technology curriculum in the school.
- Identify the ways in which we will ensure that children make progress in this subject throughout their time at the school.
- Describe how impact of the quality of education in this subject will be evaluated.
- Identify school procedures to monitor and evaluate the design technology curriculum.

This policy will be reviewed every three years by the subject co-ordinator, as part of the school's policy review cycle. The policy will, however, be reviewed earlier if there are changes to the National Curriculum, or other significant changes which impact on the teaching and assessment of this subject. The implementation of this policy is the responsibility of all teaching staff.

Intent

At Lantern Lane Primary School, we follow the Early Years Foundation Stage Framework (2021) and the National Curriculum (2014). We fully support the purposes of the National Curriculum (2014) in design technology, which looks to provide every child with the skills to:

"…use creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values…"

Through the learning opportunities we plan for at Lantern Lane, and through rigorous formative assessment, we aim to support each child in the development of each of the following key aims of the design technology curriculum:

- 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.

Through our engagement with the National Curriculum and our commitment to providing outstanding provision for every child in the subject of design technology, we intend the following:

We want our pupils to enjoy this inspiring, rigorous and practical subject that allows the development of many key skills. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, relating to others through their understanding of the intended end product and through the need for collaborative working (taking into account the views, values and ideas of others).
Pupils will acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils should learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. When considering design specification – and evaluating both ideas and prototypes- they will develop their ability to think independently & evaluatively.
As they refine their product, they will need to develop confidence in the decisions they make and ensure that they work – at all times – responsibly with the safety of themselves & others in mind.
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.

Implementation

We use the National Curriculum scheme of work as the basis for our planning in design technology but we have adapted this to our local context, building on the successful units of work already in place. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit, and we plan progression into the scheme of work, so that the children are increasingly challenged as they move through the school.

Learning in Year 1 to Year 6 is arranged termly and the children take a 'learning journey' that is enquiry led. The termly focus is either history or geography whilst art and design technology learning will frequently be integrated e.g. making cloaks (Kings and Queens Year 1), making Italian bread (Mediterranean Mission Year 4) and making a transportation ship (year 6 Crime and Punishment). When relevant, further links to other subjects will be made in the interests of deepening understanding.

The subject leader has written and continually reviews the curriculum map for design technology. This details the objectives and skills to be taught for each year group. Teachers use the curriculum map for their year group, and knowledge of prior learning from the curriculum map, in order to develop a coherent and comprehensive conceptual pathway through the new learning. In design technology, pupils will be taught skills required to design, make and evaluate, whilst developing their technical knowledge in the three different areas of construction, textiles and food and nutrition.

Design technology teaching focuses on enabling children to be problem solvers and evaluators. We encourage pupils to examine products from the real world, and give children the opportunity to build prototypes/test ingredients in order to continually evaluate, refine and develop their work. We recognise the importance of continual evaluation in the teaching of design technology, and we regard this as an important way of developing problem-solving skills and resilience required to overcome challenges and problems both in and beyond the design technology curriculum.

We focus on helping children understand that initial designs and plans can be evaluated and adapted throughout a unit of work in different ways, whilst applying skills acquired throughout their learning. As critical evaluators, in order to meet the aims set within each unit of work, pupils should always ask searching questions, including:
How can my product be improved?
What can I learn from my prototype?
How can I change this recipe to meet personal/cultural needs?

We recognise that in all classes children have a wide range of ability in design technology, and we seek to provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child.

We achieve this by:
*setting tasks which are open-ended in which pupils can apply skills acquired;
*setting tasks of increasing difficulty, some children not completing all tasks;
*providing resources of different complexity, depending on the ability of the child;

*using teaching assistants/teachers to support children individually or in groups.

What good teaching and learning looks like in design technology at Lantern Lane:

	Teachers:	**Learners:**
EYFS	• Use questioning and manage discussions skilfully to check pupils' understanding and to challenge their thinking. • Model how to explain choices made using textiles, construction material and tools. • Encouraging pupils to revisit models and tasks with a view to having another go at them or to improve them. • Have a good knowledge of the health and safety built into planning. • Are well organised with equipment ready before lessons begin. • Teach practical skills and modelling how to use tools and equipment. • Enable pupils take responsibility, persevere with design problems, and support and challenge them to be innovative and creative. • Model the use of key vocabulary.	• Learning about the characteristics and textures of materials they are using and why one material is better suited to a job than another. • Talk about ideas and plans, and modify their ideas to make items neater, stronger better joined. • Can use equipment safely and work together and independently. • Children can explain what they are constructing and choices they have made during construction. • Know which tool to use for a particular task. • Know and select different ways to join materials and begin to consider how well it works (F2). • Children can explain why they have chosen tools and materials for a task or free choice activity. • Children begin to use the correct some technical language when explaining what they have built and when working with tools and materials. • Pupils can build models and suggest how to make them stronger, taller, more balanced and modifying designs. • Pupils work confidently with a range of large and small construction materials. • Pupils know how to join materials in different ways.
KS 1	<u>Design</u> • Use questioning and manage discussions skilfully to check pupils' understanding and to challenge their thinking. • Allow pupils to feel touch, try out different materials and ingredients.	<u>Design</u> • Can talk about the working characteristics and properties of the materials they are using and why one material, ingredient or component is better suited to a job than another.

	• Listen to, carefully observe and skilfully question pupils during lessons in order to reshape tasks and explanations to improve learning. • Enable pupils to draw designs, begin to use measures (non-standard if necessary KS1) to meet the purpose of the task. <u>Make</u> • Teachers understand and make health and safety clear to pupils. • Are well organised with equipment/materials/utensils ready before lessons begin. • Children have the chance to use tools correctly and become more accurate with them. • Work well with support staff to help children to match models/recipes/ products to designs they have made. • The effective use of tools and materials is modelled clearly by all staff. • Teacher modelling enables children to join, cut, mix materials with increasing confidence. <u>Evaluate</u> • Enable pupils think about models and look back at designs as they are being made. • Enable pupils to test products that have been made. • Support pupils to compare their final products with their plans. • Engages pupils in discussions about parts of products that have been made well or might need to be made again.	• Pupils can talk about and explain their ideas and plans clearly. They can use using increasingly technical vocabulary, and present information and plans effectively by writing, drawing and using annotated sketches. • Pupils can suggest how to and then change their designs and prototypes after testing and evaluating them. • Can check whether their design meets the need of the people who might use it. • Pupils base designs of their products on research they have done. <u>Make</u> • Can use equipment safely. • Know which tool to use for a particular task. • Children can explain why they have chosen tools and materials and can link this to a task. • Children use the correct technical language with increasing accuracy when working with tools and materials. • Pupils can make prototypes. • Pupils understand that products need to be well made as well as look good. • Pupils know how to join materials in different ways. <u>Evaluate</u> • Pupils work independently and with others where necessary. • Pupils test designs and prototypes. • Pupils evaluate prototypes and finished products. • Pupils work hard to recognise and overcome issues and challenges when making a product or recipe.

KS2	<u>Design</u> • Asks questions to support and challenge choices pupils are making, and relating these back to techniques and strategies they may have use previously. • To allow pupils to explore and investigate materials/ ingredients and existing products when creating designs and plans. • Asks questions to check pupil understanding about properties of materials, methods of joining these, preparing ingredients, criteria for a product. • Asks questions that refer pupils back to aspects of learning and task being done, and the target market/recipient of the final product. • Help pupil to use skills they have learned in other subjects (e.g. measuring in maths, drawing in art etc) within the context of DT. • Allow pupils to feel touch, try out different materials and taste ingredients. <u>Make</u> • Teachers understand and make health and safety clear to pupils. • Are well organised with equipment ready before lessons begin. • Work well with support staff to keep the pace of a lesson high and support the learning of key skills. • The effective use of tools and materials is modelled clearly. • Teacher modelling makes difficult concepts and skills accessible for all pupils.	<u>Design</u> • Can talk about their ideas using increasingly technical vocabulary, and present information and plans effectively by writing, drawing and using annotated sketches. • Can talk about the working characteristics and properties of the materials they are using and why one material, ingredient or component is better suited to a job than another. • Pupils can explain their ideas and plans clearly. • Undertake market research and use it to help with designs and plans, including costings in UKS2. • Pupils can modify their designs and prototypes after testing and evaluating them. • Can check whether their design meets the need of the people who might use it. • Pupils base designs and tests of the effectiveness of their products on research they have done. <u>Make</u> • Can use equipment safely. • Can use skills learned in previous years. • Know which tool to use for a particular task. • Children can explain why they have chosen tools, utensils and materials and can link this to a task. • Children can use the correct technical language when working with tools and materials. • Build prototypes.

	<u>Evaluate</u> • Teachers enable pupils the chance to see challenges through and keep trying when they come up against a problem with a design or prototype. • Teachers help pupils to be creative and innovative. • Help pupils to take responsibility for the design and make choices. • Teachers enable pupils to reflect on and amend plans, and where appropriate, to remake models based on the success (or otherwise) of prototypes.	• Pupils understand that products need to be well made as well as look good. • Develop a good range of skills when they are measuring and using tools and components with increasing accuracy. <u>Evaluate</u> • Pupils work independently and with others where necessary to make models and recipes. • Take surveys during and after projects. • Pupils work hard to recognise and overcome issues and challenges and show good resilience when parts of a project/recipe/design do not work as planned. • Understand healthy eating and how to read food labels (UKS2). • Pupils can explain changes made to designs. • Pupils evaluate prototypes and finished products. • Understand how to carry out high-quality tests before attempting to improve their products and realise their plans accurately and safely.

Feedback

Feedback in design technology should be completed in line with the Lantern Lane Primary School Feedback Policy.

When choosing the correct form of feedback, teachers should use their knowledge of their class, individual groups and pupils whilst also considering the main purpose of the feedback they are giving.

In addition, it is recognised that the type of feedback chosen is likely to vary accordingly to the age or learning stage of the child.

Feedback should be given as close to the point of learning as possible, e.g. within the lesson; at the end of the lesson, or at the start of the next lesson in the sequence of learning.

As an addition strand to our recording, evaluation and feedback, we use online app called Padlet to capture, refine and discuss the skills, strategies involved and application of knowledge within each unit.

The following feedback codes are used across KS1 and KS2 to ensure consistency and a clear message for children.

The use of codes is intended to make feedback accessible to all children including our dyslexic children and those with SEND (with this being regularly monitored by the SENCo and/or Dyslexia Lead).

Code	Explanation		Code	Explanation
E	You have used equipment to support your learning.		GW (with initials)	A teacher or teaching assistant guided your work here.
✓ Beside LO.	You are ***developing learning*** in relation to the learning objective.		PW/PW	You worked together with a partner on your work here.
✓✓ Beside LO.	You are ***securing learning*** in relation to the learning objective.		CR	You have a correction to complete here.
✓✓✓ Beside LO.	You are ***mastering learning*** in relation to the learning objective.		CH	You have a challenge to complete here.
●	Answer to individual question is incorrect. Complete a correction in purple pen.		✓	Self-assessed. Answer to individual question is correct.
✓	Answer to individual question is correct.		●	Self-assessed. Answer to individual question is incorrect. Complete a correction in purple pen.
VF	Verbal feedback. Your teacher has explained further to support your progress.		WCF	You will receive your feedback as a whole class in the next lesson.

For written pieces of work in design technology, both the related enquiry question (see curriculum details on the Lantern Lane website) and the skills being taught will be identified. The teacher will indicate the degree that these have been met with the same √ system detailed above. Feedback in foundation subjects will predominantly relate to the subject-specific learning but may also feature some response in respect of core subject targets personal to the child, group or class.

A question or challenge may be given to support deeper thinking on the part of the pupil, where the teacher considers this to be appropriate, or a child may be asked to correct their work in some respect. Where this is the case, time will be given in a subsequent lesson for children to respond to the teacher's feedback.

Children in the EYFS are motivated by their relationships with the adults, who know them best. The everyday conversations and celebrations of learning which take place in the moment are what stands out for the children and how they measure their own success. Class rewards systems are designed to ensure that children are shown what is good about their work in a range of ways that have meaning to them, e.g. receiving a sticker, a house point. A discussion will take place when the reward is given about why it has been earnt.

In respect of areas of development, next steps for children are often put into practice before the child has even left the activity. For example, if a child doesn't use a finger space between the first 2 words, they are reminded in the moment to do so. Accordingly, there is no need for extensive written feedback by staff, especially as this will have no meaning to the children themselves. If corrections or a comment are added to a piece of work, this would be when an adult is working directly with a child to reflect on what has been achieved.

Teaching staff will, however, use the following codes to show the context of the piece of work.
GW – this piece of work has been completed with the help of an adult.
PW – this piece of work has been completed with the help of a peer.
Where neither of these codes appears, the assumption is made that the work was completed independently by the child.

Impact

The curriculum in itself is the progression model. We have a well-constructed, well-taught curriculum mapped out in design technology at Lantern Lane and this leads to good results because those results reflect what pupils have learned. If children are keeping up with a carefully sequenced, coherent curriculum which builds on prior learning, they are making progress.

The table below provides a framework against which is used to support the evaluation of impact in design technology.

The curriculum is progressive and is pitched to be appropriately challenging. Therefore, if teachers know that children are coping well and are able to demonstrate their understanding, then our curriculum is having the desired impact and children are making progress.
Subject leaders undertake a full range of monitoring and evaluation is order to establish that our curriculum is having impact based on the below prompts.

How do we monitor that our curriculum is having impact?

Teachers

- Have they become more knowledgeable?
- Do they have high levels of confidence in implementing all areas of the curriculum?
- Can they articulate to senior leaders and subject leaders what is working well?
- Are they keenly aware of how children are coping with the taught content?
- Do they teach consistently well, applying sound pedagogical practices in all lessons?
- Do they plan coherent learning journeys based on the objectives and skills mapped out by the subject lead?
- Do they seek support from subject leads where they are less confident?

Children

- Can they talk with confidence about what they have learned?
- Are they enthused and interested in a wide range of curriculum areas?
- Can they talk about the specific characteristics and skills associated with each subject?
- Can they share examples of their learning and explain the 'why' behind the work they have produced?
- Do they demonstrate good learning behaviours in all lessons?
- Are they able to explain how their learning within a subject builds on previous learning in that area?
- Are they able the make thoughtful links between subjects?
- Are ALL learners able to access, enjoy and make progress within the curriculum – regardless of their starting points or additional needs?

Children's Work

- Does work demonstrate they take pride in what they produce – do children show the same effort as in maths and English for example?
- Does it show increasing understanding of the key concepts within each subject?
- Does it illustrate developing understanding of the discipline of each subject as well as the declarative knowledge?
- Does it show a coherent teaching sequence has taken place?
- Does it show an emphasis on subject specific vocabulary?

Governors

- Do they give positive feedback about behaviour and engagement in lessons?
- Do they comment on seeing high quality work and outcomes?
- Do they report that leaders are clear about strengths and weaknesses and have clear plans to address areas for development?

Ref: Adapted for Lantern Lane based on work by @DynamicDeps

As our curriculum is the progression model, and formative rather than summative assessment and responsive teaching is the most important type of assessment used by class teachers in the wider curriculum, subject leaders and senior leaders monitor this using the quality assurance model detailed below. To enhance this in a practical subject such as DT, we use the online app Padlet (see Implementation).

Quality Assurance Model		
Subject Leaders Support and Challenge	**Subject Leaders Independent Quality Assurance**	**Subject Leaders and Senior Leaders Collaborative Quality Assurance**
Through own teaching, model key pedagogy for colleagues: Whole school development priorities relevant to subject area Key aspects of what a good lesson looks like in DT Known areas of development Individual requests from class teachers Support teachers to: Interpret curriculum maps for subject Plan well-constructed sequences of lessons which build on prior learning Develop own subject knowledge Reflect how well teaching meets what a good lesson looks like in DT Team teach Keep records of strengths and areas of development for individuals and use this to inform sustained working with colleagues.	Is the curriculum being implemented as intended? Are the elements of what a good lesson looks like in DT being used? Are all staff developing key priorities within the subject area (both subject specific and whole school priorities)? Is the curriculum meeting the needs of all staff and pupils? Monitoring and evaluation: Planning audits Lesson visits Looking at books Teacher and pupil voice Update records of strengths and areas of development for individuals/teams and use this to inform sustained working with colleagues.	Discussion of subject leaders' judgements and evidence base through termly subject leader meetings. Joint analysis through: Planning audits Lesson visits Looking at books Teacher and pupil voice Updating of whole school SEF based on improvement priorities identified by subject leaders monitoring and evaluation. Collaboratively establish any CPD priorities which are whole/part school.

Inclusion and Special Needs

Lantern Lane aims to meet the needs of all, taking into account gender, ethnicity, culture, religion, language, disability, age and social circumstances. The provision for children with special needs is detailed in the SEND Policy. SEND pupils may be supported by additional adults, different resources or differentiated activities. We have high expectations of all children and strongly believe that all children are able to achieve in design technology due to its practical, hands-on nature. Access to activities enables pupils to work alongside peers. Some may take longer to grasp concepts and may need careful scaffolding or extra time/support.

Early Years Foundation Stage (EYFS)

In EYFS, most intended topics are taught over half a term with links made, where appropriate, between both the prime and specific areas of learning. The specifics of what is taught is directed - in part - by the children themselves and their particular interests.
The EYFS framework (2021) is linked to design technology through the following areas of development…
In Foundation 1, Personal, Social, and Emotional Development states that children should play happily both alone and as part of a small group. This links to the co-operation required in design technology units of work required later in their education at Lantern Lane.
In Communication and Language children are expected to be able to understand and follow the routines and expectations of Nursery with few reminders. Children are beginning to ask questions and can answer simple questions. Following instructions is a key part of children taking part in design technology activities in a safe and productive manner.
In Physical Development, the links to design technology require children to learn to use scissors to cut along a straight line; they should also begin to use a variety of tools and equipment in the correct manner for a given purpose, knowing when to seek additional help.
In Maths, pupils are beginning to name common 2D shapes that are often named as part of the construction processes common to design technology.
In Understanding the World, they are expected to start to demonstrate an understanding of how things work and why things happen which have important links to what we intend to achieve in design technology.
In Expressive Arts Design children are expected to be able to combine various construction materials to achieve a desired effect, sometimes with the support of an adult, which has clear links to construction and textiles within the National Curriculum.

In Foundation 2, there are several important foundation blocks that link further to design technology. In the Creating with Materials, it states that children are expected to safely use and explore a variety of materials and techniques, experimenting with colour, design, texture, form and function. They should also share their creations, explaining the process they have used.
In addition, pupils are expected to make use of props and materials when role playing characters in narratives and stories (EAD).
In Physical Development, pupils are required to use a range of small tools, including scissors, paintbrushes and cutlery when developing their fine motor skills. Aspects of the Managing Self requirements in the Personal, Social and Emotional Development Early Learning Goal state that pupils should be confident to try new activities and show independence, resilience

and perseverance in the face of challenge. These are key skills which underlie an important part our intent in design technology in every year group.

Role of the Subject Leader

• Ensures teachers understand the requirements of the National Curriculum and supports them to plan lessons. Leads by example by setting high standards in their own teaching.

• Leads continuing professional development; facilitates joint professional development; provides support and feedback for teachers to improve pupil learning.

• Leads the whole-school monitoring and evaluation of teaching and learning in design technology by observing teaching and learning in design technology regularly; planning whole school improvement; conducting work scrutiny to inform evaluation of progress; conducting pupil interviews.

• Takes responsibility for managing own professional development by participating in external training, independent private study, engaging in educational research and scholarly reading and keeping up-to-date with design technology developments.

• Keeps parents informed about design technology as appropriate.

• Ensures that the school's senior leaders and governors are kept informed about the quality of teaching and learning in design technology.

• Works in close partnership with the school's senior leaders to ensure the learning needs of all pupils in design technology are met effectively.

• Keeps the school's policy for design technology under regular review.