







# *Design Technology* at The Nethersole CofE Academy Primary School

**To be light (living in our community and reaching out beyond it)  
bringing out the God-colours in the world.'**

*Jesus said, 'You're here to be light, bringing out the God-colours in the  
world.' **Matthew 5:16***

HOPE	COMMUNITY	DIGNITY & RESPECT	FORGIVENESS	WISDOM	THANKFULNESS
					

Summer 2025

## Intent -

Our curriculum intent at The Nethersole CofE Academy is to provide a broad, exciting, and challenging curriculum of the highest quality for the children in our care; encouraging, motivating and ensuring all children develop a love of learning, in order to achieve their full potential.

## Vision -

The Nethersole Church of England Academy Primary School and Nursery has a Christian foundation that inspires its life and work. Following the teaching of Jesus, we accept the challenge - *'to be light [living in our community and reaching out beyond it], bringing out the God-colours in the world.'* Matthew 5:16

At the heart of our school is the belief that everyone is a child of God, fearfully and wonderfully made in his image. Our work therefore is to nurture and love every individual, child and adult, to find and develop their gifts, overcoming barriers and growing in confidence to **flourish** - to let their light shine as the very best God version of themselves. Effective teaching and learning underpin this. We wish to inspire everyone to take responsibility for creation, civilisation, and the well-being of each of other, embracing and treasuring our differences.

Our Christ led vision is for a world of justice, respect, and love, and of people who are not afraid to love and sacrifice themselves for others. Our inspiration is Jesus, who loves us in sacrifice, forgives us and reminds us that we each have something special to do to bring out the God colours of the world. We believe that there is a space for everyone to shine brightly and differently and that this adds to the richness of our school family, our community and the wider world.

Our Christian Vision for everyone to be unique shining lights in God's world is illuminated by our biblically based **Christian Values** that we learn to radiate in our daily lives - in our attitudes, relationships, behaviour, choices and decisions.

## Curriculum Design -

Our curriculum is ambitious for our children and is based on the National Curriculum. Nevertheless, we recognise that this is the minimum entitlement for our children. Each subject is taught as a discrete discipline. Whilst developing our curriculum, links were considered very carefully to build on knowledge and skills within each subject, across the school and across subjects. We also carefully considered our local context, diversity, environmental awareness and health education when designing our curriculum.

**The 4R's** The Nethersole CofE Academy Primary School encourages children to display the following positive learning behaviours -

**Resilient Learners** - Children persevere, and they do not give up, even when a task is difficult.

**Responsible Learners** - Children will have their equipment ready, reading books and reading diaries in school daily. Tables tidy and organised.

**Resourceful Learners** - Children will use their previous learning to support their new learning. They will utilise working walls and choose appropriate equipment.

**Respectful Learners** - Children show kindness to all and illustrate good manners to all.

# What is Design Technology?

## EYFS Definition -

Design Technology in EYFS refers to the early development of children's skills in designing, making, and evaluating through imaginative and practical activities. It is embedded within areas such as *Expressive Arts and Design, Physical Development, and Understanding the World*. Children explore a variety of materials, tools, and techniques to create purposeful models and structures. They learn to plan, experiment, and adapt their ideas, developing fine motor skills, creativity, and problem-solving abilities. DT in EYFS encourages curiosity about how things work and supports children's ability to think critically and communicate their ideas.

## KS1 Definition -

Design and Technology (DT) in Key Stage 1 helps children learn how to design, make, and evaluate products for a specific purpose. Through creative and practical activities, children explore materials, tools, and techniques to solve problems and bring their ideas to life. They begin to understand how things work and how to improve their designs by testing and adapting them.

## KS2 Definition -

Design and Technology in Key Stage 2 enables children to deepen their understanding of how products are designed and made to meet real-life needs. Through a cycle of designing, making, and evaluating, pupils learn to solve problems creatively and practically. They work with a range of materials and tools, apply technical knowledge, and begin to understand key concepts such as functionality, innovation, and sustainability. DT in KS2 encourages independent thinking, resilience, and collaboration, preparing pupils for future learning in STEM and beyond.

*"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."* DfE 2013

The **national curriculum** for DT 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 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.

## Design Technology Intent -

The overarching aim for Design Technology at the Nethersole CofE Academy is to ensure that children are inspired to think imaginatively and creatively to enable them to design, make and evaluate purposeful products that solve real and relevant problems, considering their own and others' needs. We aim to encourage children to question and investigate the world around them to become resourceful, innovative and enterprising individuals. We want to develop children's practical skills and technical knowledge using a wide range of tools, materials and components safely and effectively. Children will have opportunities to work collaboratively and independently, drawing on knowledge from other subjects such as Maths, Science and Art to support their learning to solve real life problems. We hope children will explore and be inspired by engineers, inventors and designers to enable them to create a range of structures, mechanisms, textiles, and food products with a real-life purpose. By encouraging children to reflect on their work, try new ideas, take risks and learn from their experiences, we aim to develop their resilience and critical thinking skills. We want children to appreciate the role of design and technology in improving daily life and in addressing global challenges through sustainable and innovative solutions. By the end of Primary School, children will be equipped with creative thinking, problem-solving skills, and an innovative mindset needed to thrive in an ever-changing world.

## Design Technology Implementation -

At Nethersole we follow a mixed age (Cycle A and B), combined Art and Design Technology curriculum. Units of lessons are sequential, allowing children to build their skills and knowledge, applying them to a range of outcomes. We use Kapow Primary to support our teaching and resourcing of Design and Technology.

Units in each phase are organised into four core areas:

- **Cooking and nutrition:** discovering where food comes from; creating a balanced diet; following kitchen hygiene and safety; developing preparation and cooking skills; following a recipe.
- **Mechanisms:** using cams, followers, levers and sliders to mimic natural movements.
- **Structures:** learning about the properties of materials; improving a structure's strength and stability; reinforcing structures.
- **Textiles:** using fabric techniques to fasten, sew and decorate.

Each half term, all classes across the school—including EYFS, KS1, and KS2—focus on one core area within the Design and Technology curriculum. This unified approach has been implemented to ensure clear progression of skills throughout the school, which becomes evident during DT learning walks. See *'Skill Progression Art and DT'* document.

## Whole School Long Term Plan –

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Art and Design	Design and Technology	Art and Design	Design and Technology	Art and Design	Design and Technology
EYFS	<b>Painting and Mixed Media</b> Paint My World	<b>Structures</b> Junk Modelling/Boats	<b>Craft and Design</b> Let's Get Crafty  <i>Sculpture and 3D: Garden Station National in Forest School</i>	<b>Cooking and Nutrition</b> Soup	<b>Drawing</b> Marvellous Marks	<b>Textiles</b> Bookmarks <i>DT: Seasonal Projects A&amp;D: Seasonal Crafts as and where relevant throughout the year.</i>
Year 1/2 Cycle A	<b>Painting and Mixed Media</b> Colour Splash	<b>Structures</b> Constructing a Windmill	<b>Craft and Design</b> Map it Out	<b>Cooking and Nutrition</b> Smoothies	<b>Drawing</b> Tell a Story	<b>Mechanisms</b> Fairground Wheel
Year 1/2 Cycle B	<b>Drawing</b> Make your mark	<b>Structures</b> Baby Bear's Chair	<b>Sculpture and 3D</b> Clay houses	<b>Textiles</b> Puppets	<b>Sculpture and 3D</b> Paper Play	<b>Mechanisms</b> Making a moving monster
Year 3/4 Cycle A	<b>Painting and Mixed Media</b> Prehistoric Painting	<b>Structures</b> Constructing a Castle	<b>Craft and Design</b> Fabric of Nature	<b>Cooking and Nutrition</b> Eating Seasonally	<b>Drawing</b> Power Prints	<b>Mechanisms</b> Pneumatic Toys
Year 3/4 Cycle B	<b>Drawing</b> Growing Artists	<b>Structures</b> Pavilions	<b>Sculpture and 3D</b> Abstract shape and Space	<b>Textiles</b> Egyptian Collars	<b>Sculpture and 3D</b> Mega Materials	<b>Mechanisms</b> Making a slung shot car
Year 5/6 Cycle A	<b>Painting and Mixed Media</b> Portraits	<b>Structures</b> Bridges	<b>Craft and Design</b> Photo Opportunity	<b>Cooking and Nutrition</b> Developing a Recipe	<b>Drawing</b> Make my Voice Heard	<b>Mechanisms</b> Automata toys
Year 5/6 Cycle B	<b>Drawing</b> I need Space	<b>Structures</b> Playgrounds	<b>Sculpture and 3D</b> Interactive installation	<b>Textiles</b> Waistcoats	<b>Sculpture and 3D</b> Making Memories	<b>Mechanisms</b> Pop up book

Some key areas appear less frequently than others, for example Textiles, and this is deliberate. The National curriculum statements show that working with textiles is only a small element of the 'Make' strand and many of the making techniques covered in the Textiles units are also covered with a range of materials in other units, such as the use of templates, modelling, measuring and marking out, cutting, shaping and joining.

Similarly, the coverage of Mechanisms is deliberately imbalanced. This is because for example in Year 1/2, there is strong progression between the Structures: Constructing a Windmill and the Mechanisms: Fairground Wheel and then again with Mechanisms: Making a Moving Monster. To omit one of these units would negatively impact on the progression.

The National Curriculum organises the Design and Technology attainment targets under four strands:

- Design
- Make
- Evaluate
- Technical knowledge

### The Design and Technology National Curriculum

The '**National Curriculum Mapping**' document shows which units cover each National Curriculum attainment target as well as each of the four strands. The '**Skill Progression Art and DT**' document shows the skills and knowledge that are taught within each year group and how these skills develop to ensure that attainment targets are securely met by the end of each key stage. Our scheme follows a spiral curriculum model, where key concepts are revisited regularly with increasing depth, enabling pupils to reinforce and extend their prior learning overtime.

## Examples of Links –

- **DT Structures – Constructing a Windmill linked to DT Mechanisms – Fairground Wheel and Making a Moving Monster.**

In **Year 1**, *Constructing a Windmill* introduces basic structural concepts such as stability, joining techniques, and simple mechanisms (e.g., rotating sails).

In **Year 2**, *Fairground Wheel* builds on this by introducing more complex mechanisms involving rotation and structure, requiring children to consider how components fit together and move.

Later in **Year 2**, *Making a Moving Monster* deepens understanding of mechanisms by introducing **linkages, levers, and pivots**, allowing children to create movement in a more controlled and purposeful way.

(Vertical Link – small steps within year groups or classes.)

- **Mechanisms / Structures / Cooking / Textiles – Design, Make, Evaluate skills.**

All units follow the design, make, evaluate cycle helping children develop independence and confidence in applying these ideas practically.

(Horizontal Link – same subject across the whole curriculum.)

- **DT Bridges linked to Geography – Rivers / Water Cycle.**

**Real life context** - Bridges are often built over rivers, so studying bridge structures gives children a practical understanding of how human engineering interacts with natural landscapes. Children will also see how Geography and DT work together so solve real problems such as crossing water safely.

- **DT Soup / Smoothies/ Eating Seasonally / Developing a Recipe linked to Science – Animals including Humans.**

In DT, children learn about ingredients, food groups, and balanced meals, which directly supports the science curriculum's focus on nutrition and the importance of a healthy diet for humans.

- The Seasonal eating unit, links to science discussions about where food comes from, plant growth, and the impact of human choices on the environment. This also supports understanding of life cycles, sustainability, and food chains.

- **DT Castles linked to History – Kings and Queens.**

- Children gain an understanding of how Kings and Queens lived and ruled. Children will learn about medieval architecture and defense strategies plus subject specific vocabulary e.g drawbridge, moat, battlements.

(Diagonal Link – between subjects – how learning something in one subject supports the children to learn something similar in another subject.)

## **Design Technology Impact -**

At the beginning of each unit, the medium-term plans include a checklist for teachers to assess whether children can recall prior key knowledge and skills.

At the beginning of every lesson thereafter, the children answer questions based on learning from the previous lessons. Knowledge organisers for each unit are included in pupil's sketchbooks. These support pupils in building a foundation of factual knowledge by encouraging recall of key facts and vocabulary.

Questioning and pupil dialogue are an integral part of sessions; example questions and possible answers are included in medium term plans.

Unit based quizzes are completed at the end of units.

Assessment is further supported by pupil voice, photographs of outcomes, and work samples, providing a well-rounded picture of each child's development in DT.

To assess if the children are committing knowledge to long term memory, we use an **'interrupting the forgetting'** strategy which will include reinforcing links to previous learning both within and across the year groups and subjects and exposing children to reading books that link to previous learning during English and story time.