Woodchester Endowed Church of England (Aided) Primary School

‘Love, Learn and Flourish Together’

Our church school community seeks to inspire children and adults to love, learn and flourish together so we may become everything God has created us to be.

Design Technology Policy
December 2023

Written by: D Megson (Subject Lead) December 2023

Review date: December 2025

Ratified by Governing Body:

Curriculum Statement

At Woodchester Endowed Primary School our Design and Technology curriculum seeks to inspire our children to be problem solvers, thinking creatively and using their imaginations to tackle relevant and interesting projects. Our aim is for pupils to feel confident to test their ideas, make mistakes and develop resilience, learning and flourishing together in a safe and encouraging environment.

Our Christian vision is rooted in the desire to value the whole community, both now and in the future and we believe that Design Technology helps to prepare pupils for God's future and to participate successfully in an increasingly technological and fast-changing world. Design Technology at Woodchester Endowed School encourages discussion about God's world and how we live and work within it. Through both real life and imaginary scenarios, we want our pupils to experience designing and creating products, progressively developing skills and techniques that they will use in future projects and the wider world. Our teaching of Design Technology, is another platform for children to communicate what they see, feel and think and is key to their emotional and creative development, recognising that, in Woodchester Endowed School, we are unique and special individuals, loved by God, each with our own strengths and talents to contribute.

Design Technology Curriculum Intent

"High- quality Design Technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation"

The National Curriculum

At Woodchester Endowed Church of England Primary School. we believe Design Technology is a valuable tool for nurturing innovation and problem-solving skills for every child. We aim to instil a sense of enjoyment and exploration through design and technology activities, allowing each child to confidently create and make whilst being prepared to evaluate and rethink their ideas through the design and making process.

At Woodchester Endowed primary School, we ensure all our pupils have access to our DT curriculum through a range of activities encompassing design, making products, evaluating and adjusting ideas. We instil the importance of constructively evaluating their own work and that of others. Cooking and Nutrition is an important aspect of the DT curriculum and pupils learn about healthy eating, nutrition, cooking, safety and hygiene through carefully planned activities.

Woodchester Endowed School values every design and finished product of all its children and celebrates these achievements through peer discussion and child-centred displays. We want our pupils to look forward to and be excited by the opportunities presented in Design Technology lessons where, experimenting, discovering and developing key concepts, skills and attitudes will challenge their thinking and creativity and have an impact on their lives beyond school.

Design Technology Curriculum Implementation

The teaching and learning of Design Technology at Woodchester Endowed Primary School ensures a broad and balanced coverage of the National Curriculum requirements and is taught using the Kapow Scheme. Coverage of progression and skills is developed using a two -year cycle which caters for the mixed year groups in our classes and provides a well-structured approach to this creative subject. The children are taught Design Technology as a discrete subject, alternating half-termly with Art. The Kapow Scheme incorporates the four skills from the National Curriculum:

- **Design**
- **Make**
- **Evaluate**

- **Technical Knowledge**

Units of lessons are sequential, allowing children to build their skills and knowledge, applying them to a range of outcomes. The formal elements, a key part of the National Curriculum, are also woven throughout units. and divides the teaching units into six key areas which run throughout enabling pupils to develop their knowledge and skills by revisiting and building on previous learning:

Key skills are revisited again and again with increasing complexity in a spiral curriculum model. This allows pupils to revise and build on their previous learning.
Units in each year group are organised into six core areas:

- **Cooking and Nutrition**
- **Mechanisms/Mechanical Systems**
- **Structures**
- **Textiles**
- **Electrical systems (KS2 only)**
- **Digital World (KS2 only)**

<u>Design Technology Curriculum Impact</u>

We aim for children to leave Woodchester Endowed Primary School equipped with a range of techniques and the confidence and creativity to form a strong foundation for their Technology learning at Key Stage 3 and beyond. Children at Woodchester Endowed Primary School will respond to design briefs and scenarios that require consideration of the needs of others, developing their skills in the six key areas. Each of the key areas follows the design process (design, make and evaluate) and has a particular theme and focus from the technical knowledge or cooking and nutrition section of the curriculum. The Kapow Primary scheme is a spiral curriculum, with key areas revisited again and again with increasing complexity, allowing pupils to revisit and build on their previous learning.

Lessons incorporate a range of teaching strategies from independent tasks, paired and group work including practical hands-on, computer-based and inventive tasks. This variety means that lessons are engaging and appeal to those with a variety of learning styles. Differentiated guidance is available for every lesson to ensure that lessons can be accessed by all pupils and opportunities to stretch pupils' learning are available when required. Knowledge organisers for each unit support pupils in building a foundation of factual knowledge by encouraging recall of key facts and vocabulary.

The lessons offer the chance for children to realise their ideas, develop their emotional expression through Design Technology to further enhance their personal, social and emotional development and sustain a level of working on a project to encourage resilience.
Our long -term curriculum map is designed in such a way that children are involved in evaluation, dialogue and decision making about the quality of their outcomes and the improvements they need to make. By taking part in regular discussions and decision -making processes, our children will not only understand facts and key information about Design Technology, but they will be able to talk confidently about their own learning journey. We encourage children to value their achievements and celebrate as a school through displays and photographic evidence.

We aim for our children to:

- Understand the functional and aesthetic properties of a range of materials and resources.
- Understand how to use and combine tools to carry out different processes for shaping, decorating, and manufacturing products.
- Build and apply a repertoire of skills, knowledge and understanding to produce high quality, innovative

outcomes, including models, prototypes, and products to fulfil the needs of users, clients, and scenarios.
- Understand and apply the principles of healthy eating, diets, and recipes, including key processes, food groups and cooking equipment.
- Have an appreciation for key individuals, inventions, and events in history and of today that impact our world.
- To recognise where our decisions can impact the wider world in terms of community, social and environmental issues.
- Self-evaluate and reflect on learning at different stages and identify areas to improve.
- Meet the end of key stage expectations outlined in the National curriculum for Design and technology.

Teaching and Learning

Design technology is taught as a discreet subject using the Kapow scheme of learning and planning is supported by a rolling programme in both key stages as outlined on our long-term curriculum plan. A Design Technology skills progression map supports teacher's planning and ensures the development of skills and knowledge across year groups.

Lessons include a range of teaching strategies from independent tasks, paired and group work. Lessons are always practical in nature and encourage experimental and exploratory learning with pupils using sketchbooks to document their ideas. Differentiated guidance is available for every lesson to ensure that lessons can be accessed and enjoyed by all pupils and opportunities to challenge pupils' learning are available when required.

The use of knowledge organisers in each unit support children in building a foundation of factual knowledge by encouraging recall of key facts and vocabulary.

Design Technology is taught weekly across the school following a Kapow unit of study for a full term, thus ensuring that children have regular time to explore and progress their design and making skills. This approach allows them to build on knowledge in a cyclical way so that they are building on learning they have developed previously.

We recognise the fact that we have children of differing ability in all our classes, and so we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies which are differentiated by task, expected outcome and/or support from peers or adult. Children have the opportunity to explore their ideas and record their experiences, as well as exploring the work of others and evaluate different creative ideas.

Spiritual, Moral, Social and Cultural Development

Spiritual development:

D.T supports spiritual development by allowing pupils the opportunity to exercise imagination, inspiration, intuition and insight through creativity and risk taking in analysing, designing and manufacturing a range of products. It instils a sense of awe, wonder and mystery when studying the natural world or human achievement. Encouraging creativity allows pupils to express innermost thoughts and feelings and to reflect and learn from reflection, for example, asking 'why?', 'how?' and 'where?'.

Moral development: D.T supports moral development by raising awareness of the moral dilemmas by encouraging pupils to value the environment and its natural resources and to consider the environmental impact of everyday products. It educates pupils to become responsible consumers.

Social development: D.T Supports social development by providing opportunities to work as a team, recognising others' strengths and sharing equipment

Cultural development: D.T supports cultural development by encouraging children to reflect on ingenious products and inventions, the diversity of materials and ways in which design technology can improve the quality of life. It investigates how different cultures have contributed to technology and reflects on products and inventions, the diversity of materials and ways in which design can improve the quality of our lives.

Early Years

Beginning their Design technology journey in a fun, hands-on and developmentally appropriate way, our EYFS DT is designed to enable children to strengthen key skills and explore new techniques and ideas. Design work links to relevant outcomes and the Early Learning Goals taken from Development Matters the EYFS Statutory Framework, making it easy to ensure coverage and provide evidence. Early Years Design technology is 'play-based' and ensures a child-led approach with every lesson reflecting the ethos of 'process over outcome'

Supporting children in following and exploring their own interests allows for a greater depth of learning and understanding and much higher levels of wellbeing and engagement. Adults in the classroom can model how to use Design and technology to aid children in their pursuits and scaffold the learning so that they can reach a deeper level of understanding. Planning, designing, making and developing skills and knowledge are all fundamental parts of the Design and technology teaching and children have plenty of opportunities to explore different materials, processes and outcomes.

- Explore junk modelling, tinkering with temporary and permanent joins, and a range of materials.
- Create basic models to test in different conditions.
- Explore simple paper slider mechanisms
- Explore and develop threading and weaving skills with different materials and objects.
- Explore and become familiar with different fruits and vegetables, using their senses.

Key Stage 1

In Key stage 1, children develop their knowledge and skills across five key areas: structures, mechanisms, electrical systems, cooking and nutrition and textiles. Lessons build on their experiences in EYFS, introducing new techniques with a focus on developing their own ideas.

- Build structures such as windmills and chairs
- Introduce and explore simple mechanism
- Explore different methods of joining fabrics
- Extend pupils understanding of individual mechanisms, to form part of a functional system
- Continue to develop KS1 exploration skills, through more complex builds such as pavilion and bridge designs.
- Understand material selection
- Explore and become familiar with different fruits and vegetables,

The progression of skills map contains details for each unit of study.

Key Stage 2

- In Key Stage 2, children develop their knowledge and skills in Design Technology across six key areas building upon their learning in Key Stage 1:

- Cooking and Nutrition, Mechanisms/Mechanical Systems, Structures, Textiles, Electrical systems, Digital World
- Continue to develop KS1 exploration skills, through more complex builds such as pavilion and bridge designs.
- Understand material selection and learn methods to reinforce structures
- Extend pupils understanding of individual mechanisms, to form part of a functional system, for example: Automatas, that use a combination of cams, followers, axles/shaft, cranks and toppers.
- Understand that fabric can be layered for effect, recognising the appearance and technique for different stitch and fastening types, including their strength, appropriate use and design
- Understand and apply the principles of a healthy and varied diet to prepare and cook a variety of dishes using a range of cooking techniques and methods.
- Understand what is meant by seasonal foods.
- Know where and how ingredients are sourced.

The progression of skills map contains details for each unit of study.

Planning

At Woodchester Endowed CE Primary School, Design Technology is taught following the Kapow Scheme. The scheme supports the teaching of skills using a focus-based approach so that each term is focussed on one particular set of skills. The curriculum is carefully planned over the following cycles based on the split year group classes throughout the school and ensures full coverage of the National Curriculum:

- EYFS on continuous provision
- Years 1 and 2 use a two-year cycle
- Years 3, 4 and 5 use a two-year cycle
- Year 6 runs an annual cycle

Our long-term and unit plans map out the foci covered each term for each class. These plans define what we will teach and ensure an appropriate balance and distribution of work across the term.

Assessment, Recording and Monitoring

Assessment

The teaching and learning impact of Design Technology can be constantly monitored through formative and summative assessment opportunities. Staff assess pupils against lesson learning objectives and the use of a quiz at the beginning and end of each unit allows children to demonstrate their learning.

Recording

The children's annotated designs, research and written notes and evaluations are recorded in Design technology books. These books are created at each key stage and are passed on to the next class at the end of the school year. Teachers will take photographs and record evidence of teaching and learning on class displays and in Design Technology record books. A designated area in the classroom displays the unit knowledge organiser for each Kapow teaching unit and is referred to in lessons. Celebrating examples of work for each lesson are also included. Finished products are displayed in the classroom or entrance hall cube display unit.

Monitoring

As a maintained school, the school is subject to a variety of monitoring arrangements for Design Technology. These include, but are not limited to:

- Headteacher and Governors monitor coverage of National Curriculum subjects and compliance through other statutory requirements through – visits, book looks, attendance at staff meetings, staff surveys, teaching observations.
- The Subject Lead will monitor the way in which their subject is taught through the school by – staff voice, pupil voice, reviewing planning, reviewing progress of unit lessons, teacher drop in observations. The Subject Lead will also have responsibility for monitoring the way in which resources are stored and managed.

Resources

Design Technology resources are stored centrally and all staff have access to these resources. As a school, we have a wide range of equipment including cooking utensils and aprons, assorted wheels and cam mechanisms, tools and wood, glue guns. Some resources are ordered when required, in particular food technology supplies, and the cost is taken from the DT budget. We do have a small selection of books in the school library.

People with an interest or expertise in a particular topic or area of DT may be invited into school to help work with children. Every year, Year 6 take part in the Knex Challenge.

Equal Opportunities and Inclusion

Design Technology plays an important part in the life of our school. Children can enjoy and achieve. It is available to every child and all children take part in creative activities; making a positive contribution to the life of the school and local community. We are committed to promoting equal opportunities in all areas of the National Curriculum, irrespective of socio-economic background, gender, disability and ethnicity. We believe that all children should have equal access to and participation in the entire range opportunities on offer at our school. We are committed to ensuring that all children participate irrespective of any special educational need(s) or physical disability they may have. We believe that children should have equal access to and participation in a full range of activities in order to reach their own potential.

Class Teachers

The teaching of Design technology is the responsibility of each class teacher. Planning has been provided by the Kapow scheme chosen by the subject lead and it is the responsibility of each class teacher to ensure that those resources are being used to deliver as per the National Curriculum. Class teachers are also responsible for ensuring that all resources are looked after when in use and will notify the subject lead of any resource requests that would aid the teaching and learning of Design technology through the school. Class teachers are responsible for approaching the subject lead should they have any concerns or queries over the teaching of Design technology within the school.

Subject Lead

- to support and guide the practice of teachers and support staff
- to ensure coverage, continuity and progression in planning maps
- to monitor and evaluate the effectiveness of DT teaching and learning through lesson observation and pupil

conferencing
- to update documentation where necessary

The subject Lead is responsible for ensuring that the requirements of the National Curriculum are covered. The subject leader will also co-ordinate monitoring of the teaching and learning and will ensure all staff are confident with the planning and resourcing of the subject. This will include making sure resources and documentation is up to date on a regular basis. The subject lead is also responsible for managing the DT budget across the school and ensuring that resources purchased benefit the whole school community.

The subject leader will endeavour to attend any training opportunities available and will use any knowledge gained to help raise the standard of teaching and learning throughout the school. With support from all staff, the subject lead is responsible for reporting to the head teacher and governors on Design Technology.

Health and Safety

Children should be taught to use items of protective clothing as appropriate and be encouraged to develop safe and tidy work practices.
Teachers and pupils should be aware of potentially hazardous materials and tools in relation to their storage and use. Teachers will always teach the safe use of tools and equipment and insist on safe practice.
The school abides by statutory health and safety guidelines outlined by the Local Authority.

While individual class teachers must judge for themselves whether or not their class is able to use a particular resource the following guidance must be adhered to:

The class teacher and specialist teacher will be responsible for the health and safety of themselves, Teaching Assistants, pupils and visitors within the class.

Pupils should be made aware of hazards, risks and risk control in every lesson and encouraged to:

- collect, use and return tools and equipment safely
- follow clear instructions
- only move around the classroom when necessary
- wear safety equipment whenever necessary
- understand the reasons and importance of health and safety guidance

Clamps: Pliers/Vices

Children may use these pieces of equipment when their strength of grip enables them to operate the tool.

Cookers

Once instruction has been given, children may be allowed to operate the cooker under **close** supervision.

Drills

Hand drills: These may be used by children after training under supervision. When the teacher is satisfied that the child has become competent in the use of this tool they may use the drill in the classroom under supervision

Food Allergies

Recipes should be chosen to minimize the risks of allergic reactions. No nuts should be used. The class teacher and specialist teacher should be aware as early as possible of any known allergies of pupils in class and allergens not used in that classroom. Pupils will also be taught about the food allergies as part of their food technology curriculum.

Food Hygiene

Children should be made aware as early as possible of the need for hygienic food preparation. Teachers should train the children to prepare food hygienically and supervise preparation

Safety Glasses

These should be worn when there is a risk of damage to the eyes.

Food Hygiene

Children should be made aware as early as possible of the need for hygienic food preparation. Teachers should train the children to prepare food hygienically and supervise preparation.

Safety Glasses

These should be worn when there is a risk of damage to the eyes.

Glue Guns:

Only low temperature glue guns should be used. They should be used by the teacher only until years 5 and 6, where they may be used by the child under close supervision of an adult.

Hammers

Children may use a hammer as soon as their motor skills allow them to hit the nail accurately and as soon as they are disciplined enough to stay on task.

Smaller weight hammers are sufficient for most jobs in the classroom.

Knives

Used for Food Technology work. Children must be taught the rules, techniques and skills for cutting. They should be closely supervised while working with a knife.

Nails and Pins

These may be used under general supervision once the children have been trained in their use.

Needles

These may be used under general supervision once the children have been trained in their use.

Sanding/Filing

Sandpaper/Emery paper/Files: Sanding and filing may be carried out using these tools under general su upon to use the correct techniques.

Left handed scissors/snips: While most children are right handed, left handed scissors and snips should be made available for left handed children.

Sharp ended scissors: These may be used under general supervision once the children can be relied upon to use the correct techniques.

Safety snips: These may be used under general supervision once the children can be relied upon to use the correct techniques.

Tin Snips: These should be used by adults only.

Left handed scissors/snips: While most children are right handed, left handed scissors and snips should be made available for left handed children.

Paper Trimmers

These may be used by children after instruction under general supervision. It is the recommendation of this policy that only children in years 5 and 6 and possible some mature year 4 children, at the discretion of the teacher be allowed to use a paper trimmer without close supervision.

Sprays – Paints/Fixatives

These should only be used by adults in well ventilated areas. They should not be used in the presence of children.

Staplers

Mini staplers may be used by children under general supervision. Heavy duty staplers may be used under close supervision until the children are competent. Electric staplers are never to be used in the classroom. Staple guns are to be used only by trained adults.

Legislation and Guidance

This policy reflects the requirements of the **National Curriculum programmes of study**, which all maintained schools in England must teach.

It also reflects requirements for inclusion and equality as set out in the **Special Educational Needs and Disability Code of Practice 2014** and **Equality Act 2010**, and refers to curriculum-related expectations of governing boards set out in the Department for Education's **Governance Handbook**.

In addition, this policy acknowledges the requirements for promoting the learning and development of children set out in the Early Years Foundation Stage (EYFS) statutory framework.