# Design and Technology at Church Eaton

## Intent: What are our aims?

Our entire curriculum is designed to educate and form the whole child. We want children to have a deep understanding of their own story – to know where they have come from, what their own aspirations for the future are and what skills they will need to achieve them. We want children to leave Church Eaton understanding that:

- They are part of a small rural community with a very long and very proud history. (**Community)**
- They are also part of an enormous diverse wider world that will provide endless opportunities. **(Diversity)**
- They are equipped with a toolkit of skills which they can, regardless of their starting points, use to succeed and be the best that they can be **(Social Mobility).**

The Design and Technology scheme of work supports these guiding principles by aiming to inspire pupils to be innovative and creative thinkers who appreciate the product design cycle through ideation, creation and evaluation. We want pupils to develop the confidence to take risks through drafting design concepts, modelling and testing, and to become reflective learners who evaluate their work and the work of others. Through our scheme of work, we aim to build an awareness of the impact of design and technology on our lives and encourage pupils to become resourceful, enterprising citizens who will have the skills to contribute to future design advancements.

Our Design and Technology curriculum is ambitious, broad and balanced for all pupils. It is designed and sequenced so that pupils build knowledge and skills cumulatively over time and apply them confidently in a range of contexts. The curriculum is adapted, where appropriate, so that disadvantaged pupils, pupils with SEND, pupils known to social care and those facing other barriers to learning can access the same ambitious curriculum and thrive.

## Implementation: What do we teach?

The Design and Technology National curriculum outline the three main stages of the design process: design, make and evaluate. Each stage of the design process is underpinned by technical knowledge which encompasses the contextual, historical, and technical understanding required for each strand. Cooking and nutrition* have a separate section, with a focus on specific principles, skills, and techniques in food, including where food comes from, diet and seasonality.

The National curriculum organises the Design and Technology attainment targets under four subheadings,

- **Design**
- **Make**
- **Evaluate**
- **Technical knowledge**

Cooking and nutrition are given a particular focus in the National curriculum, and we have made these one of our six key areas that pupils revisit throughout their time in primary school:

- Cooking and nutrition
- Mechanisms/ Mechanical systems
- Structures
- Textiles

- Electrical systems (KS2 only)
- Digital world (KS2 only)

Our Design and Technology scheme has a clear progression of skills and knowledge within these strands and key areas across each year group. Our Progression of knowledge and skills document shows the precise knowledge and skills 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. **(See Knowledge and Skills Document on our Website in the Design and Technology section of our curriculum page)**

Through our Design and Technology scheme, pupils respond to design briefs and scenarios that require consideration of the needs of others, developing their skills in the six key areas.

Each of our 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. It is a spiral curriculum, with key areas revisited again with increasing complexity, allowing pupils to revisit and build on their previous learning.

Lessons incorporate a range of teaching strategies including independent tasks, paired and group work, practical hands-on experiences, computer-based tasks and inventive design opportunities. This variety helps to make learning engaging and accessible for pupils with different starting points and needs. Adaptive teaching, appropriate scaffolds and opportunities for greater challenge are used so that all pupils can access the intended curriculum. Knowledge organisers for each unit support pupils in building a foundation of factual knowledge by encouraging recall of key facts and vocabulary.

## Implementation: How do we ensure that knowledge and skills are progressive?

Nursery: Children will be taught to

| | **Nursery** |
|---|---|
| **Physical Development** | • Use one-handed tools and equipment, for example, making snips in paper with scissors. |
| **Expressive Art and Design** | • Explore different materials freely, to develop their ideas about how to use them and what to make.<br>• Develop their own ideas and then decide which materials to use to express them.<br>• Join different materials and explore different textures.<br>• Create closed shapes with continuous lines and begin to use these shapes to represent objects.<br>• Draw with increasing complexity and detail, such as representing a face with a circle and including details.<br>• Use drawing to represent ideas like movement or loud noises.<br>• Show different emotions in their drawings and paintings.<br>• Explore colour and colour-mixing |

Reception to Year 6

- Our National Curriculum mapping document shows which of our units cover each of the national curriculum attainment targets as well as each of these strands within it. (See Website)
- Our Progression of skills and knowledge shows the skills that are taught within each year group and how these skills develop year on year to ensure attainment targets are securely met by the end of each key stage. (See Website)

# Implementation: What units do we cover and when do we cover them?

Because we have mixed aged classes, we operate a two-year cycle for Design and Technology. Units are mapped out with the links to our Curriculum drivers of Community, Diversity (D) and Social Mobility (M) as indicated below. The precise knowledge and skills that are taught in each unit are indicated in our Progressive Knowledge and Skills Documents and the national Curriculum mapping document that is on the Curriculum section of our website. Please note: The order in which the units are completed may be altered if necessary.

| | Block 1 | | | Block 2 | | | Block 3 | | | Block 4 | | | Block 5 | | | Block 6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EYFS | Unit 1: structures Junk modelling Autumn: Hibernation Box | | | Christmas: Sliding Picture | | | : Cooking and nutrition Soup | | | Textiles Bookmarks | | | Easter: Hanging decoration Spring: Flower threading | | | Unit 4: Structures Boats<br><br>Summer lessons: Designing a rainbow salad and making a rainbow salad | | |
| | C | D | M | C | D | M | C | D | M | C | D | M | C | D | M | C | D | M |
| Years 1/2 Cycle A | | | | Structures: Constructing a windmill | | | | | | Textiles: Puppets | | | | | | Smoothies | | |
| | C | D | M | C | D | M | C | D | M | C | D | M | C | D | M | C | D | M |
| Years 1/2 Cycle B | Structures Baby Bear's Chair | | | | | | Mechanisms: fairground Wheel | | | | | | Mechanisms Making and Moving Monster | | | | | |
| | C | D | M | C | D | M | C | D | M | C | D | M | C | D | M | C | D | M |
| Years 3/4 Cycle A | Cooking and nutrition: Eating seasonally | | | | | | Digital world: wearable Technology | | | | | | Structures: Constructing a Castle | | | | | |
| | C | D | M | C | D | M | C | D | M | C | D | M | C | D | M | C | D | M |
| Years 3/4 Cycle B | Structures: Pavilions | | | | | | Mechanical systems: Making a slingshot car | | | | | | Electrical Systems Torches | | | | | |
| | C | D | M | C | D | M | C | D | M | C | D | M | C | D | M | C | D | M |
| Years 5/6 Cycle A | Electrical Doodlers | | | | | | Mechanical systems | | | | | | Cooking and Nutrition: Developing a Recipe | | | | | |
| | C | D | M | C | D | M | C | D | M | C | D | M | C | D | M | C | D | M |
| Years 5/6 Cycle B | Textiles: Waistcoats | | | | | | Structure Playgrounds | | | | | | Digital World Navigating the World | | | | | |
| | C | D | M | C | D | M | C | D | M | C | D | M | C | D | M | C | D | M |

## Implementation: What do Design and Technology lessons look like?

We have identified a series of Teaching and Learning Pillars which underpin all teaching and learning at Church Eaton. Teaching is informed by evidence about how pupils learn so that lessons focus on the most important knowledge, vocabulary and concepts, present new learning clearly, revisit prior content, check understanding systematically and adapt teaching in response to misconceptions and gaps.

| Pillar | |
|---|---|
| Focused Planning | Curriculum programmes of study are developed into medium-term plans which highlight learning objectives, assessment opportunities and sticky knowledge designed to help pupils remember content in the long term. Teachers then plan and tailor units of work around design briefs and purposeful questions. These units integrate discussion, creativity and practical application while addressing the needs of pupils so that all can reach their full potential regardless of starting point. Knowledge organisers for each unit provide a highly visual record of key knowledge, processes, facts and vocabulary. Planning is sequenced carefully so that pupils revisit and build on prior learning. |
| Quality First Teaching | Lessons are practical in nature and encourage experimental and exploratory learning. Pupils design, make and evaluate products through a range of teaching approaches, including modelling, discussion, independent tasks, paired and group work, and hands-on construction. Quality first teaching in Design and Technology is secured through high expectations for all pupils, well-structured lessons with clear objectives, adaptive teaching, the use of formative assessment to inform teaching, and a focus on engagement, challenge and progress. |
| Effective Target Setting through Meaningful Assessment | Assessment is an integral part of teaching and learning in Design and Technology. Teachers use ongoing assessment within lessons to check pupils' understanding against the learning objectives and intended knowledge and skills. This assessment is then used diagnostically to identify misconceptions, gaps in knowledge and the next steps in learning. Assessment information is used to inform future teaching, support and challenge, while summative records help teachers and subject leaders monitor attainment and progression over time. |
| Targeted Support | Staff Solution Circles are used to support data analysis and identify what support children will need and how this can be achieved. This is supported by Raising Achievement and Progress Meetings that are held regularly. Adaptive teaching, appropriate scaffolds and reasonable adjustments are used in lessons so that all pupils, including disadvantaged pupils and pupils with SEND, can access the same ambitious curriculum. Opportunities to extend and deepen learning are also provided when required. |
| Purposeful Learning Environment | DT Is celebrated with displays in and out of the classroom, and on social media. Learning resources and visual prompts are easily accessible to enable children to work independently, and shared displays are used to celebrate final products and parent engagement days. Regular access to alternative learning spaces e.g., library, hall, outside to enhance the learning experience is also explored |
| Extended Curriculum | Children are given the opportunity to attend numerous DT clubs throughout the year e.g., craft |
| Reading at the core | Children are provided with reading resources at an appropriate level to support their learning. They are provided with opportunities to borrow books on Design and Technology from the school library and library bus to supplement their knowledge and interest. Technical vocabulary, speaking and listening, reading and precise explanation are developed within Design and Technology so that pupils can articulate their thinking clearly. |

## Impact: What will our children have learnt from our Design and Technology Curriculum?

Through our carefully planned and sequenced curriculum we work to develop learners, from their individual starting points who are: ·

Community Builders who are aware that they are part of a small rural community with a very long and proud history and can use this sense of community spirit to work collaboratively with others for the common good. ·

Clear Communicators who are literate and numerate in all contexts and aware that they are part of an enormous diverse wider world that will provide endless opportunities for them to apply these skills. ·

Successful learners who are equipped with a toolkit of skills which they can, regardless of their starting points, use to succeed and be the best that they can be (social mobility).

The expected impact of following our Design and Technology scheme of work is that children will:

- 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, CAD, 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.
- Recognise where our decisions can impact the wider world in terms of community, social and environmental issues.
- Self-evaluate and reflect on learning at various stages and identify areas to improve.
- Meet the end of key stage expectations outlined in the National curriculum for Design and Technology.

## Impact: How do we track progress?

EYFS: Assessment in the EYFS takes the form of observation, and this involves the teacher and other adults as appropriate. These observations are recorded in a variety of forms in the children's Cornerstones accounts, floor books or their exercise books. Each child's progress is assessed whether they are working below age related expectations, working within age related expectations, or working above age related expectations.
At the end of EYFS (Reception) Children will be assessed using the Early Learning Goals. They will either be emerging at the goal or achieved it.

Years 1-6: The impact of our scheme is monitored through both formative and summative assessment. At the start of each unit, pupils complete a knowledge catcher to help teachers identify prior knowledge and establish a baseline for learning. In each lesson, teachers use assessment guidance to check pupils' understanding against the learning objectives. This assessment is then used diagnostically to identify misconceptions, gaps in knowledge and the next steps in learning. At the end of each unit, pupils complete a unit quiz to assess what they know and remember from the learning journey. As part of our Kapow scheme, pupils also complete endpoint assessments through Time to Shine activities. These provide opportunities for children to apply and highlight the full range of knowledge and skills from across the unit, while helping teachers assess how securely pupils have completed and understood the tasks within the learning journey. To support this further, we also carry out book looks, pupil interviews and regular moderation exercises to check the progress made and identify how best to support pupils moving forward.