

# Computing 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 Computing scheme of work supports these guiding principles by aiming to instil a sense of enjoyment around using technology and to develop pupil's appreciation of its capabilities and the opportunities technology offers to, create, manage, organise, and collaborate. Tinkering' with software and programs forms a part of the ethos of the scheme as we want to develop pupils' confidence when encountering new technology, which is a vital skill in the ever evolving and changing landscape of technology. Through our curriculum, we intend for pupils not only to be digitally competent and have a range of transferable skills at a suitable level for the future workplace, but also to be responsible online citizen operating in a diverse world.

The scheme of work enables pupils to meet the end of Key Stage Attainment targets outlined in the National curriculum and the aims align with those in the National curriculum. When used in conjunction with our RSE & PSHE scheme, our Computing scheme of work also satisfies all the objectives of the DfE's Education for a Connected World framework. This guidance was created to help equip children for life in the digital world, including developing their understanding of appropriate online behaviour, copyright issues, being discerning consumers of online information and healthy use of technology.

## Implementation: How do we teach Computing?

The National curriculum purpose of study states:

'The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems, and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world'.

Therefore, our scheme of work is designed with three strands which run throughout:

- Computer science
- Information technology
- Digital literacy

Our Computing 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)**

Our scheme is organised into five key areas, creating a cyclical route through which pupils can develop their computing knowledge and skills by revisiting and building on previous learning:

- Computer systems and networks
- Programming
- Creating media
- Data handling
- Online safety

The implementation of Computing ensures a broad and balanced coverage of the National curriculum requirements, and our ‘Skills showcase’ units provide pupils with the opportunity to learn and apply transferable skills. Where meaningful, units have been created to link to other subjects such as science, art, and music to enable the development of further transferable skills and genuine cross curricular learning.

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

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 Computing. 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		
Years 1/2 Cycle A	Computing systems and networks: Improving mouse skills			Programming: Algorithms unplugged			Computing systems and networks: What is a computer?			Programming: Algorithms and debugging			Skills Showcase Rocket to the moon			Computing systems and networks Word processing		
	C	D	M	C	D	M	C	D	M	C	D	M	C	D	M	C	D	M
Years 1/2 Cycle B	Programming: Bee-bots Option 1: Bee-Bots			Creating media: Digital imagery			Data Handling: Introduction to data			Programming: Scratch JR			Creating media: Stop motion: Using			Data Handling: International space		

	Option 2: Virtual Bee-bots	Option 1: Google Option 2: Microsoft Office 365			tablets	station
	C D M	C D M	C D M	C D M	C D M	C D M
Years 3/4 Cycle A	Computing systems and networks: Emailing Option 1: Google Option 2: Microsoft Office 365	Programming: Scratch	Creating media: Video trailers Using devices	Programming: Further coding with Scratch	Programming Computational thinking	Creating media Website design Option 1: Google Option 2: Microsoft Office 365
	C D M	C D M	C D M	C D M	C D M	C D M
Years 3/4 Cycle B	Computing systems and networks Networks and the internet	Data Handling: Comparison cards databases Option 1: Google Option 2: Microsoft Office 365	Computing systems and networks Journey inside a computer	Computing systems and networks Collaborative Learning Option 1: Google Option 2: Microsoft Office 365	Data Handling: Investigating weather	Skills Showcase: HTML
	C D M	C D M	C D M	C D M	C D M	C D M
Years 5/6 Cycle A	Programming: Micro:bit	Data Handling Mars Rover 1	Skills Showcase: Mars Rover 2	Creating media: History of computers	Bletchley Park- codes	Skills Showcase: Inventing a product
	C D M	C D M	C D M	C D M	C D M	C D M
Years 5/6 Cycle B	Programming: Programming music Option 1: Sonic Pi Option 2: Scratch	Creating media Stop motion animation Option 1: Stop motion studio Option 2: Using cameras:	Computing systems and networks: Search engines	Data Handling Big data 1	Data Handling Big data 2	Programming: Introduction To Python
	C D M	C D M	C D M	C D M	C D M	C D M

### Implementation: What do Computing lessons look like?

We have identified a series of Teaching and Learning Pillars which underpin all teaching and learning at Church Eaton.

Pillar	
Focused Planning	Curriculum programmes of study are developed into medium term plans which highlight learning objectives, assessment opportunities and sticky knowledge objectives designed to help pupils remember long term content. A Subject Specialist Teacher then plans and tailors units of work based around big questions that need answering. These units of work integrate technology, opportunities for discussion and creativity to address the specific individual needs of pupils so that all pupils can reach their full potential regardless of their starting point. Knowledge organisers for each unit support pupils by providing a highly visual record of the key knowledge and techniques learned, encouraging recall of skills processes, key facts, and vocabulary.
Quality First Teaching	Lessons incorporate a range of teaching strategies from independent tasks, paired and group work as well as unplugged and digital activities. This variety means that lessons are engaging and appeal to those with a variety of learning styles. Children in years 1 to 6 receive a weekly lesson taught by a subject specialist member of staff who is expected to consider prior knowledge and experiences and build upon these through us <a href="#">7-stage lesson planning</a> .
Effective Target Setting through Meaningful Assessment	Individual and class strengths and areas for development are identified and used to inform future planning and interventions. Assessment sheets are used to track whether children achieve Learning Objectives and Cornerstones is used to collate information to enable subject leads to ascertain the number of children in line to achieve national expected standards
Targeted Interventions	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 once every twelve weeks. 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.
Purposeful Learning Environment	Children all have access to an individual computer/ tablet and lessons are taught by a Subject Specialist
Extended Curriculum	Children are given the opportunity to attend Coding Club in the year to support their learning
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 Computing from the school library and library bus to supplement their knowledge and interest.

### Impact: What will our children have learnt from our Computing 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 very 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 the Computing scheme of work is that children will:

- Be critical thinkers and able to understand how to make informed and appropriate digital choices in the future.
- Understand the importance that computing will have going forward in both their educational and working life and in their social and personal futures.
- Understand how to balance time spent on technology and time spent away from it in a healthy and appropriate manner
- Understand that technology helps to showcase their ideas and creativity. They will know that different types of software and hardware can help them achieve a broad variety of artistic and practical aims.
- Show a clear progression of technical skills across all areas of the National curriculum - computer science, information technology and digital literacy.
- Be able to use technology both individually and as part of a collaborative team.
- Be aware of online safety issues and protocols and be able to deal with any problems in a responsible and appropriate manner.
- Have an awareness of developments in technology and have an idea of how current technologies work and relate to one another.
- Meet the end of key stage expectations outlined in the National Curriculum

#### **Impact: How do we track progress?**

The impact of our scheme can be constantly monitored through both formative and summative assessment opportunities. Each lesson includes guidance to support teachers in assessing pupils against the learning objectives. An assessment spreadsheet including the learning outcomes for children with secure understanding and those working at greater depth enables teachers to keep records of summative assessments for each child. Children complete endpoint assessments which we call Products. Each unit also has a unit quiz and knowledge catcher which can be used at the start and/or end of the unit. We then complete book looks/ pupil interviews and regular moderation exercises of this work to check on the progress made and identify how we can support your child in the future