

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 pupils' appreciation of its capabilities and the opportunities technology offers to create, manage, organise and collaborate. 'Tinkering' with software and programs forms part of the ethos of the scheme because we want to develop pupils' confidence when encountering modern technology, which is a vital skill in the ever-evolving landscape of technology. Through our curriculum, we intend for pupils not only to be digitally competent and to have a range of transferable skills suitable for the future workplace, but also to be responsible online citizens operating in a diverse world.

Our Computing 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.

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 the objectives of the DfE's Education for a Connected World framework.

This guidance helps to 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 making 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 develop to ensure that attainment targets are securely met by the end of each key stage. Learning is sequenced carefully so that pupils revisit, remember and build on prior knowledge over time.

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.

Computing also contributes to strong foundations in communication and language, reading, writing and mathematics by explicitly teaching technical vocabulary, encouraging discussion and explanation, requiring precise written responses and applying logical and mathematical thinking through programming and data handling.

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

Year 1 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-age classes, we operate a two-year cycle for Computing. Units are mapped out with links to our curriculum drivers of Community, Diversity (D), and Social Mobility (M), as indicated below. The precise knowledge and skills taught in each unit are set out in our progressive knowledge and skills documents and the National Curriculum mapping document 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 Option 2: Virtual Bee-bots	Creating media: Digital imagery Option 1: Google Option 2: Microsoft Office 365	Data Handling: Introduction to data	Programming: Scratch JR	Creating media: Stop motion: Using tablets	Data Handling: International space 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. 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. A subject specialist teacher then plans and adapts units of work around big questions that need answering. These units integrate technology, discussion and creativity while addressing the specific 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 incorporate a range of teaching strategies including independent tasks, paired and group work, as well as unplugged and digital activities. This variety makes lessons engaging and accessible for pupils with different starting points and needs. Children in Years 1 to 6 receive a weekly lesson taught by a subject specialist member of staff who considers prior knowledge and builds upon this. Creativity and independent outcomes are robustly embedded into our units, while teaching remains knowledge rich. Quality first teaching in Computing 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	Individual and class strengths and areas for development are identified and used to inform future planning and interventions. Assessment information is used to identify how securely pupils have understood the intended knowledge and skills and to inform future teaching, support and challenge. Summative records are then used by teachers and subject leaders to monitor patterns in 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 every lesson so that all pupils, including disadvantaged pupils and pupils with SEND, can access the same ambitious curriculum. Opportunities to stretch learning are also provided 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 during 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 have opportunities to borrow books on Computing from the school library and library bus to supplement their knowledge and interest. Technical vocabulary, speaking and listening, reading and precise written explanation are developed within Computing so that pupils can articulate their understanding clearly.

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 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 who can make informed and appropriate digital choices.
- Understand the importance that computing will have in their educational, working, 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 can be used to express ideas and creativity, and 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.
Use and understand subject-specific vocabulary, read technical texts, explain their thinking clearly and apply logical and mathematical thinking through programming and data handling.
- Be able to use technology both independently and as part of a collaborative team.
- Be aware of online safety issues and protocols and be able to deal with problems in a responsible and appropriate manner.
- Have an awareness of developments in technology and an understanding 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 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.