Coton-in-the Elms Primary School

Computing Policy

Version	Last Review	Reviewed by	Next review	Comments
1	July 2022	Jo Smith	July 2023	Implementation of new scheme
2	March 2023	L. McIntosh	March 2025	Reviewed new scheme, policy amended to reflect how the school has implemented and tailored the scheme to school's needs.
3	March 2025	S Adams	March 2027	BBC Microbit units added to curriculum outline.

Perseverance Enjoyment Awe and wonder Compassion Excellence

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1. Introduction

The national curriculum for computing aims to ensure that all pupils:

1. can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
2. can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
3. can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
4. are responsible, competent, confident and creative users of information and communication technology.

2. Ethos & Aims

At Coton-in-the-Elms Primary School we believe a high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. 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.

3. Intent

We believe that through the accumulation and application of knowledge, children are equipped to experience 'life in all its fullness' (John 10:10).

'If any of you lacks wisdom, let him ask God, who gives generously to all without reproach, and it will be given him.' James 1:5.

Thanks to God's wisdom, Man has used this to create a technological age, through which we can communicate, learn and problem solve. Computers have over the past twenty years, revolutionised the world. With this comes an abundance of advantages, however also disadvantages. We ensure our computing curriculum teaches children: how to be safe online; moderate their time on computers to ensure physical activity and handwriting skills are not impeded and to be aware of some of the effects social media can have on our wellbeing when not used appropriately.

Many aspects of the modern world are run by technology. We see it in every aspect of our lives: from supermarket self-scanners to QR codes and social media. The internet is constantly at our fingertips. Many of the pupils from our school family are digital masters as they have constant access to technology and the Internet. As 48% of jobs require a digital skill, It is likely that many of our children's future careers are going to be heavily influenced and involved in technology. With the many risks posed from the ever-changing developments within online communication, we need to ensure that our pupils keep themselves safe as they

use social media and collaborative gaming. By studying computational thinking through programming, pupils learn how to recognise problems and approach them in a controlled and systematic way.

We ensure that our subject knowledge is up to date. We engage in a range of professional development through the local authority, from the DfE and read and reflect on OFSTED's research materials - *Research review series: computing - GOV.UK (www.gov.uk)*

The school follows the National Centre for Computing Excellence (NCCE) Teach Computing Scheme, affiliated by the DfE. Careful consideration has been made by leaders to ensure the program meets the National Curriculum requirements and the needs of the pupils at Coton-in-the-Elms Primary School. The scheme provides:

- High quality resources including lesson plans, slides, activity sheets, homework, and assessments
- A clear teacher guide and curriculum map to help staff get started with the unit
- An innovative progression framework where computing content has been organised into interconnected networks we call learning graphs
- Reassurance of a quality curriculum provision, since this has been created by subject experts, using the latest pedagogical research and teacher feedback
- Free content for staff to use, and in formats that make it easy to adapt it to meet the needs of our learners

Due to some 'Teach computing' resources being not available, units are substituted by BBC Microbit units that utilise the BBC Microbits which we have in school. These allow our children to build and programme their own computers. These units use the BBC Make code programme which allows children to learn an understanding of different computing concepts and strengthen logical, procedural understanding.

4. Implementation

Computing is taught across each year group in units that enable pupils to study in depth key scientific understanding, skills and vocabulary. Each unit aims to activate and build upon prior learning, including EYFS, to ensure better cognition and retention. Each unit is carefully sequenced to enable pupils to purposefully layer learning from previous sessions to facilitate the acquisition and retention of key computing knowledge for all three areas of the computing curriculum- computer science, information technology and digital literacy. Each area of the computing curriculum is revisited either later in the year or in the following year as part of a spaced retrieval practice method to ensure pupils retain key knowledge and information.

Developing Disciplinary knowledge and skill development

As well as ensuring pupils are taught key knowledge, each unit is designed to offer pupils the opportunity to explore the different areas of the computing curriculum and develop their skills as user and developers of technology through exploring different hardware and software, designing and creating their own computer programs, and organising, storing, manipulating and retrieving digital content.

The knowledge and understanding of the complexity and capabilities of computing spirals incrementally as the child progresses through our school. The expectation in the production of data and information becomes more complex through KS1 and KS2.

Our computing curriculum is divided into the following threads, each of which play a vital part within gaining a good knowledge and understanding of computing: algorithms and programs, digital media, digital communication, online research, data handling, digital literacy and E-safety. Each of these components

contribute the children's computational thinking and gives them an understanding of not just the influence computing has on us, but also the influence we can have on computing.

Pupils have the opportunity to apply their computational thinking across other curriculum areas.

EYFS

The EYFS children have daily access to the class technology. Children are encouraged to access learning on the interactive whiteboard and technology is linked into their adult led activities. The children have access to other forms of technology – cameras, listening station, pretend phones and keyboards during their 'exploring' time. A set of iPads are available for pupils to use as part of the understanding the world curriculum.

A 'bridging' document is in place, that shows how the computing curriculum is devised to ensure progression across the different curriculums. This ensures careful transition and clear expectations of what should be taught and what must be revisited.

Staff CPD

The highest regard is given to ensure staff are trained up to date and therefore competent and confident to deliver the Computing curriculum. Training is provided by the program leaders at the start of the academic year. This is specifically tailored to the year group staff will be teaching.

Teaching of vocabulary to support reading

We want our children to have an expansive vocabulary and through teacher modelling and planning, children are given opportunity to use and apply appropriate vocabulary. Computing language is taught and built upon with vocabulary being a focus. Utilising research, the school explicitly teaches Tier 2 and Tier 3 vocabulary in all subjects.

5. E-safety

E-Safety is age appropriate and represents the levels of exposure to online communication at each key stage. The Teach Computing program provides e-safety teaching opportunities within its units of work. Additionally to this, the school has its own tailored online safety long term plan, which highlights what each class must be taught about keeping safe online, in addition to the scheme. Safer Internet day is celebrated in school, which raises the profile of how to stay safe online for children and families. The newsletter includes top tips on how to stay safe online. See also the school's online safety policy.

6. Support for SEND Pupils & Inclusion

At Coton in the Elms Primary School, we teach computing to all children. Computing forms part of the school curriculum policy to provide a broad and balanced education to every child. Through our computing teaching, we provide learning opportunities that enable pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents, and those learning English as an additional language, and we take all reasonable steps to achieve this.

7. Impact/Assessment & Recording

At Coton in the Elms Primary School we assess the children's learning throughout the lesson, as part of our formative assessment. Review and revisit tasks are used in lessons to draw out prior learning and 'interrupt the forgetting'. Any misconceptions will be addressed and supported in the lesson. This is proven to have the highest impact on the outcomes for the children.

Exit ticket tasks are used at the end of the unit of work, to enable pupils to apply and show what they have learned.

8. Monitoring

The NCCE has 7 dimensions of a quality computing curriculum. These are used by the leaders in school to selfassess their current provision against.

The Computing Lead will monitor the teaching of Computing by conducting learning walks to assess the children's knowledge and understanding and to ensure there is consistence in the delivery of the program.

Work sampling is more challenging for computing. When applicable the children will save their work to their pc our work drive on the school sever. Each half term, classes will capture the learning form the computing unit in the class Showcase Journal. This will include an overview of what the children learned and pupil voice.

The children are the voice of Coton – in – the – Elms Primary School and we value their views to their learning.