Curriculum Statement: Computing

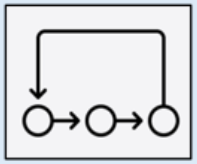
'Technology is best when it brings people together' Matt Mullenweg

Whole-School Vision:

At Quest Primary School, we work collaboratively with The Collegiate Trust schools to deliver the shared vision of an ***'exceptional education for all.'*** We passionately believe that '**Learning Changes Lives**' and are determined that through our school values of **excellence, responsibility and aspiration**, all children will develop to their full potential during their time at Quest Primary.

We have identified the 5 strategies below which form the outline of our offer, to ensure every child receives excellent inclusive teaching as standard. Our teachers use these consistently in lessons and adapt the strategies to the needs of their own class and to individual pupils.

Whole-School Strategies to Support Inclusive Teaching & Learning

Explicit Instruction	Checking for Understanding	Repeated Exposure	Scaffolded Practice	Communication
				

Computing Curriculum Vision:

At Quest Primary School, the computing curriculum sets out the foundational skills, knowledge and aspiration for children to become excellent software developers, computer analysists, web developers and IT project managers. Computing is taught to equip our children to engage fully in a world where school and home life are continually being transformed by technology. Children will be confident, creative and independent learners when using a range of technology responsibly and safely. Children will have every opportunity available to allow them to achieve this through both discrete teaching of knowledge and skills and a cross-curricular approach whereby links are made with the maths, science and DT curriculums.

We recognise that technology is evolving at a fast pace and intend for our curriculum to equip children with the skills to use technology both today and in the future. We understand that, by keeping up to date with new technologies, we can support our children in developing confidence and safe practices when using technology and give them the tools to manipulate technology to support their learning for life. Our computing programme will teach children to safely use computational thinking skills, digital literacy knowledge and creativity to understand and change the world. We promote the safe use of the internet at the core of our Computing curriculum coverage. Our approach to e-safety helps ensure that we are able to teach children about staying safe when using internet technologies. It also helps make sure pupils themselves know how to behave responsibly online.

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At Quest Primary School, we recognise that for our pupils to aspire and be successful academically and in the wider areas of their lives, they need to be given rich and sustained opportunities to develop their cultural capital. Analysis and discussion about our pupils' backgrounds, life experiences and culture has helped us to design a curriculum which places our school values at the heart of our curriculum.

The Quest Primary Values, as realised through our Curriculum		
Excellence	**Responsibility**	**Aspiration**
Our curriculum is designed to promote excellence in all that we do and learn. Our high expectations of what every child can achieve, ensure that children are given opportunities throughout the planned curriculum, to achieve excellence in their subject knowledge and skills, so that they are ready to move on to the next stage of their learning. Excellence is valued, promoted and celebrated every day at Quest Primary and can be seen in our learning, behaviours and attitudes to all we do.	Our curriculum promotes children developing as responsible learners, taking responsibility for their own learning through their behaviour and actions, as well as supporting the learning of others. Subject curriculums promote how to take responsibility for our physical and mental health, as well as online safety and support our children to be well-rounded individuals and a school community, who understand the impact their words and actions have on others, and their own futures.	Our curriculum is aspirational for all our children, including those with SEND and from disadvantaged backgrounds. It is our intent that all children leave Quest Primary well-prepared for the next stage in their academic careers and with the knowledge and skills required to ensure they can partake successfully in the world around them. Our curriculum supports them to become confident, respectful and well-informed young citizens who believe they can achieve their dreams.

Intent, Implementation and Impact in Computing

Intent **(What will take place before teaching in the classroom? What do we want our children to know and be able to do?)**	**Implementation** **(What will this look like in the classroom?)**	**Evidence of Curriculum Impact** **(How will this be measured?)**
• The Computing **curriculum coverage** is organised so that children encounter each of the ten strands from the NCCE taxonomy from Year 1 – 6 under the following unit headings: Computing Systems and Networks; Creating Media; Programming; & Data and Information and **are able to revisit, build on and extend their previous learning and skills**. • The Teach Computing Curriculum uses the **National Centre for Computing Education's computing taxonomy** to ensure comprehensive coverage of the subject. The strands are: Algorithms; Computer networks; Computer	• **National Curriculum Programme of Study** is used to deliver learning in line with the National Curriculum expectations for Computing. In EYFS, Computing will incorporate the skills, learning and development in the area of Understanding the World. • **The TEACH Computing scheme of work** is used to deliver units of work and individual lessons. • Computing units are taught in blocks for either three or four half terms per year, **with lessons taught weekly** activating prior knowledge and developing expertise.	**Children:** • Increasing percentages of **children will achieve mastery** (at age-related expectation) of each Computing topic and become skilled and articulate young computer scientists/digitally literate. This will be assessed through formative strategies in lessons such as teacher observation and questioning, as well as outcomes produced as work tasks. • Pupil's will **speak enthusiastically** about their Computing learning and articulate what they are learning and why it is important. Children will

systems, Creating media; Data and information; Design and development; Effective use of tools; Impact of technology; Programming; Safety and security. Whilst all strands are present at all phases, they are not always taught explicitly. • The units for key stages 1 and 2 are based on a **spiral curriculum**. This means that each of the themes is revisited regularly (at least once in each year group), and pupils revisit each theme through a new unit that **consolidates and builds on prior learning within that theme.** • The Computing curriculum encompasses computer science, information technology and digital literacy, as well as **Online Safety** so that all children develop a broad set of computing skills that will equip them for their next stage of education and their future life. • Our curriculum aims to model and educate our pupils on how to use technology positively, responsibly and safely. • For Computing to be **accessible to all pupils**, including those who are **disadvantaged or SEND**. • Children will be aware of how Computing **transcends different cultures, religions and backgrounds** and speaks a universal language. • For teachers to **embed computing across the whole curriculum** to make learning creative, accessible and build fluency in a range of computing skills, with close links to maths, science and DT.	• **Key vocabulary** is explicitly taught to children as part of quality-first teaching. • The Teach Computing Curriculum has been written to support all pupils. Activities are scaffolded so that all pupils can succeed and thrive. **Scaffolded activities provide pupils with extra resources, such as visual prompts,** to reach the same learning goals as the rest of the class. Exploratory tasks foster a **deeper understanding of a concept, encouraging pupils to apply their learning in different contexts and make connections** with other learning experiences. • Children's learning and work is collated online, on the shared network or in whole-class floor books which capture their Computing products and outcomes. • **Retrieval opportunities** are planned for by teachers, to ensure children have opportunity to secure new knowledge. Children will **know more, remember more** and understand more about Computing.	enjoy and value Computing and know why they are doing things, not just how. • Children will be **excited and passionate** about Computing, keen to participate and speak enthusiastically about their learning. • Children will be able to use appropriate vocabulary accurately, independently, to demonstrate their computing understanding. • Children will be enthused to continue their Computing learning at secondary school, and some may **pursue careers** in the STEM subjects, in their future careers. • Children will know more and remember more about computing through acquisition of knowledge but will also be able to articulate some of the **disciplinary skills** required to become an expert in computing. **Children's Work:** • High-quality Computing outcomes will demonstrate that **children can choose and use tools and select materials appropriately**. **Teachers:** • The Computing curriculum will contribute to children's **personal development** and ensure that they are able to **keep themselves safe** when working online.

National Curriculum Objectives

The national curriculum for computing aims to ensure that all pupils: ♣ can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation ♣ can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems ♣ can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems ♣ are responsible, competent, confident and creative users of information and communication technology.

KS1:

Pupils should be taught to:

♣ understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions

♣ create and debug simple programs

♣ use logical reasoning to predict the behaviour of simple programs

♣ use technology purposefully to create, organise, store, manipulate and retrieve digital content

♣ recognise common uses of information technology beyond school

♣ use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

KS2:

Pupils should be taught to:

♣ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts

♣ use sequence, selection, and repetition in programs; work with variables and various forms of input and output

♣ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

♣ understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration

♣ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

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