North Somercotes CE Primary School

Computing Policy

"The advance of technology is based on making it fit in so you don't really notice it, so it's part of everyday life," Bill Gates.

Our definition for Foundation and KS1 – Computing is about developing simple computer uses and developing knowledge of computing in the wider context.

Our definition for KS2 –Computing is the link between science, maths and design technology and proves insights into both natural and artificial systems.

What is computing?

Computing comes from the Latin word 'compute', which means to calculate. A computer is an electronic and programmable device used to solve problems in everyday life.

Through our computing curriculum, we aim to widen our children's knowledge, skills and understanding of the wider computing world. Computing is a hugely important subject, especially in today's technologically advanced world. We want our children to have the knowledge and skills to be confident in being an integral part of the computing generation. We want our children to have the skills to be resilient when faced with an error, not accepting defeat when faced with a problem.

The National Curriculum Purpose of Study states that:

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.

Whilst the Computing Curriculum has an increased focus on Computer Science including developing pupils' programming skills and their understanding of what happens 'behind the scenes', it is important that they also continue to develop their Digital Literacy and e-safety capability and our school curriculum us designed to reflect this. Please see our Online Safety Policy for further information.

Context

The village of North Somercotes is an area of low social mobility. Due to the geographical position of the village the children are not exposed to the city infrastructure where technology is relied upon. The main employment is agriculture or seasonal work which limits the amount of access the children have to the digital world.

When asked, 90% of the children reported that they have access to the internet out of school. However, only 50% of the children use a PC or laptop at home and out of those children 40% use if for purposes other than the internet.

Intention

As a school, we embrace the national vision for Computing and appreciate that, to achieve this, pupils must have access to a curriculum which is 'balanced and broadly based'.

Our aim is to produce learners who are confident, discerning and effective users of technology and who also have a good understanding of computers and how computer systems work, and how they are designed and programmed.

We strive to achieve this aim by:

- supporting all children in using technology with purpose and enjoyment.
- meeting, and building on the minimum requirement set out in the National Curriculum as fully as possible and helping all children to achieve the highest possible standards of achievement.
- helping all children to develop the underlying skills and capability which is essential to developing Computing capability (such as problem solving, perseverance, learning from mistakes) and apply them elsewhere.
- helping all children to develop the necessary skills to exploit the potential of technology and to become autonomous and discerning users
- helping all children to evaluate the benefits and risks of technology, its impact on society and how to manage their use of it safely and respectfully.

In North Somercotes CofE Primary School, teachers are encouraged to progressively develop pupils' Computing skills and capability through discrete learning opportunities, and also to exploit this capability as a tool to support objectives in other curriculum areas meaningfully.

Implementation

As a school, we have chosen the Purple Mash Computing Scheme of Work from Reception to Year 6. The Purple Mash Computing Scheme of Work is a comprehensive set of resources aligned to the National Curricula for Computing, Technology and Digital Competence. The Scheme of Work is intended to facilitate teachers in achieving the very best outcomes for children. It exposes children to a wide variety of digital tools, technological skills, and innovations. It contains everything that is needed to deliver inspiring and engaging lessons whilst allowing for the flexibility to meet individual school needs. Lessons are delivered from lesson plans with accompanying slide shows. At the end of each year group overview document, there is mapping of exactly which objectives are met by each unit for The National Curriculum.

Purple Mash Computing Scheme is taught through the following Predominant Areas of Computing:

- Computer Science
- Information Technology
- Digital Literacy

Roles and Responsibilities

Subject Leader

The computing subject leader monitors the way their subject is taught throughout the school by:

- Work scrutiny
- Learning walks
- Pupil voice
- Lesson observations
- Teacher interviews

The computing subject leader has the responsibility for monitoring the way in which resources are stored and managed. Resource recommendations are made in conjunction with the headteacher.

Teaching staff

Other staff will ensure that the school curriculum (Purple Mash) is implemented in accordance with this policy.

Staff will ensure they are using the correct vocabulary for their year group. They will be confident with their subject knowledge and are aware of the expectations for key endpoints of the previous and next year groups and also the end of key stage. They will keep up to date with current research and worldwide events.

Staff will assess progress in computing using the Purple Mash assessment framework.

Organisation and planning

Early Years Outcomes

We aim to provide our pupils with a broad, play-based experience of Computing in a range of contexts. Teachers will provide a learning environment which should feature ICT scenarios based on experience in the real world, such as in roleplay. Pupils gain confidence, control and language skills through opportunities to 'paint' on the interactive board/devices or control remotely operated toys. Outdoor exploration is an important aspect. Recording devices can support children to develop their communication skills. This is especially useful for children who have English as an additional language.

Key Stage 1 Outcomes

Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions. Write and test simple programs. Organise, store, manipulate and retrieve data in a range of digital formats. Communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school.

Key Stage 2 Outcomes

Design and write 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; generate appropriate inputs and predicted outputs to test programs. Use logical reasoning to explain how a simple algorithm works 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 worldwide web; and the opportunities they offer for communication and collaboration. Describe how Internet search engines find and store

data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely. Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

Inclusion

Further information can be found in our statement of equality information and objectives, and in our SEND policy and information report:

- The school's computing curriculum, lessons and materials will support equality of opportunity and an inclusive attitude to all learners. We will ensure that children are provided with a broad and balanced curriculum. Children will be able to engage in informed debate on local and worldwide issues.
- All pupils will have equal opportunity to reach their full potential across the computing curriculum regardless of their race, gender, cultural background or ability. Class teachers will be responsible for planning activities that are differentiated and suitably challenging to meet the needs of all children, enabling access to the study of computing.
- We will ensure our Bottom 20% readers are able to fully access all aspects of the computing curriculum through adapting of resources, additional adult support and other means of quality first teaching support.

Impact

"I think it is possible for ordinary people to choose to be extraordinary," Elon Musk.

Through a carefully structured curriculum and well considered enquiries the children are able to organise their thinking, make links between new and existing knowledge and in turn gain a deeper understanding of the technologies that currently exist.

We are confident that our computing curriculum, through Purple Mash, will give the children the opportunity to progress with their education into secondary school with the enthusiasm and competence so that able to adapt to change. The children will also be aware of the risks when using the internet and social media and other associated challenges with the ever changing world of digital technology. We will strive to ensure that the children will become digitally literate and able to overcome obstacles so that they can be ready for life in the 21st Century.

Policy Agreed: Spring '23
Policy Review: Autumn '25