

COMPUTING

INTENT

Vision Statement

At New Scotland Hill Primary School and Nursery, we understand that technology is EVERYWHERE and that it is a pivotal part of our young people's lives. As a result of this, we understand the need to model and educate our pupils on how to use technology positively, responsibly and safely to ensure they become masters at using it rather than slaves to it. As teachers, we understand the difference between being creators or consumers of technology and therefore our broad curriculum reflects the teaching of computer science, information technology and digital literacy to help educate children to become creators rather than consumers. Teachers are encouraged to embed computing across the whole curriculum to make learning creative and accessible. We want our children to be fluent with a range of tools by the end of Key Stage 2 and have the knowledge and understanding of choosing the best tool to fulfil the task set by the teacher.

National Curriculum Aims

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. By 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.

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.

IMPLEMENTATION

We have created a comprehensive progression document for staff to follow to best embed and cover every element of the computing curriculum. The knowledge/skills statements build year on year to deepen and challenge our learners. The table below details how we have grouped the different elements of the Computing Curriculum. Our progression document details how skills are developed throughout the primary phase.

| Information Technology | Computer Science | Digital Literacy |
|--|--|---|
| Word Processing/Typing Data Handling Presentations, Web design Video Creation Digital art (including photography) Sound | Computational Thinking Programming Computer Networks | Self-image and Identity Online relationships Online reputation Online bullying Managing online information Health, well-being and lifestyle Privacy and security Copyright and ownership |

Information Technology

Most of the objectives covered in this area of the curriculum will be met through cross curricular opportunities, unless specific skills need to be taught discreetly. These opportunities enable children to see that technology is everywhere, to develop a greater awareness of what technology can do and develop skills that will enable them to choose the right tool for the job. Although children will be shown which tools suit which tasks lower down in the school, it is expected that they will be able to make their own choices about which piece of software/hardware/app will be the right tool for the job. Within this area of the computing curriculum, the following objectives will be covered enabling children to:

- recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. (EYFS)
- use technology purposefully to create, organise, store, manipulate and retrieve digital content. Co2/1.4
- 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. Co2/1.6

These objectives will be met using a variety of applications and pieces of software, including but not limited to :

Seesaw, Word, Excel, Publisher, Pages, Google Docs, Book Creator, Google Sheets, Google Forms, Numbers, Kahoot, Padlet, Adobe Spark Page, Adobe Spark Video, PowerPoint, Keynote, Chatterpix Kids, iMovie, Doink GreenScreen, Camera app, Garageband,

New Scotland Hill Primary School and Nursery

Computer Science

The area of Computer Science has been broken down into three strands:

- Computational Thinking in which children are taught about solving problems effectively through the use of developing algorithms and implementing these as code.
- Programming in which, along with implementing code, children will also be able to find problems with their algorithms by debugging their code and developing more complex and efficient programs.
- Computer Networks in which children will develop a working knowledge of how networks, including the internet and search engines, work.

Within this area of the computing curriculum, the following objectives will be covered enabling children to:

- Recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. (EYFS)
- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Co2/1.1
- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Co2/1.1
- create and debug simple programs Co2/1.2
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output Co2/1.2
- use logical reasoning to predict the behaviour of simple programs. Co2/1.3
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Co2/1.3
- 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 Co2/1.4
- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Co2/1.4

New Scotland Hill Primary School and Nursery

| | |
|---------------|--|
| | <p>Digital Literacy</p> <p>Today's children and young people are growing up in a digital world. As they grow older, it is crucial that they learn to balance the benefits offered by technology with a critical awareness of their own and other's online behaviour, and develop effective strategies for staying safe and making a positive contribution online. This framework describes the skills and understanding that children and young people should have the opportunity to develop at different ages and stages. It highlights what a child should know in terms of current online technology, its influence on behaviour and development, and what skills they need to be able to navigate it safely.</p> <p>Within this area of the computing curriculum, the following objectives will be covered enabling children to:</p> <ul style="list-style-type: none">➤ Recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. (EYFS)➤ 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 Co2/1.4➤ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Co2/1.5➤ recognise common uses of information technology beyond school Co2/1.5➤ use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about material on the internet or other online technologies Co2/1.6➤ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact Co2/1.7 |
| IMPACT | <p>We encourage our children to enjoy and value the curriculum we deliver and help them to understand that the WHY is as important as the WHAT. We want our young learners to value, appreciate and discuss the impact computing has on their well-being, learning and development. Through discreet computer science lessons, we are able to support children to understand 'how' our technology works to provide the programmes and hardware that we use in everyday life. Through our PSHE curriculum, we are able to support, challenge and educate our children to understand the power of digital literacy and equip them with the skills needed to keep them safe. Within our wider curriculum topics, we are able to give children opportunities to showcase their learning and understanding through various IT applications on PCs and iPads.</p> |

The information in this Curriculum Statement and the subsequent Progression of Skills document has been taken from the website of ICT with Mr P.