



Simonside Primary School

Computing Policy

Updated: November 2025

INTRODUCTION

The use of information and communication technology is an integral part of the national curriculum and is a key skill for everyday life. Computers, tablets, programmable robots, digital and video cameras are a few of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate and present information. At Simonside Primary School we recognise that pupils are entitled to quality software and hardware and a structured and progressive approach to the learning of the skills needed to enable them to use it effectively. The purpose of this policy is to state how the school intends to make this provision.

INTENT

Aims

The school's aims are to:

- Provide an ambitious and purposeful computing curriculum which meets the National Curriculum expectations and embodies our curriculum drivers.
- Provide a curriculum which allows for breadth and depth of understanding across the curriculum area to be developed.
- Provide a curriculum which develops knowledge and understanding of key concepts within the subject area through repetition of teaching and placing learning in contexts which are relevant to the needs of our children.
- Provide a computing curriculum which equips all children with life skills needed for future learning.

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

- can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication
- 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

Computing Key Concepts:

The implementation of our Computing Curriculum is underpinned by the following key concepts:

- To code

- To connect
- To communicate
- To collect

Computing lessons are coherently planned and sequenced in direct link to skills progression within each of the four key areas. Teaching staff devise Long Term Plans (LTP) for Computing which are interrelated to progressive milestones in order to ensure that knowledge and skills are taught sequentially. The teaching of milestones within the key concepts is aided through the continual use BAD grids (Basic, Advancing, Deep) which are then also used for assessment. Based on the principles of cognitive science, key concepts are also revisited throughout the year and built upon across phases and key stages.

Computing lessons are structured around Alex Bedford's *Six Phases of a Lesson*, ensuring a consistent and effective approach to teaching and learning. This framework supports how children learn best by providing a clear sequence: connecting new content to prior knowledge, addressing misconceptions, delivering concise explanations, sharing clear examples, allowing time for practice before application, and ensuring challenge for all learners. By following this structure, teachers create purposeful lessons that promote deep understanding and engagement.

During the Early Years Foundation Stage, children use a range of technology, programmable toys (e.g. Code-A-Pillars) to help them understand cause and effect, sequences and basic problem solving. Through Barefoot lessons, children take part in activities to develop pattern recognition, sequencing and debugging. This supports children's transitions to Key Stage One, where the national curriculum objectives for computing are explicitly taught.

In Key Stage One, pupils follow the NCCE's programming scheme of work -Teach Computing- to develop foundational computing skills across key areas such as programming, digital literacy and online safety. They learn how to create and debug simple programs using logical reasoning, understanding what algorithms are, and explore how technology is used in everyday life. Additional online safety lessons are provided through the Natterhub scheme which is aligned to the UKCIS 'Education for a Connected World' document. Throughout these lessons, children learn to use technology safely, respectfully, and responsibly. Dedicated lessons focus on keeping personal information private and knowing where to seek help if they have concerns about anything they have witnessed online.

In Key Stage Two, pupils continue to follow the NCCE's programming scheme of work. They learn to design, write, and debug more complex programs using concepts such as sequence, selection, repetition, and variables. Children explore how computer systems and networks function, develop skills in creating and editing digital media, and learn to collect, analyse, and present data. Online safety and responsible digital behaviour are embedded throughout, helping pupils to critically evaluate digital content and navigate the online world safely. Additional online safety lessons are provided through Natterhub to help older

children understand social media use, image manipulation, and misinformation (e.g. fake news) and ensure they understand how to report concerns and seek support from trusted adults. As they progress through the Key Stage, pupils combine software tools to produce purposeful digital outcomes, building confidence and preparing for future learning.

NATIONAL CURRICULUM

By the end of key stage 1 pupils should be taught to:

- 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
- use logical reasoning to predict and computing the behaviour of 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.

By the end of key stage 2 pupils should be taught to:

- 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 world-wide 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.

IMPACT

Assessment

Assessment of learning in computing is derived from a range of different means. Key questions are devised by each class teacher for each area of the computing curriculum at the time of which it is being taught. These questions are used and frequently referred to

throughout the teaching time of the topic, as well as after this, to ensure that pupils are transferring learning taught from their working to long term memory. Within lessons, teachers are constantly assessing through questioning, observation and class discussions to ensure learning 'sticks'.

Class teachers also use a skills progression framework which is central in building schemas of understanding across year groups, phases and the broad, primary age range. Teachers highlight coverage of skills taught in order to ensure breadth of teaching. A separate document is also used to ensure appropriate coverage of Digital Literacy topics through the use of Natterhub. As well as a skills progression framework, teachers also make use of quizzes and outcomes of digital projects to inform future planning and identify areas for support.

At Simonside Primary School we use the Depth of Learning tracker which allows teachers to assess the key concepts being taught. Within the concepts are the milestones which are split into BAD (Basic, Advancing, Deep). These grids aid planning as well as assessment. The detail of the milestones ensure full coverage of the key skills and allow teachers to see that the curriculum is being taught in the breadth and depth required.

MONITORING

Monitoring of the standards of children's work and of the quality of teaching in Computing is the responsibility of the Computing subject leader. The work of the Computing subject leader also involves supporting colleagues in the teaching of Computing, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school.

Monitoring is undertaken through a range of lenses. This may involve studying assessment data, reviewing children's computing work and pupil interviews, implemented through the Pupil Book Study strategies. Through checking the teaching of basic skills, attitudes and behaviour towards the subject area frequent, high quality feedback can be provided.