Computing Policy

Leadgate Primary School

Subject Leader:	Tracy Reed
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Computing Policy

Purpose

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, 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, DfE, 2013)

Aims and Objectives

The National Curriculum aims to ensure that all children

- 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.

There are 3 main strands of computing: computer science, information technology and digital literacy. Pupils should be taught to:

	Key Stage 1	**Key Stage 2**
Computer Science	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	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 predict the behaviour of simple programs	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 Appreciate how search results are selected and ranked, and be discerning in evaluating digital content
	Key Stage 1	**Key Stage 2**
Information Technology	Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Use search technologies effectively 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
Digital Literacy	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	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 technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Early Years Foundation Stage

Although there is no separate Technology strand in the EYFS curriculm, computing activities can enhance indoor and outdoor provision and contribute to the Characteristics of Effective Learning, as children are active, play and explore, and think critically and creatively.

Computing scenarios may be based on experiences in the real world in role play, using remote controls and cameras. Children develop Computational Thinking by solving problems ('unplugged' activities without computers).

Planning

A long term plan for Computing has been produced by the subject leader to demonstrate coverage and progression. This follows the Teach Computing framework for Key Stages 1 and 2 and includes suggestions for EYFS.

Computing is a discrete subject, but it is also used to support learning in other subjects, such as when using research and presentation software.

The school long term plan for Online Safety outlines the objectives from 'Education for a Connected World', while planning for each year group gives suggested resources including 'Project Evolve'. The school PSHE syllabus also includes opportunities to explore online safety issues.

Teaching and Learning

Children may work individually, in pairs or small groups, or as a class, according to the activity.

Resources

The Computing Coordinator oversees computing resources.

- Each site has trolleys for iPads and laptops and a central stores of resources for physical computing (e.g. BeeBots, Probots, Micro:bits).
- Laptops are networked.
- A technician visits school on a fortnightly basis. Staff are able to log any necessary work using the ICT Portal, although this is usually done by the subject leader.
- The school subscribes to 'Purple Mash', a cross-curricular website with computing and online safety activities to support learning in school and at home.
- 'Class DoJo' is also used to communicate and share learning with parents and carers. *Please refer to the school's Remote Learning Policy.*

Health and safety

Pupils and staff are instructed to avoid looking at a projector or visualiser and each whiteboard has a warning sign on display. Trailing leads should be made safe behind equipment. Children are taught about the safe and appropriate use of electrical equipment, such as laptops.

Staff and visitors are advised not bring their own electrical equipment into school as all electrical appliances need to be PAT tested every twelve months. Damaged equipment is reported to the office for repair or disposal.

Use of computing equipment is in accordance with the school's 'acceptable use'.

Online Safety

Rules for safe and responsible use of the Internet is displayed next to computing areas around school. *Please refer to the school's Online Safety Policy.*

Mental health and wellbeing

As well as learning about the benefits of technology, pupils consider the impact of excessive screen time and negative content online, and explore issues such as cyberbullying also during PSHE lessons. They learn about age restrictions and how to manage risks through safe searching, keeping personal information private, behaving respectfully online, and finding out how to get support.

Equal Opportunities

Computing is for all children, irrespective of their gender, ethnicity, culture, religion, background, experience or ability. We aim to meet the needs of all children, so that they can meet their potential. The use of computing can have an impact on the quality of work that children produce and can increase confidence and motivation.

More Able and Talented

Pupils may be offered greater challenge with opportunities for investigation, problem solving, and creativity.

Special Educational Needs and Disabilities

Activities or resources may be adapted for different needs, and additional adult support may be given.

The subject leader liaises with the SENDCo (Special Educational Needs and Disabilities Coordinator) to ensure that children have appropriate access to computing, including provision of appropriate equipment or support where possible. Staff training has included the use of assistive technology.

Assessment

Specific feedback from adults helps pupils to improve. Photographs of children's activites and print-outs of their work demonstrate achievements and progress. Work may also be saved on the computer network and in 'Purple Mash', and as children progress through the school, they are taught how to save their own work.

Evidence of activities and work is organised into folders on the One Drive to provide exemplification materials and to support monitoring.

Role of the subject leader for Computing

- To implement the school policy
- To attend courses and update staff with current developments and CPD opportunities
- To liaise with county services, such as technicians and web developers
- To monitor and evaluate the effectiveness of school provision (using the Computing Quality Framework to help make progress)
- To order resources
- To support staff and lead any meetings and training
- To report to the Head Teacher, SLT and the Governing Body

Monitoring and Review

The subject leader for Computing is responsible for the monitoring and review of the Computing Policy.