Barleyhurst Park Primary School

Computing Policy.

This policy is for Barleyhurst Park School and Barleyhurst Park Nursery.

Agreed by Governors: 01.02.2023

To be reviewed: Spring 2026

1 Computing Curriculum Statement

1.1 Intent

In line with the 2014 National Curriculum for Computing, our aim is to provide a high-quality computing education which equips children to use computational thinking and creativity to understand and change the world. The curriculum will teach children key knowledge about how computers and computer systems work, and how they are designed and programmed. Learners will have the opportunity to gain an understanding of computational systems of all kinds, whether or not they include computers.

By the time they leave Barleyhurst Park, children will have gained key knowledge and skills in the three main areas of the computing curriculum: computer science (programming and understanding how digital systems work), information technology (using computer systems to store, retrieve and send information) and digital literacy (evaluating digital content and using technology safely and respectfully). The objectives within each strand support the development of learning across the key stages, ensuring a solid grounding for future learning and beyond.

1.2 Implementation

At Barleyhurst Park, computing is taught using a blocked curriculum approach. This ensures children are able to develop depth in their knowledge and skills over the duration of each of their computing topics, while also working towards an end goal. Each pair of classrooms is equipped with a set of laptops as well as a set of iPads to ensure all year groups have the opportunity to use a range of devices and programs for many purposes across the wider curriculum, as well as in discrete computing lessons. Employing cross-curricular links motivates pupils and supports them to make connections and remember the steps they have been taught. The implementation of the curriculum also ensures a balanced coverage of computer science, information technology and digital literacy. The children will have experiences of all three strands in each year group, but the subject knowledge imparted becomes increasingly specific and in depth, with more complex skills being taught, thus ensuring that learning is built upon. For example, children in Key Stage 1 learn what algorithms are, which leads them to the design stage of programming in Key Stage 2, where they design, write and debug programs, explaining the thinking behind their algorithms.

1.3 Impact

Our approach to the curriculum results in a fun, engaging, and high-quality computing education.

Much of the subject-specific knowledge developed in our computing lessons equip pupils with experiences which will benefit them in secondary school, further education and future workplaces. From research methods, use of presentation and creative tools and critical thinking; computing at Barleyhurst Park gives children the building blocks that enables them to pursue a wide range of interests and vocations in the next stage of their lives.

- Computing has a high profile at our school. Our children are confident using a wide range of hardware and software, and are diligent learners who value online safety and respect when communicating with one another.
- Children will have a secure and comprehensive knowledge of the implications of technology and digital systems. This is important in a society where technologies and digital trends are rapidly evolving.
- Through discussion and feedback, children talk enthusiastically about their computing lessons
- Children across the school articulate well about the potential risks of being online, and can talk about ways to keep safe.

If you were to walk into computing lessons at Barleyhurst Park, you would see:

- Proficient users of technology who are able to work both independently and collaboratively.
- Computing hardware and software being utilised to enhance the learning outcomes of our children, across the curriculum.
- Clear progression in technical skills.
- Enthusiastic learners engaged in programming, animation, architectural design and preparing online safety presentations.

2 Aims

2.1 Through a Computing curriculum, pupils are able to use computational thinking and creativity to understand and change the world. 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.

2.2 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 program 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.

2.3 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.

3 Teaching and learning style

3.1 At Barleyhurst Park School the teaching and learning style is as active and practical as possible. Our principle aim is to develop the computing skills necessary to become confident learners and competent users of computing technology. Each pair of classrooms in Key Stage 1 and Key Stage 2 share a class set of laptops and iPads; this allows for easy access to the computing curriculum as well as being able to use the devices to support and enhance the learning in other subjects. In addition, Foundation pupils have access to computers and iPads within their classroom which they use to support the delivery of the curriculum. Pupils throughout the school also have the opportunity to use a range of other computing technology such as calculators, interactive whiteboards, touchscreens, data loggers, digital cameras and Edison robots.

3.2 Through Computing, pupils will be given direct instruction on how to use hardware, and understand and apply software. Computing will be integrated into the curriculum alongside these skills, giving pupils the opportunity to utilise what they have learned. Teachers also use computing technology to enhance learning and to model concepts and methods.

3.3 In all classes, pupils have a wide range of computing confidence and abilities. We provide suitable learning opportunities for all pupils matching the challenge of the

task to the ability of the child. This is achieved in a variety of ways, including differentiated work, paired work, research and open ended problems. Teaching Assistants are also used to provide appropriate support to individuals and/or groups of pupils.

4 Computing curriculum planning

4.1 The planning for Computing is based on the National Curriculum, 2014, in conjunction with Scholastics Computing lessons schemes of work.

4.2 The NCCE Computing scheme of work, which is used in Key Stage 1, provides detailed planning for each module. These planning documents, although differentiated already, can then be annotated by the teacher, where necessary, to show additional changes which were made to the planning to help ensure all children make progress.

4.3 The NCCE computing units are also used across Key Stage 2 alongside some additional units which have been developed in house to ensure coverage and experience is broad and engaging for all.

4.4 Units of work are designed to enable pupils to achieve stated objectives. Pupils' progress towards these objectives will be recorded by teachers either by collecting evidence each lesson, or by completing an end of unit project/ task.

5 Foundation Stage

5.1 The foundation stage class follows the Early Year Foundation Stage Curriculum (EYFS) with learning opportunities based on progressing through Development Matters. Computing is introduced in foundation stage as part of the Technology learning aspect. The children have the opportunity to use computers, iPads, digital cameras, CD players and other communication devices.

6 The contribution of Computing to teaching in other curriculum areas

6.1 English

Computing is a major contributor to the teaching of English. Through the development of keyboard skills and the use of computers, pupils learn how to edit and present text. They have the opportunity to develop their writing skills by communicating with different audiences online through emails and blogging, and they are able to join in discussions with other children throughout the world through the medium of video conferencing. Pupils learn how to improve and present work in a variety of ways by using desk-top publishing software and iPad apps, such as Keynote.

6.2 Mathematics

Computing activities build upon the mathematical skills of the children, with a particular focus on algorithms and formulaic problem solving. Pupils are given the opportunity to apply computing skills when collecting and interpreting data across a range of interfaces, when making predictions, analysing results, and presenting information graphically. Pupils are given opportunities to program hardware such as floor turtles, ovens when cooking and onscreen logo applications.

6.3 Personal, social and health education (PSHE) and citizenship

Computing makes a contribution to the teaching of PSHE and citizenship as children learn to work together in a collaborative manner. They develop a sense of global citizenship by using the Internet and e-mail. Through the discussion of moral and health issues related to electronic communication and e-safety, children develop a view about the use and misuse of computing technology, and they also gain a knowledge and understanding of the interdependence of people around the world. (See also- E-Safety policy)

7 Teaching Computing to pupils with a special educational need

7.1 At Barleyhurst Park School we teach Computing to all pupils, whatever their ability or disability. Computing forms part of our school curriculum policy to provide a broad and balanced education for all pupils. We provide individualised learning opportunities, including differentiating software, where possible, that is matched to the needs of pupils with learning difficulties. Computing technology is additionally used to make reasonable adjustments to provision, in line with a pupil's IEP.
Also refer to: Special Educational Needs; Disability Non-Discrimination; English as an Additional Language (EAL)

8 Assessment for learning

8.1 Teachers assess pupils' work in Computing by making informal judgements as they observe them during lessons and when checking saved work in their individual folders. At the end of a unit of work, they make a summary judgement about the progress of each pupil in relation to the National Curriculum programmes of study for Computing, and record these attainment grades in a mark book.

8.2 The Computing Subject Leader keeps samples of the children's work, where possible, in a Subject Log file. This demonstrates the expected standard of achievement for each year group in the school.
Refer also to Assessment Policy and Marking Policy.

9 Resources

9.1 The school maintains a diverse range of high-quality resources to support the teaching of Computing across the school. Every year group has a range of computing technology, appropriate to the age of the pupils, in addition to centrally stored equipment.

9.2 Hardware includes, but is not limited to:

- Laptops
- iPads
- Roamer turtles/ Bee-bots
- Digital photography and video devices
- Control and Modelling hardware
- Printers/Scanners
- Interactive whiteboards/ Touchscreens
- Edison Robots

9.3 Software includes, but is not limited to:

- Microsoft Office Suite
- Compose
- Softease Studio
- iPad apps
- Smart
- Pelican interactive Literacy
- Scratch/Kodu gaming and programming
- 2 Simple Software

10 Monitoring and review

10.1 The monitoring of the standards of the pupil's work and of the quality of teaching in Computing is the responsibility of the subject leader and the SLT (Senior Leadership Team). The subject leader is responsible for supporting colleagues in the teaching of Computing, for keeping informed about current developments in the subject and for providing a strategic lead and direction for the subject across the school. The subject leader gives the Headteacher an annual summary report in which strengths and weaknesses are reported in the subject and indicates areas for further improvement. The subject leader has specially-allocated time for carrying out the vital task of reviewing and moderating samples of the pupil's work and for visiting classes to observe the teaching of Computing.