Beaver Road Primary School

Computing Policy

Reviewed:

February 2024

Next review:

September 2027

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CONTENTS

1. Introduction

This policy sets out our school's vision, aims, principles and strategies for the delivery of Computing and the use of technology to support the curriculum. This policy outlines a framework for Computing at Beaver Road, including what knowledge and understanding is to be gained (intent), how this is delivered over time (implementation) and how achievement in the subject will be measured and monitored (impact). Alongside additional policies and documents used to review the subject (for example, the Computing Action Plan/the Self Evaluation Development Plan for Computing), it will form the basis for the development of the Computing curriculum in the school over the next 3 years.

The policy was written in February 2024. Sections of the text have been drawn together from a variety of sources including the National Curriculum for Computing (England), the Computing at Schools Guide for Primary Teachers and a resources provided on the Computing Subject Leader Hub by theictsevice.org.uk.

The policy was shared and agreed with the school's Computing Link Governor in February 2024.

2. What is Computing: Vision and Aims

With technology now playing an integral part of our daily lives, at Beaver Road, we recognise the importance of equipping our young learners with the skills and knowledge needed to navigate the digital landscape responsibly and confidently. We believe that pupils are entitled to quality hardware and software and a structured and progressive approach to the learning of the skills needed to enable them to become responsible digital citizens. This policy is designed to foster a positive and safe digital learning environment, emphasising the development of critical thinking, creativity, collaboration and responsible online behaviour. Our aim is to nurture the technological literacy of our students, ensuring they are well-prepared for the challenges and opportunities that lie ahead in an increasingly digital and interconnected world.

Beaver Road's Computing Vision:
*In an ever-evolving technological landscape, our vision for computing is one that **goes beyond traditional boundaries**. At Beaver Road, we are committed to **nurturing collaboration**, **igniting creativity** and **encouraging critical thinking** in all areas of computing across our **creative curriculum**. We aim to foster inclusive, diverse and motivating learning opportunities where technology is harnessed as a tool for **expression** and **continuous growth**. Our goal is to **seamlessly integrate computing** into the learning process, allowing learners to not only develop their own understanding of the fundamental concepts in the subject, but demonstrate **originality**, **innovation** and **a depth of understanding** in the application of these skills in line with the unique needs and aspirations of the pupils at our school.*

3. The School's Computing Curriculum

At Beaver Road, we follow **Switched on Computing** - a proven impactful and creative Primary Computing Curriculum, which provides a clearly sequenced framework broken down into engaging topics that guides progression across and between year groups. Projects are designed to help children develop and master essential skills across the three main concepts of **computer science, information technology** and **digital literacy**. Each project is cross-curricular, supporting our broad and balanced curriculum and builds upon children's prior knowledge and skills taught throughout their journey through school. This equips our children with the necessary skills and foundations to confidently use technology efficiently and safely for the rest of their lives. The projects from Switched on Computing are adapted within year groups to reflect the learning questions for that half term and link with relevant learning across the curriculum for that half term. These links are further developed and celebrated across the curriculum.

The three key concepts are mapped in a long term plan across Key Stage 1 and 2, with elements of each theme taught in most terms. The Computing Lead/team and teachers planning the subject ensure the curriculum remains up-to-date by utilising the National Centre for Computing Education, resources created by subject experts using the latest pedagogical research and teacher feedback. Outreach support from commercial organisations such as Arm Ltd provides exposure to computing in a real world setting. Links with local primary and secondary schools enables sharing of best practice. The evolution of a fourth emerging concept of **artificial intelligence** in the curriculum also reflects the regular, progressive dialogue evidence in link governor meetings and recent whole school staff training.

We strive to achieve this aim by:

- supporting all children in using technology with purpose by nurturing their engagement and enthusiasm for the subject in creative and collaborative ways
- 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
- encouraging critical thinking in all areas of computing across the curriculum so that all children can express their preference for the way they present their learning or show understanding in the subject
- helping all children to become responsible digital citizens able to evaluate the benefits and risks of technology, its impact on society and how to manage their use of it safely and respectfully
- using technology to develop partnerships beyond the school
- celebrating success in the use of technology

At Beaver Road, 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. These links include, but are not limited to, the use of a range digital devices in a wide range of contexts. Both plugged and unplugged learning opportunities are planned to support pupils' understanding of the underlying concepts in Computing. These opportunities may well be presented within other subject areas (e.g. sequencing instructions in English, problems solving in Maths or presenting data in Science). In this way, the aim is that Computing and the use of technology is seamlessly integrated into the curriculum and is used as a truly beneficial tool for learning.

In **EYFS**, opportunities for the use of technology are an integral part of each area of learning and the school ensures that children have access to both continuous and enhanced provision. Engaging pupils at the very start of their journey at Beaver Road ensures an often natural enthusiasm for the subject is nurtured. Links are made between the EYFS Early Learning Goals and the Y1 curriculum to ensure a smooth transition takes place.

As outlined in the National Curriculum in England, children in **key stage 1** will be taught to:

- 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
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- 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

In **key stage 2** children will be taught to:

- 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 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; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- 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
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

4. Safeguarding Pupils: Online Safety

At Beaver Road, we believe that the use of technology in schools brings great benefits. To live, learn and work successfully in an increasingly complex and information-rich society, our children must be able to use technology effectively. The use of these exciting and innovative technology tools in school and at home has been shown to raise educational standards and promote pupil achievement. Yet at the same time we recognise that the use of these technologies can put young people at risk within and outside the school. Alongside an annual whole-school focus on staying safe online every February for Safer Internet Day, pupils are continuously reminded about e-Safety as part of the PSHE curriculum and the Computing curriculum, which threaded through the Switch on Computing topics.

The school has also developed a separate Online Safety Policy, which details our approach to online safety and safeguarding children and staff when using technology both within and beyond the school. Online safety also features in half termly newsletters, aimed at engaging parents and carers with a range of topics. Relevant parent guides produced by National Online Safety are signposted in this way and available on the school's e-Safety webpage.

5. Teaching and Learning Approaches

When delivering the National Curriculum for Computing, teachers are expected to employ a range of strategies and to use their professional judgement to decide on the most appropriate teaching and learning approach for the class, groups of pupils or individual pupils.
Approaches and strategies used may include:
- an 'unplugged' approach in order to develop their understanding of some of the underlying concepts of Computer Science
- 'plugged' activities which allow pupils to practise and demonstrate their levels of understanding
- using presentation technology to demonstrate something to a group of pupils or the whole class
- leading a group or class discussion about the benefits and risks of technology
- individual or paired work
- collaborative group work
- pupil led demonstrations/peer mentoring
- age and stage appropriate activities planned to allow different levels of achievement by pupils or to incorporate possibilities for extension work
- teacher intervention where appropriate to support a pupil, reinforce an idea, teach a new point or challenge pupils' thinking

6. Access and Inclusion

Each pupil's access to technology varies greatly dependent on the nature of the activity they are involved in (e.g. some activities benefit from prolonged access to a computer, whilst other are best served with brief access to a digital device for a focussed purpose). However, on average, pupils have at least 1 hour a week allocated to Computing using a mixture of unplugged activities and the following technology:

- ICT Suite
- Laptops
- iPads
- Chromebooks
- Programming equipment (e.g. Bee-bots, BBC Micro:bits, Kitronik STOP:bits)

In addition to discrete Computing sessions, opportunities to develop and extend Computing capability are provided in other curriculum areas and technology is used to support most other subject areas.

All children have equality of access to appropriate technology in order to develop their personal Computing capability. When children are working in groups, we endeavour to ensure that their hands-on experience is equitable. We check resources, software and documentation to ensure that gender and ethnicity are reflected in a balanced way without stereotyping.

The SENDCO and Computing Subject Leader/Team will jointly advise teachers on examples of technology which can be provided to support individual children with particular physical, linguistic and educational needs, including gifted and talented pupils. Where appropriate, an external specialist is used to assess a child's specific needs. Children with access to technology at home are encouraged to use it for educational benefit and online safety guidance is offered to both pupils and parents where appropriate. The school makes efforts to identify pupils who have limited or no access to appropriate technology outside of school and provide additional opportunities for these pupils to gain access during the school day/after school.

7. Extended opportunities for Learning

The school uses a variety of online tools and environments to extend learning opportunities beyond the classroom. These include:

- Seesaw
- Oxford Reading Buddy
- EdShed
- Mangahigh
- Times Tables Rockstars
- Lexia

This range of online learning tools allow pupils to access learning materials and tools anytime, anywhere and provide channels of communication to both adults and children alike and break down barriers to learning. Our online learning tools are also used to teach children the skills and capabilities they need to stay safe and well in the digital world. Other examples of extended opportunities for learning at Beaver Road include after school coding clubs, parent workshops and family learning events.

8. Monitoring, Recording and Assessment

The Computing Subject Leader/Team follow a systematic and regular programme of evaluation and monitoring of the Computing curriculum, across the school. This is so that the quality of education being provided to all pupils follows a rigorous and robust monitoring cycle, including:

- Checking that the school's curriculum 'Implementation' matches its 'Intent'
- Evaluating the success (or otherwise) of curriculum planning and delivery

- Having an awareness of impact and be able to demonstrate progression and attainment
- Having an overview of resource and staff training needs

Monitoring is completed via a variety of methods including:

- Observations
- Reviewing resources used to teach the subject
- Work scrutinies
- Gathering information from observations of other subjects
- Pupil interviews/pupils voice
- Staff interviews/feedback
- Pupil subject reviews

As a result of monitoring, appropriate CPD opportunities are provided for staff on an individual, group and whole school basis in line with the school's wider CPD policy, School Development Plan. A record of these opportunities is kept by the Computing Subject Leader/Team and reviewed by the Head of School in regular subject review meetings.

The assessment of the computing at Beaver Road is done through teacher assessment primarily by formative assessment of work evidenced and recorded using Seesaw. The use of Seesaw allows pupils to independently evidence their learning and share extended opportunities for learning in subject outside the classroom. Teacher judgements are further supported by end of unit summative assessments provided by Switched on Computing and end of year assessment records provided by Cambridgeshire Progression in Computing Capability Materials.

We (will) ensure that:

- appropriate Assessment for Learning approaches are applied to formative assessment in order to inform future planning
- pupils' achievement and attainment is assessed and recorded on ongoing basis
- pupils' achievement and attainment is measured against the relevant National Curriculum requirements at the end of each Key Stage and reported according to government guidelines (including statutory requirements for reporting to parents)

The **Computing Quality Framework** provided by the National Centre for Computing Education supports our assessment of Computing at Beaver Road. It helps identify strengths and weakness in our computing curriculum, gain feedback and suggested actions and track progress towards achieving an accredited Computing Quality Mark.

9. Roles and Responsibilities

The role and impact of technology stretches beyond the National Curriculum for Computing and it is therefore important to acknowledge the roles and responsibilities held by key people across the school.

The following responsibilities are carried out by the Head of School:

- ensuring the consistent implementation of Computing policy
- ensuring continuity between year groups
- overseeing health and safety policy and practice
- resources budget management
- ratifying the school's Strategic Development Plan for Technology
- arranging in-service support
- Leading the development and implementation of the school's e-safety policy in line with other Child Protection policies

The following responsibilities are carried out by the Computing Subject Leader/team:

- presenting exemplary practice in the teaching of Computing
- advising colleagues on planning, delivering and assessing Computing
- monitoring the effective use of technology and giving advice where appropriate
- ensuring progression in Computing
- suggested purchasing plans for hardware and software
- organising Computing resources
- identifying what support/continued professional development (CPD) is needed by individual staff/ groups of staff/the whole school
- participating in regular opportunities for subject leadership CPD provided by the National Centre for Computing Education
- reviewing and revising the Computing policy and other associated documents
- creation of a school portfolio of evidence
- co-ordinating and overseeing equipment maintenance

Responsibilities carried out by an ICT Support Technician

All equipment is supported and maintained through a weekly visit from a technician who works under the direction of the Head of School/Computing Subject Leader/team/School Facilities Manager.

10. Health and Safety

Both staff and children are aware of the need for health and safety to be kept in mind when using technology. Signs displaying relevant warnings are displayed around the school and regular attention is drawn to the issue of safe use of equipment. In particular, the following safety issues have been considered when using technology in school:

- *Comfort* - users should be comfortably positioned with easy access to all equipment.
- *Space* - there should be enough space around a workstation including special educational equipment and peripherals.
- *Seating* – this has been chosen so that it is the correct height for knees to fit comfortably under the desk.
- *Monitors* - these should be moved to suit the needs of the users.
- *Keyboards* - users should have the option to have their keyboard flat or tilted and move it to a comfortable position.
- *Cables* - are covered and secure. Children are not to connect or unplug electrical equipment.
- *Digital Projectors* – users are aware that they must not look directly into the light beam emitting from the digital projector.

All pupils are taught to handle equipment correctly and to switch computers on and off using the correct procedures. The dangers of electricity are stressed and all of the above are presented so as to ensure the pupils respect the equipment and respect other people's work on the computer. All users are also reminded of the need to take regular breaks when using electrical equipment.

11. Copyright

The school takes its rights and responsibilities in relation to copyright seriously and a whole school documents detailing this approach is available.

We refer to the advice provided by the IPO (Intellectual Property Office), CLA (Copyright Licensing Agency) and other organisations to guide us in the appropriate use of materials in school. Schools are allowed limited use of

copyright works without permission of the copyright owner and staff are guided to www.copyrightandschools.org for guidance on specific queries they have around what they can and cannot use.

The school is also aware of the changes in Copyright Law introduced in June 2014 and works within these regulations, especially when using materials digitally. Further information can be found via the IPO's 'teaching exceptions' page.

12. Links with other policies

This Computing Policy is linked and should be read in conjunction with our:

- Online Safety Policy
- Acceptable Use Policy

Approved By

Shared and agreed with the school's Computing Link Governor Matthew Coupe	**Date:**	February 2024