Barley Mow Primary School

Computing Policy

Introduction

Computing makes its own distinctive contribution to a broad and balanced curriculum as part of the 'Knowledge and Understanding' area of learning within the Early Years Foundation Stage curriculum and as a Foundation subject of the National Curriculum. However, it is also very much at the heart of Barley Mow Primary School's drive to raise standards across the whole curriculum. When Computing is used in a planned and purposeful way, it is a powerful tool which can extend and enhance teaching and learning experiences in all subject areas. It provides the necessary motivation to encourage pupils to succeed, as well as promoting the self-esteem, confidence and resilience of all children.

The Computing policy is based on the National Curriculum and the Early Years Foundation Stage Curriculum Guidance.

This policy should be read alongside the **Acceptable Use Policy and E-Safety Policy.**

Definition of Computing

Taken from the National Curriculum 2013

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.

Statement of Intent

Our vision at Barley Mow Primary School is that all pupils should enjoy Computing and become confident, passionate and responsible users of technology both inside and outside of school. Through interesting, relevant and inclusive lessons, they will be able to leave Year 6 with a good understanding of how computers and the Internet work, along with being able to complete tasks on them creatively, independently and reflectively for a range of purposes and audiences.

The Computing curriculum at Barley Mow Primary School is designed to enable pupils to embrace and utilise new technologies through the application of essential knowledge, principles and concepts. "Whether you want to uncover the secrets of the universe, or you want to pursue a career in the 21st century, basic computer programming is an essential skill to learn." Stephen Hawking, Theoretical Physicist, Cosmologist and Author. Pupils must be equipped to operate in a rapidly changing workplace and be prepared for career opportunities that will be open to them.

Technology is everywhere and plays a pivotal part in students' lives, therefore, we want to model and educate our pupils on how to use technology positively, responsibly and safely. We want our pupils to be creators not just consumers and our broad curriculum encompassing 'Computer Science', 'Information Technology' and 'Online Safety' reflects this. We want our pupils to understand that there is always a choice when using technology and as a school we utilise technology to model positive use. We recognise that the best prevention for a lot of issues we currently see with technology and social media is through education.

Technology provides accessibility opportunities for our pupils and allows them to share their learning in creative ways. Our knowledge rich curriculum has to be balanced with the opportunity for pupils to apply their skills creatively which will in turn help our pupils become proficient computer scientists.

We want our pupils to be fluent with a range of tools to best express their understanding and hope by Upper Key Stage 2, children have the independence and confidence to choose the best tool to fulfil the task and challenge set by teachers.

Our school bases the core work in computing around the National Curriculum which aims to ensure that all pupils:

- Can understand and apply fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data presentation.
- 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 and unfamiliar technologies and analytically solve problems.
- To be responsible, competent, confident and creative users of information and communication technologies.

Implementation:

Early Years

Computing is taught in Early Years Foundation Stage as an integral part of the topic work through a range of both child-initiated and adult led activities. Computing is not just about computers. Children gain broad, play-based experience of IT and computing in a range of contexts, including 'unplugged' activities and outdoor play. They learn to develop their computational thinking skills by not only recognizing patterns, making predictions, thinking about steps and rules, breaking down tasks into smaller parts but also by tinkering with designs and plans, finding and fixing errors, collaborating and persevering.

Early years learning environments feature IT scenarios based on experience in the real world, such as in role play. Children gain confidence, control and language skills through opportunities such as 'programming' each other using directional language to find toys/objects, creating artwork using digital drawing tools and controlling programmable toys. Using digital recording devices such as iPads with cameras and microphones supports children in developing their communication skills.

Key Stage One

Pupils should 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.

Key Stage Two

Pupils should 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.

Teaching and Learning

Computing skills are taught explicitly at Barley Mow Primary, with every pupil receiving dedicated Computing lessons throughout each half-term. Each half-term has a focus on either Information Technology or Computer Science (encompassing Coding & Computational Thinking and Computer Science – Theory) with Online Safety lessons also taught using a 'little and often' approach during each half-term. The skills acquired are then embedded throughout the curriculum.

Learning is sequenced to build knowledge, skills and vocabulary. Throughout units of work, teachers encourage children to make links between past learning and new content. We recognise prior learning and build on it with memorable learning experiences and targeted support where necessary. Each unit meets the needs of the National Curriculum and is broken down to cover every element of each of the three strands of Computing.

Alongside our Computing advisor, we have created a comprehensive curriculum to best embed and cover every element of the Computing curriculum. The progression of knowledge and skills statements build year on year to deepen and challenge our learners. We use Purple Mash as the core of our curriculum tied with Project Evolve and activities from both Teach Computing and

Barefoot Computing to create a comprehensive curriculum providing full coverage and a variety of skills for our children. Online Safety lessons are mapped to the 'Education for a Connected World' framework and some of these activities will be reinforced via PSHE lessons and during assemblies. Purple Mash is a child friendly computing system that mirrors a lot of programmes seen in the 'real' word (e.g. font buttons are the same, email formats are the same). By using Purple Mash, we are exposing the children to real-word systems while giving them freedom to explore using a child-friendly interface. It is also safe in terms of who and what they can access. We have identified Project Evolve as the best resource to deliver our Online Safety lessons and to cover the requirements of the 'Education for a Connected World' framework. In EYFS, we use the Barefoot Computing Coding and Computational Thinking units to provide pupils with unplugged computational thinking activities on a half-termly basis which introduce them to the essential elements of early computer programming. The Computer Science – Theory element of the curriculum ('how things work') is delivered using the NCCE 'Teach Computing' curriculum. We carefully considered and then picked these different resources, as we believe these best cover and deliver each of the individual strands of Primary Computing. This has helped create a cohesive structure with clear activities that match our progression of skills documents.

Inclusion

At Barley Mow Primary School, all pupils are entitled to:

- A broad and balanced ICT curriculum, based on high teacher expectations;
- Develop their ICT capability in order to fulfil their potential;
- Receive continuous and progressive opportunities in school to use and learn about ICT;

Although a child may have been identified as having a special educational need, they may not have a special educational need in computing. Effective quality first teaching is the key to enabling all children to participate and develop their prior knowledge and skills. Adaptation within lessons is a vital component to ensure that a balance of support and challenge are achieved for all abilities. This is the same in every subject and is adjusted as expectations of individual pupils rise through progress.

Challenge and support specific to computing may include:

- Open ended tasks allowing for children to explore as far as comfortable
- First hand and hands on experiences
- Teaching advance and specific vocabulary, which can be pre-taught as required
- Using videos, small group or 1:1 recapping of programmes
- Pupil knowledge organisers

Pupils not secure within a lesson sequence are noted and adjustments made to the adaptation or level of support given. Similarly, added challenge is given if pupils are identified as requiring it. This may be noted by the teacher through questioning or the use of written work. Using an interleaving approach means that pupils continually revisit their learning, gradually building a deeper understanding. The way computing also appears in other subjects allows those skills to be consistently revisited in different contexts.

British Values in Computing

Democracy

In Computing we learn to understand and be considerate to the views of other online users. We understand that we are each part of the democracy of the Internet and that we can each, in our own small way, affect the way the Internet exists.

The Rule of Law

In Computing we understand the need for rules in relation to the use of different websites and apps, such as age limits for different social media platforms and games and what we are allowed to post and share. We understand that there are rules are to keep others and ourselves safe and to help make the online world an enjoyable and engaging place.

Individual Liberty

In Computing we understand how to use our right to freedom of speech in a respectable and thoughtful way, being considerate of how this speech will affect others. We understand the freedom the Internet and digital devices offer us in discovering information and connecting us with the world.

Mutual Respect

In Computing we appreciate and understand the views of others, our right to challenge, question and discuss opinions and views, and to do this in a respectable and thoughtful way. We understand that as we are connected with the world while accessing the Internet, we are exposed to the widest range of views, and we are learning to respect them.

Tolerance of Those of Different Faiths and Beliefs

In Computing we understand that we are connected to people across the whole world. We understand that these are people from different communities, cultures, faiths and beliefs. We use the opportunities offered in Computing to question, challenge and understand people with these different characteristics to support and develop our tolerance of them.

Impact

The impact of our Computing curriculum is that we provide pupils with a set of skills to embed a lifelong love of learning and that they build on the knowledge and skills from previous learning. We ensure that every child can become a confident user of technology, while being able to use it to accomplish a wide variety of goals, both at home and in school. Children will have a secure and comprehensive knowledge of how technology works in the world around them and will develop their understanding of how to deal with online situations safely. Children will become confident global citizens.

Through the explicit teaching of Computing skills, both teachers and pupils assess their learning continuously throughout the lesson. To help children get to a deep level of understanding, we use quizzes and knowledge organisers which are returned to again and again. This is known as interleaving. Knowledge organisers outline what we want the children to know within each unit.

By nature Computing is going to be practical and hands on. We use 'floor books' to record the learning the children have done in Computing, as well as giving our pupils the opportunity to record individually, particularly as they move towards the end of Year 2. Thoughts and ideas are recorded here as well as pictures of work.

Monitoring and Evaluation

The Computing Subject Leader and Senior Management Team are responsible for the monitoring and evaluation of:

- Curriculum coverage
- The quality of teaching and learning
- Standards of achievement

This will be carried out through:

- Evaluation of medium and short term planning;
- Book Looks;
- Noting and tracking children against National Curriculum expectations;
- Observation of classroom practice in line with school policy.
- Learning Walks
- Pupil Conferencing

Assessment

Each unit taught in KS1 and KS2 will be assessed using methods selected by the teacher as the most appropriate way to assess what children have learnt. This may be achieved through:

- Questioning
- Observing
- Discussions
- Mind maps
- Quizzes
- Written tasks

Teachers will use regular formative and end of unit assessments to inform future planning, to ensure progress and to address misconceptions. Teachers will assess termly using assessment forms following the school proforma including key knowledge and computing skills built around the 3 key strands of 'Computer Science', 'Information Technology' and 'Online Safety'.

These termly assessments will support teachers in their final judgement at the end of the year. End of year assessments will be completed and stored in the assessment folder in resources to enable the Computing coordinator and members of the SLT to monitor standards.

The Role of the Subject Leader:

It is the responsibility of the Computing Leader:

- To take a lead in policy development.
- To support colleagues in their teaching of Computing content and developing subject knowledge.
- To identify the need for individual support in the form of CPD.
- To create, maintain and evaluate action plans.

- To take steps to keep up with developments and inform colleagues as appropriate.

Teacher's Role

Each class teacher is responsible for the day to day implementation of the Computing policy within their own classroom. Responsibilities include:

- The development of personal Computing skills.
- Knowledge of how to use Computing across the curriculum.
- Planning for Computing in termly and weekly plans.
- An understanding of the skills required by pupils to handle hardware and software.
- A basic knowledge of the hardware and software in use.
- Ensuring standard codes of safety prevail in their classrooms e.g. amount of time in front of a monitor, adhering to internet safety rules

Support and advice will be available, when appropriate, from the Computing Leader.

Resources

- Each classroom has 2 networked laptops with a colour printer, 2 iPads and an Interactive whiteboard.
- Laptop trolley containing 20 networked laptops.
- I Pad trolley containing 20 iPad minis and 12 iPads
- Admin server with 3 networked PCs in the office, SLT office and head's office.
- Range of additional Computing equipment kept in the Computing boxes across the school including Beebots, Scratch coding resources, Microbits etc.

Maintenance of Equipment

It is important that all staff are committed to ensuring that Computing is used correctly and that faults are reported efficiently to the Computer lead or Office Manager. The subject lead /office manager will either address the issue or call for a L.A. engineer to repair the fault to ensure the equipment can be back in use as quickly as possible to minimise the disruption to others.

Conclusion

A review of the policy for Computing will take place as necessary in accordance with the school review process. Should changes need to be made in the interim as part of a curriculum review process or changes to statutory orders, an amendment will be made to this document in the form of an appendix.

Policy reviewed – July 2025
Policy to be reviewed July 2027