Bill Quay Primary

Computing Policy

March 2025

Vision

'Empowering children to use computational thinking to navigate the digital world with confidence, safety and creativity'

At Bill Quay Primary School, our Computing curriculum aims to equip pupils to use computational thinking and creativity to become active, competent and responsible contributors in a rich digital world. Therefore, we must exemplify and educate our pupils on how to use technology positively, responsibly and safely. Our Computing curriculum provides opportunities for all pupils to encompass computer science, information technology and digital literacy. We want our pupils to become digitally literate, to have the skills to express themselves and develop their ideas within a variety of contexts through digital technology and know that there is always a choice when using technology.

Rationale

'A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world.'
Computing programme of Study, DfE, 2013

As Computing is firmly entrenched in our everyday lives, it is essential that all pupils gain the confidence and capability they need to live and work in a digital world.

The 2013 Primary National Curriculum for Computing splits the teaching and learning of this subject into three distinct strands:

- in **Computer Science**, pupils are taught about the principles of information and computation, how digital systems work and how to put this knowledge to use through programming;
- in **Information Technology** pupils are taught how to use programs and computer systems to create and develop their ideas;
- in **Digital Literacy**, pupils are taught how to use online technologies safely, effectively and responsibly.

Aims and Objectives

Bill Quay Primary School will endeavor to provide the highest possible quality of Computing education to provide a broad, balanced, challenging and enjoyable curriculum for all pupils. It will meet the requirements specified in the National Curriculum and Early Years Foundation Stage Development Matters framework.

Our aims for Computing are that pupils:

- learn within a coherent and progressive framework that enables them to both develop their skills and improve their knowledge;

- are taught it as a creative and fascinating subject in which they are encouraged to use their initiative, imagination, reasoning and investigative skills across a range of interesting contexts;
- become responsible, competent, confident and creative users of information and communication technology;
- all achieve to the best of their ability, experiencing the challenge and joy of learning;
- work on Computing tasks both individually and collaboratively with others to solve problems and create work for different audiences;
- appreciate the relevance of Computing in our society and receive equal opportunities to apply and develop their Computing capability.

Computing in the Early Years (also see Early Years Policy)

The Early Learning Goal (ELG 15) for technology sets out the following:

Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.

At Bill Quay Primary School, we believe it is important in the foundation stage to give pupils a broad, play-based experience of IT and computing in a range of contexts, including off-computer activities and outdoor play.

Computing is not just about computers. Our Early Years learning environments feature IT scenarios based on experience in the real world, such as in role play. Pupils will 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.

Outdoor exploration is an important aspect and using digital recording devices such as video recorders, cameras and microphones will help support children in developing communication skills. This is particularly beneficial for children who have English as an additional language.

Provision

At Bill Quay Primary School, pupils are predominantly taught Computing knowledge, skills and understanding through a weekly, discrete, whole-class Computing lesson. Wherever possible, we try to link these lessons into real-life contexts so that their content and skills are given a clear purpose.

In the EYFS, pupils in Reception are encouraged to develop interest and positive attitudes towards ICT by using technology and programmable toys to support their learning. There are also opportunities for Computing-themed activities daily through continuous provision.

Curriculum and Planning

At Bill Quay Primary School, we set high expectations for pupils in lessons so that they are given the opportunity to achieve and succeed as best they can.

To ensure that we achieve our intent, at Bill Quay we teach the computing curriculum by following the NCCE Teach Computing Scheme. We also use lessons from the VEX 123, VEX Go and VEX IQ Robotics curriculum to broaden pupils' experiences of robotics and programming. By following these schemes of work, we ensure that all children receive full coverage of the curriculum in a progressive way that builds on their knowledge and skills as they progress through school. All year groups teach six modules per year, with six lessons in each module that cover a wide range of technologies and skills. Children will have the opportunity to access various practical activities along with written work depending on the module and what the learning goals are.

Teachers will ask engaging questions and encourage children to ask questions based on their learning to further develop their skills, knowledge and understanding. Assessment for learning will take place during lessons and at the end of modules to ensure that misconceptions are addressed and so that the children make good progress in their computing lessons. Computing also covers online safety (see Online Safety Policy for details) which is taught to the pupils through each. The unit overviews for each unit show the links between the content of the lessons and the national curriculum and Education for a Connected World framework (ncce.io/ efacw). These references have been provided to show where aspects relating to online safety, or digital citizenship, are covered within the Teach Computing curriculum. Not all of the objectives in the Education for a Connected World framework are covered in the Teach Computing curriculum as some are better suited to personal, social, health, and economic (PSHE) education; spiritual, moral, social, and cultural (SMSC) development; and citizenship (see each policy). The coverage required for the computing national curriculum is provided.

The Computing curriculum at Bill Quay Primary School is periodically reviewed to ensure that:

- there is clear progression in complexity/expectations;
- the skills and content remains relevant, interesting and up-to-date, utilising age-appropriate current software and hardware;
- lessons are personalised to pupils' needs/requirements, including ensuring they are inclusive to all;
- all requirements of the National Curriculum are being taught in sufficient depth and high quality;
- all pupils have the chance to meet ARE by the end of Year 6, with opportunities to extend their knowledge and skills above and beyond the statutory requirements highlighted.

Assessment (also see Assessment Policy)

Assessing computing is an integral part of teaching & learning and key to good practice. Assessment should be process orientated - reviewing the way that techniques and skills are applied purposefully by pupils to demonstrate their understanding of computing concepts. As assessment is part of the learning process, it is essential that pupils are closely involved. Assessment can be broken down into:

- On-going formative assessment, which is carried out during and following short focused tasks and

activities. They provide pupils and staff the opportunity to reflect on their learning in the context of the agreed success criteria. This then feeds into planning for the next lesson or activity.

- Summative assessment - Every unit includes an optional summative assessment framework in the form of either a multiple choice quiz (MCQ) or a rubric. All units are designed to cover both skills and concepts from across the computing national curriculum. Units that focus more on conceptual development include a MCQ. Units that focus more on skills development end with a project and include a rubric. However, within the 'Programming' units, the assessment framework (MCQ or rubric) has been selected on a best fit basis.

- Multiple choice quiz (MCQ) - Each of the MCQ questions has been carefully chosen to represent the learning that should have been achieved within the unit. In writing the MCQs, we have followed the diagnostic assessment approach to ensure that the assessment of the unit is useful to determine both how well pupils have understood the content, and what pupils have misunderstood, if they have not achieved as expected. Each MCQ includes an answer sheet that highlights the misconceptions that pupils may have if they have chosen a wrong answer. This ensures teachers know which areas to return to in later units.

- Rubric - The rubric is a tool to help teachers assess project-based work. Each rubric covers the application of skills that have been taught directly across the unit, and highlights to teachers whether the pupil is approaching (emerging), achieving (expected), or exceeding the expectations. It allows teachers to assess projects that pupils have created, focusing on the appropriate application of computing skills and concepts. Pedagogically, we want to ensure that we are assessing pupils' understanding of computing concepts and skills, as opposed to their reading and writing skills. This has been carefully considered both in how the MCQs have been written (considerations such as the language used, the cultural experiences referenced, etc) and in the skills expected to be demonstrated in the rubric

Computing attainment is monitored regularly in relation to age-related expectations of each year group (KS1/2) and Development Matters (EYFS) through staff observing pupils and making judgements about how they understand key ideas and implement techniques. When staff have completed an NCCE Tech Computing unit, they complete the corresponding end of unit assessment document for their particular year group. In making an overall judgement on a pupil's attainment in Computing, staff must consider the three distinct strands of Computing as outlined in the National Curriculum (Computer Science, Digital Literacy and Information Technology) and adopt a 'best-fit' approach. In-house documentation (Yearly Attainment in Computing document) will support staff in making reliable and accurate judgements.

All assessment data is stored in files and used to plan/adapt future work, provide the basis for progress and to communicate with the pupil's future class teacher. Pupil's work is saved on the school network or on the pupils own Google Drive which they then share access with the class teacher. Other work may be printed and filed within the subject from which the task was set. There is also a Computing floor book in which staff record examples of the children's work and photographs from each unit covered. This should be annotated with observations staff may have made.

The Contribution of Computing to Teaching in other Curriculum Areas

Pupils are able to further develop their ICT skills through cross-curricular opportunities outside of the Computing lesson. They are regularly given the opportunity to use and apply their Computing skills and knowledge in other subjects and situations, thus enabling them to see how computing skills can be applied in meaningful contexts. Staff are encouraged to use Computing resources in their own lessons and are given training to support their planning.

SMSC in Computing

Spiritual

Spiritual education in Computing provides opportunities for reflection of awe and wonder about the achievements in ICT today and the possibilities for the future. Computing lets pupils have the opportunity to reflect on, for example, how computers can sometimes perform better in certain activities than people. To promote pupils' spiritual development, their sense of self and their will to achieve, staff continually take the opportunity to praise students for their contributions in lessons.

Moral

Moral education in Computing helps pupils to explore aspects of real and imaginary situations and enables them to reflect on the possible consequences of different actions and situations. It can raise issues such as whether it is morally right to have violent computer games and whether it is fair that some people in this country and in other countries cannot use the internet. Pupils also consider issues surrounding the misuse of personal data and the digital divide. The use of case studies and studying scenarios encourages pupils to draw conclusions through evidence rather than their own preconceptions.

Social

Social education in Computing involves collaborative work which encourages social development. ICT can also help all pupils to express themselves clearly and to communicate. As pupils progress through their learning, they will consider more complex social needs and are encouraged to research and work collaboratively to find appropriate solutions to problems.

Cultural

Cultural education in Computing involves the breaking through of linguistic and cultural barriers. It is possible to e-mail or chat across the world and to word process in the mother tongue. ICT creates new opportunities to communicate such as social networks. Whilst studying various aspects of ICT, pupils are asked to reflect on how different cultures are portrayed on the internet and why or who is portraying them in this way.

British Values

Children at Bill Quay Primary School demonstrate the following values whilst learning about Computing by:

Democracy

- Listening to everyone's ideas in order to form a majority
- Working as part of a team and collaborating to use computing devices effectively

Rule of Law

- Developing knowledge of lawful computing behaviours
- Demonstrating respect for computing laws

Individual Liberty

- Taking responsibility for our own computing behaviours
- Challenging stereotypes and bias
- Exercising rights and personal freedoms safely through knowledge of E-safety

Respect and Tolerance

- Showing respect for other cultures when undertaking research using computing devices
- Providing opportunities for pupils of all backgrounds to achieve in computing

Pupils' Rules for Acceptable Internet Use (also see E-Safety Policy)

At Bill Quay Primary School, we aim to provide pupils with the tools and skills needed to help them become safe online digital citizens of the future.

Educational use of the internet is characterised by activities that provide pupils with appropriate learning experiences. Clear rules which help pupils develop a responsible attitude to the use of the Internet have been devised. These are explained to all classes and displayed within school to ensure that everybody is made aware of them. Our E-Safety Policy provides further details about our e-safety curriculum and explains how our school provides a safe and secure environment for using the Internet. It also explains the procedures which are followed should any unacceptable misuse occur.

Equal Opportunities (also see Equalities Objectives)

In school, we aim to meet the needs of our pupils' abilities and learning styles by differentiation in our Computing planning and in providing a variety of approaches and tasks appropriate to different ability levels. We try to ensure that there is a balance between: direct teaching, pupil investigation, skills practice, co-operative learning and independent work so all pupils have the opportunity to thrive.

We will ensure that all pupils are provided with the same learning opportunities regardless of social class, gender, culture, race, disability or learning difficulties. As a result, we hope to enable all pupils to develop positive attitudes towards others. All pupils have equal access to computing and all staff members follow the equal opportunities policy. Resources for SEN children and gifted & talented will be made available to support and challenge appropriately. Where use of a school computer proves difficult for a child because of a disability, the school will endeavour to provide specialist equipment or software to enable access.

Pupils with special educational needs (also see SEN policy)

We believe that all pupils have the right to access IT and computing. In order to ensure that pupils with special educational needs achieve to the best of their ability, it may be necessary to adapt the delivery of the computing curriculum for some pupils.

We teach IT and computing to all children, whatever their ability. Computing forms part of the national curriculum to provide a broad and balanced education for all pupils. Through the teaching of computing,

we provide opportunities that enable all pupils to make progress. We do this by setting suitable challenges and responding to each child's individual needs. Where appropriate, IT can be used to support SEN pupils on a one to one basis in cases where pupils receive additional support.

Resources and access

The school acknowledges the need to continually maintain, update and develop its resources and to make progress towards consistent, compatible computer systems by investing in resources that will effectively deliver the objectives of the National Curriculum and support the use of IT, computer science and digital literacy across the school. Teachers are required to inform the computing subject leader of any faults as soon as they are noticed. Resources, if not classroom based, are located in a central cupboard within the Library. A service level agreement with Omnicom is currently in place to help support the subject leader to fulfill this role both in hardware & software.

At the time of writing, the school has 2 laptop trolleys containing 47 Chrome Books, 12 MacBooks, 17 iPads, 5 VEX IQ robots, 10 VEXGo robots and 12 VEX 123 robots available for classes to use. Each classroom has a Windows desktop computer connected to the school network and an interactive whiteboard with sound and DVD facilities. There are 5 desktop computers situated in the Small Hall for pupils to use throughout the school day. Other Computing hardware includes Bee-bots, visualisers and programmable toys.

Each class from Y1-Y6 has an allocated slot one morning/afternoon per week for teaching computing as a discrete subject. Laptops and iPads are available for use throughout the school day as part of computing lessons and for cross-curricular use. The school has a computing technician who is in school every other Monday morning.

Health and safety (see also Health and Safety policy)

The school takes very seriously the health and safety issues surrounding pupils' use of ICT. We ensure that pupils have a safe environment in which to learn and that effective filters are in place to safeguard pupils. Safe practice must be promoted at all times. Where appropriate, reminders will be given to pupils about potential hazards and care of the equipment they are using.

It is the responsibility of staff to ensure that classroom Computing equipment is stored securely, cleaned regularly and that their class or themselves leave the equipment clean and tidy after use. Laptop trolleys are to be wheeled by the class teacher/TA to the classroom they are going to be used in prior to the lesson starting. It is the class teacher/TA's responsibility to supervise children removing and replacing laptops.

All fixed and portable electrical appliances in school are tested by a Local Authority contractor every twelve months. It is advised that staff should not bring their own electrical equipment in to school but, if this is necessary, equipment must be PAT tested before being used in school. This also applies to any equipment brought into school by, for example, visitors running workshops, activities, etc. and it is the responsibility of the member of staff organising the workshop, etc. to advise those people.

Security

We ensure that the school community is kept safe by ensuring that:

- the school ICT technician is responsible for regularly updating anti-virus software;
- the use of ICT and computing will be in line with the school's Acceptable Use Policy (AUP);
- all pupils are aware of the school rules for responsible use on login to the school network and understand the consequence of any misuse;
- reminders for safe and responsible use of ICT and computing and the Internet are displayed in all areas.

Software/apps installed onto the school network server must have been vetted by the teacher for suitable educational content before being purchased and installed. No personal software is to be loaded onto school computers.

School Clubs and Learning Beyond School Hours

Those pupils who do not have access to ICT at home are able to use school computers for extended learning through our homework club, which runs weekly. Teachers voluntarily offer Coding club and Robotics club throughout the year as part of the school's STEM activities.

Parental involvement

Parents are encouraged to support the implementation of IT and computing where possible by encouraging use of IT and computing skills at home for pleasure, through home-learning tasks and use of the school website. Parents will be made aware of issues surrounding e-safety and encouraged to promote this at home.

Monitoring and evaluation

The subject leader is responsible for monitoring the standard of the pupils' work and the quality of teaching in line with the schools monitoring cycle. This may be through:

- work scrutinies;
- lesson observations;
- pupil interviews;
- analysis of resources;
- supporting collogues in their teaching of Computing;

- data analysis.

The subject leader also writes an annual subject report and action plan for their subject area.

Links to Other Policies

- Assessment Policy
- E-Safety Policy
- Health and Safety Policy
- Equality Objectives
- Early Years Policy
- SEN Policy
- SMSC / British Values Policy