



Computing Policy

February 2022

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Subject Leader: Jodie Ward

Statement of intent

At Beckers Green, we strive to excite and engage our learners through topics which are selected to enhance their cultural capital. Historically in our community, the experiences of our children have been isolated to their local environment and it is therefore important that we seek to expand horizons within their school experiences. Our curriculum also includes many opportunities for children to understand the cultural importance of Braintree and its geographical and historical context.

We have used this knowledge of our pupils to create a curriculum that is ambitious for all and offers them learning that build on prior knowledge and understanding. Topics and lessons are sequenced carefully to ensure opportunities to revisit and activate prior knowledge are optimised in order to support pupils in transferring information to their long-term memory.

Pupils with additional needs have their needs met through high quality teaching (which may include scaffolded tasks, appropriate support and challenge) or through individualised curriculums where necessary.

Introduction

The use of information and communication technology is an integral part of the national curriculum and is a key skill for everyday life. Computers, tablets, programmable robots, digital and video cameras are a few of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate, and present information.

At Beckers Green Primary School we recognise 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 use it effectively.

The purpose of this policy is to state how the school intends to make this provision.

School aims

The school's aims are to:

- Provide a relevant, challenging, and enjoyable curriculum in computing for all pupils
- Meet the requirements of the national curriculum programmes of study for ICT and computing
- To respond to new developments in technology
- To equip pupils with the confidence and capability to use ICT and computing throughout their later life
- To enhance learning in other areas of the curriculum using ICT and computing
- To develop the understanding of how to use ICT and computing safely and responsibly especially the online environment

National Curriculum aims

The national curriculum for computing aims to ensure that all pupils:

- Can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication
- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- Are responsible, competent, confident and creative users of information and communication technology

Organisation

Early years

It is important in the foundation stage to give children a broad, play-based experience of ICT in a range of contexts, including outdoor play. ICT is not just about computers. Early years learning environments should feature ICT scenarios based on experience in the real world, such as in role play. Children gain confidence,

control and language skills through opportunities to 'paint' on the whiteboard or drive a remote-controlled toy. Recording devices can support children to develop their communication skills.

Key Stage One

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
- use logical reasoning to predict the behaviour of simple programs

Digital Literacy

- use technology purposefully to create, organise, store, manipulate and retrieve digital content

Information and Communications Technology

- recognise common uses of information technology beyond school

E-Safety

- 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

Computer Science

- 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

Information and Communications Technology

- 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

Digital Literacy

- 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

E-Safety

- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content or contact on the internet or other online technologies

Planning (including differentiation, inclusion, and evaluation)

Planning comes from Teach Computing; a government backed scheme of work which covered all elements of the national computing curriculum. Each teacher has a log in for the web site and can download all the relevant resources for each lesson.

Teach Computing - curriculum design and progression of skills

The Teach Computing Curriculum uses the National Centre for Computing Education's computing taxonomy to ensure comprehensive coverage and progression of the subject.

We use these strands to focus on vocabulary specific to computing to ensure that the children will become established active digital citizens. We have a focus on oracy to ensure that the children can express themselves and their learning.

All learning outcomes can be described through a high-level taxonomy of ten strands as followed:

- Algorithms — Be able to comprehend, design, create, and evaluate algorithms
- Computer networks — Understand how networks can be used to retrieve and share information, and how they come with associated risks
- Computer systems — Understand what a computer is, and how its constituent parts function together as a whole
- Creating media — Select and create a range of media including text, images, sounds, and video
- Data and information — Understand how data is stored, organised, and used to represent real-world artefacts and scenarios
- Design and development — Understand the activities involved in planning, creating, and evaluating computing artefacts
- Effective use of tools — Use software tools to support computing work
- Impact of technology — Understand how individuals, systems, and society
- Programming — Create software to allow computers to solve problems
- Safety and security — Understand risks when using technology, and how to protect individuals and systems

Progression of skills

The scheme we are using shows a clear progression of skills across the computing curriculum. It uses a spiral curriculum and the units for KS1 and 2 has themes which are revisited regularly, and the revisit is through a new unit that consolidates and builds upon prior knowledge and skills. This supports our use of metacognition with school where children can consider what they already know and what barriers they might come across when learning new units within computing.

In mixed age classes, teachers will be mindful of what pupils have been taught before, using prior assessment and subject monitoring to ensure that curriculum coverage is met. This may include separating year groups when necessary.

Resources

The school acknowledges the need to continually maintain, update and develop its resources and to make progress towards a consistent, compatible pc system by investing in resources that will effectively deliver the strands of the national curriculum and support the use of ICT and computing across the school.

The school have attempted to ensure that:

- Every classroom from Reception to Year 6 has a computer connected to the school network and an interactive whiteboard with sound and video facilities
- There is an ICT and computing suite
- There are 6 iPads allocated to each classroom loaded with relevant apps and a number of laptops
- Each class from YR –Y6 has an allocated slot for teaching of specific ICT and computing skills
- The iPads and computing suite are available for use throughout the school day as part of ICT and computing lessons and for cross curricular use
- The school has an ICT and computing technician

Assessment, recording and reporting

We use Curriculum Maestro to assess attainment and progress of the pupils against national age-related expectations. This data is used to write a brief termly report and information is used to identify actions for the subject leader for the following term.

Monitoring

At Beckers Green we believe that the most effective way to monitor the impact of our Computing policy is to utilise and triangulate a broad range of moderating activities, involve our stakeholders, and apply these regularly, consistently, and robustly.

Through our annual Monitoring, Evaluation and Review cycle, we employ the following monitoring activities in Computing:

- Lesson Observations and Drop ins
- Data drop and subject leader data review: Using Curriculum Maestro we use the termly data to inform our planning and areas we need to develop or support
- Governor Visits. As part of the Governors' Monitoring, Evaluation and Review cycle, lead governors in each subject, make regular visits to school to monitor progress towards the school development plan
- Pupil voice. Senior staff, subject co-ordinators and governors take regular opportunities to listen to the views of pupils in relation to their experience of Computing at our school and their feedback actively informs subject development through our curriculum action plan