Beech Hill Primary School

Computing Policy 2024-25

Revision date November 2024

Rationale

At Beech Hill Primary, the teaching and learning of Computing will incorporate the objectives of the National Curriculum. In addition to this, teachers will provide learning opportunities from other areas of computing which teach the new children new skills, stretch their abilities and consolidate their knowledge. Children will learn to design and create content for others. The school will deliver a Computing curriculum which does not only use PCs and tablets, but also includes lessons on the theory and principles of computer science and computational thinking. Through puzzles and challenges the children will gain an insight into how computers work and how we program them. Children will learn that it is a positive learning experience to experiment, find difficulties, and to then overcome such problems by refining their designs or programs. Finally, we wish to give the children in the school the ethos that Computing is a fun, creative, investigative subject, not one based on a series of administrative tasks.

Aims and Objectives

Through a rich and stimulating learning environment the teaching of Computing aims to ensure that children:

* can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation

* 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 or unfamiliar technologies, analytically to solve problems

* are responsible, competent, confident and creative users of information and communication technology.

During the Foundation Stage

The EYFS framework is structured very differently to the national curriculum as it is organised across seven areas of learning rather than subject areas. The aim of this document is to help subject leaders to understand how the skills taught across EYFS feed into national curriculum subjects.

This document demonstrates which early years outcomes are prerequisite skills for computing within the national curriculum. The table below outlines the most relevant early years outcomes from 30-50 months to ELG, brought together from different areas of the Early Years Foundation Stage, to match the programme of study for computing.

The most relevant early years outcomes for computing are taken from the following areas of learning:

- Understanding the World

Curriculum Organisation

The new National Curriculum's Computing program of study is divided between Key Stage 1 and Key Stage 2. These aims have been taken by the school and used to help write our knowledge organisers. These are 36 documents covering each half term from Years 1 to 6.

During KS1 and KS2

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 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
* use technology safely and respectfully, keeping personal information private; know where to go for help and support when they have concerns about material on the internet
* recognise common uses of information technology beyond school.

Key stage 2

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
* use technology safely, respectfully and responsibly; know a range of ways to report concerns and inappropriate behaviour
* 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.

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The children should be given opportunities as part of their work in the classroom and Computing room to:

- Learn how to keep themselves safe while using technology
- Use Computational thinking
- Use the language of Computing
- Learn the principles of Computer Science
- Be creative with technology
- Experiment, find problems and correct them with.
- Save, print and display their work
- Explain their thinking and the processes they have used.
- Explore new technology such as AI enabled tools

The Role of the Computing Co-ordinator

The role of the co-ordinator is largely to ensure that a broad Computing curriculum is being delivered in a way which meets the learning objectives and inspires and motivates the children.

These responsibilities will include:

* management of the Computing budget.

* report to the Valour board, the CEO, Head of School and staff on developments in the subject Computing,

* attend relevant training, conferences and cluster meetings.

* liaise with Newcastle City Council's IT department about developments and difficulties, in particular those raised by members of staff who are unable to find solutions themselves.

* to keep up to date with relevant developments in Computing and take on board any advice given within.

* To plan, write and keep under review policy documents/guidelines which will incorporate the requirements of the National Curriculum.

* To observe and support the teaching of Computing.

* To volunteer to hold staff training sessions to help others bring their skills up to date.

* To audit continuity, breadth, achievement and progression across the whole school by monitoring the teachers' long-term planning and pupils' work to ensure that appropriate learning outcomes and activities are planned.

* To write, edit and update our knowledge organisers for Computing to further enhance the curriculum.

* To liaise with the school's e-cadets about their tasks and projects.

* To maintain and develop the school website and social sites, in particular ensuring statutory information is included.

* To work alongside Gem Education to enhance children's learning opportunities and provide staff CPD.

* To bring new technologies into school, such as AI enabled tools.

Record Keeping and Assessment

Computing based activities and experiences within the **Foundation Stage** will be recorded and assessed using the Foundation Stage Profile. Additionally there are individual profiles of achievements. Notes, work samples and photographs form the basis of both these assessments.

In **KS1** and **KS2** evidence of children's work and progress will be shown in either a class book (Y1) or an individual book (Y2 and upwards).

Files of children's saved work are also kept on the T-drive to reduce printing costs.

Weekly assessment questions (both verbal and written) will show children's retention of previous learning.

A selection of work from previous years is saved on the school's T-drive so show progress and to inform teacher's of their children's work in earlier classes.

Parents are informed of their child's progress in the end of year academic reports. Formative assessments can determine what each child has learned and what therefore should be the next stage in their learning. Formative assessment is mostly carried out informally by teachers in the course of their teaching.

Equal Opportunities

We believe that all children irrespective of background, race, gender and capability should have equal access to the curriculum as stated in each curriculum policy.
Our school practice should provide opportunities which reflect the cultural diversity of our school, community and locality. Through the teaching of Computing we will promote mutual respect for all cultures by emphasizing the importance of safe, polite conduct online, particularly when using social media.

Safeguarding

As part of our curriculum, children will be taught the importance of safe conduct online, such as not disclosing personal information to strangers online and how to avoid bullies online.
Under the Prevent Duty, we all have a professional, moral and legal duty to safeguard our children from the potential risks of radicalisation. We will do this through;

Filtering systems on all hardware - these will be checked regularly by staff members or trustees. Any concerns will be reported to our local authority IT team
Delivering sessions in school around e safety

Providing a broad and balanced curriculum that focuses on and explores controversial issues (for example through history, geography, PSHE, RSE and the teaching of British Values)

Sharing resources around Prevent with families

Explicit Content on Mobile Phones

Sexting is when someone shares sexual, naked or semi-naked images or videos of themselves or others, or sends sexually explicit messages. They can be sent using mobiles, tablets, smartphones, laptops - any device that allows you to share media and messages. A young person is breaking the law if they: take an explicit photo or video of themselves or a friend; share an explicit image or video of a child, even if it's shared between children of the same age; possess, download or store an explicit image or video of a child, even if the child gave their permission for it to be created.
The child will become vulnerable if these photographs are shared publicly and they may become subject to blackmail, bullying or it may cause unwanted attention or emotional distress.

The pupils at Beech Hill Primary School are taught about keeping themselves safe online during Internet Safety Week. Within this time, the children are taught about sending appropriate texts, tweets and other social media messages. They are also taught about the positives of text messaging and the virtual world. As well as the positives, the teachers help the pupils to explore the negatives of using mobile phones and other devices. Additionally, the children in our school learn the risks of sending unwanted or explicit content.

Our children are taught about having a positive self-image and to respect their own bodies throughout school.

SEN

At Beech Hill Primary School we teach Computing to all children, whatever their ability. Computing forms part of the school curriculum policy to provide a broad and balanced education to all children. Beech Hill recognises the need to cater for children with special educational needs. Work is differentiated to assist children's learning in terms of:

- learning outcomes
- tasks
- teaching methods
- resources

Tasks can be broken down into small steps, giving children achievable goals. Activities should reinforce children's understanding of the subject. Computing may need to be suitably differentiated on occasions according to the child's special needs. We are currently starting to explore the use of AI as way of supporting children with different needs.

More Able

'More Able', formerly 'Gifted and Talented', children are identified via pupil tracking grids. They are provided with opportunities to promote and develop their learning further. Provision for More Able children should be detailed on Knowledge Organisers. The more able children should be given open-ended tasks and opportunities for further research and more challenging study.

Social Cohesion

Where appropriate links are made in Computing to help children learn about and understand the local, regional, national and international community in which they live.

Health and Safety

Health and safety is of the upmost importance in the Computing room. Our Computing room has been wired by engineers so that cables are tucked behind PCs and then under tables, without trailing wires for children to trip on. Children are not allowed to eat or drink in the Computing room. Children are reminded not to attempt to walk with their head phones on.

Every Child Matters

Change for Children brings together all the ways we are working towards improved outcomes for children, young people and families There has been much research into a child's well-being in childhood and later life and it was discovered that the 5 outcomes are being healthy, staying safe, enjoying and achieving, making a positive contribution and achieving economic well-being.

Culture, sport and play activities provide "things to do, places to go" for children and young people, but they also have an important role to play in delivering the Change for Children programme by contributing to the achievement of the five outcomes, all of which can be studied through Computing.

Pupil performance and well-being go hand in hand. Pupils can't learn if they don't feel safe or if health problems are allowed to create barriers. And doing well in education is the most effective route for young people out of poverty and disaffection.

Cross-Curricular Links

The new National Curriculum calls for:

A high-quality computing education equips pupils to understand and change the world through logical thinking and creativity, including by making links with mathematics, science, and design and technology.

Computing is taught separately and jointly with other subjects. Our Computing planning emphasises links with other subjects, such as art, literacy and numeracy.

Resources

We have are continually reviewing resources in our school to be able to teach Computing efficiently and in a way which is linked to children's interests. We keep staff informed of new resources. We encourage the sharing of resources and good practice across the school.