



Hartington C of E Primary School

"Caring & sharing as part of God's family"
"Loving our neighbour as we love ourselves" - Luke 10:27

Computing Policy

Hartington C of E Primary School

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| Reviewed by | Tracy Blackwell – Head Teacher |
| Signed by | |
| Chair of Governors | |

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.

What is 'Computing'?

The National Curriculum Purpose of Study states that:

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science and design and technology, and provides insights into both natural and artificial systems. 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. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Whilst the Computing Curriculum has an increased focus on Computer Science including developing pupils' programming skills and their understanding of what happens 'behind the scenes', it is important that they also continue to develop their Digital Literacy and e-safety capability and our school curriculum is designed to reflect this.

Whole School Computing Curriculum Aims

As a school, we embrace the national vision for Computing and appreciate that, to achieve this, pupils must have access to a curriculum which is 'balanced and broadly based'.

Our aim is to produce learners who are confident, discerning and effective users of technology and who also have a good understanding of computers and how computer systems work, and how they are designed and programmed. We believe that Computing is an integral part of preparing children to live in a world where technology is continuously and rapidly evolving. At Hartington, our wish is that all children flourish creatively, leaving the school equipped for lifelong learning with rich and happy memories. That children have the courage to challenge and ask big questions, develop compassion have a sense of spirituality and strive to achieve their personal best and the best for their community.

Intent

At our school, the intent is to create a curriculum that is based on real life experiences encouraging children to grow as artists, historians, musicians, designers, coders, scientists, writers, readers, mathematicians... and flourish as lifelong creative thinkers. The curriculum serves the needs of the children, building respect, compassion and resilience to be a champion for what they believe in. They are courageous advocates for both themselves and others in the local and global community.

We want to model and educate our pupils on how to use technology positively, responsibly and safely. We want our pupils to be creators and our broad curriculum encompassing computer science, information technology and digital literacy reflects this.

We recognise that technology can allow pupils to share their learning in creative ways. We also understand the accessibility opportunities technology can provide for our pupils. Our knowledge rich curriculum is

balanced with the opportunity for pupils to apply their knowledge creatively which will in turn help our pupils become skilful computer scientists.

The use of computers, laptops, tablets and compute systems is an integral part of the National Curriculum and knowing how they work as a key life skill. In a digital world that is ever developing and changing, there now exists a wealth of software, tools and technologies that can be used to communicate, collaborate, express ideas and create digital content. Here at Hartington C of E Primary School, we recognise that all pupils are entitled to a broad and balanced computing education, with a structured, progressive approach to the learning of how computer systems work, and the use of IT and the skills necessary to become digitally literate and participate fully in the modern world.

We strive to achieve this aim by:

- Embedding computing across the whole curriculum to make learning creative and accessible. 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.
- Supporting all children in using technology with purpose and enjoyment
- Meeting, and building on the minimum requirement set out in the National as fully as possible and helping all children to achieve the highest possible standards of attainment.
- We aim to provide an exciting, rich, relevant and challenging Computing curriculum for all.
- 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.
- Supporting all children to develop the necessary skills to exploit the potential of technology and to become autonomous and discerning users
- Helping all children 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 and enthuse and equip children with the capability to use technology throughout their lives.
- Giving children access to a variety of high-quality hardware, software and unplugged resources.
- Instil critical thinking, reflective learning and a 'can do' attitude for all our pupils, particularly when engaging with technology and its associated resources.
- Teach pupils to become responsible, respectful and competent users of data, information and communication technology.
- Teach pupils to understand the importance of governance and legislation regarding how information is used, stored, created, retrieved, shared and manipulated.
- Use technology imaginatively and creatively to inspire and engage all pupils, as well as using it to be more efficient in the tasks associated with running an effective school.
- Provide technology solutions for forging better home and school links.
- Exceed the minimum government recommended/statutory guidance for programmes of study for Computing and other related legislative guidance (online safety).

Legislation and Guidance

This policy reflects the requirements of the [National Curriculum programme of study](#), which all maintained schools in England must teach.

It also reflects requirements for inclusion and equality as set out in the [Special Educational Needs and Disability Code of Practice 2014](#) and [Equality Act 2010](#) and refers to curriculum related expectations of governing boards set out in the [Department for Education's Government Handbook](#). In addition, this policy acknowledges the requirements for promoting the learning and development of children set in the [Early Years Foundation Stage \(EYFS\) statutory framework](#).

Implementation

At Hartington C of E Primary School, teachers are encouraged to progressively develop pupils' Computing skills and capability through use of the My Computing scheme of work and also embracing opportunities for discrete learning opportunities to exploit this capability as a tool to support objectives in other curriculum areas meaningfully via STEM based activities and tasks making links to the science mathematics and technology curriculums. 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 isolating variables in Science). In this way Computing and the use of technology become integrated into the curriculum and are used as a truly beneficial tool for learning.

Using the My Computing scheme of work support our teachers in delivering fun and engaging lessons which help to raise standards and allow all pupils to achieve to their full potential. We are confident that this scheme of work meets the national vision for Computing. It provides immense flexibility and strong cross-curricular links.

The learning for each year group is divided into units covering three main components:

- Computer Science
- Information Technology
- Digital Literacy

These themes are mapped in a long-term plan for the whole school, with elements of each theme taught in most terms.

Through the above components, we deploy appropriately challenging activities which develop children's skills. We provide appropriate quality equipment for the teaching of Computing, which includes desktops, iPads and a class set of laptops. This ensures that all year groups have the opportunity to use devices and programs for many purposes across the wider curriculum, as well as in discrete computing lessons.

Computing in the EYFS

In the 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. Links are made between the EYFS Early Learning Goals and the Y1 curriculum to ensure a smooth transition takes place. This will ensure that pupils enter Year 1 with a foundational of knowledge of computing. Our Computing

schemes – Barefoot Computing in unison with Teach Computing, for children in the Reception Year is centred around activities that focus on building children's listening skills, curiosity, creativity and problem solving,

Computing in Reception at Hartington C of E Primary School means:

- taking a photograph with tablet or camera
- watching video clips and slideshows to support their learning across the curriculum
- listening to music and using digital technology to create their own music
- recording their voice (for singing, storytelling or building sentences verbally)
- following and creating basic instructions to make objects on screen move or direct vehicles
- exploring maps, jigsaws and accessing a variety of games to support their learning across all areas of learning
- searching for information on the internet
- using digital technology to support their learning (by planning models or recording their ideas, for example)
- exploring mechanical and digital toys

Our Reception Computing Curriculum is designed to enable our youngest pupils to develop a familiarity with technology, digital equipment and vocabulary. The Teach Computing Scheme of Work for Reception is planned across all seven areas of learning (Communication and Language; Personal, Social and Emotional Development; Physical Development; Literacy; Mathematics; Understanding the World; and Expressive Art and Design). It is a flexible approach to meet the needs and interests of the children and provides teachers with lots of lesson ideas that support children's development of knowledge, skills and understanding and provides them with an introduction to some of the computing programmes and features.

EYFS outcomes:

- Know how to operate simple equipment, e.g. turn on a CD player and use a remote control.
- Show an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones.
- Show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.
- Know that information can be retrieved from computers
- Complete a simple program on a computer.
- Use ICT hardware to interact with age-appropriate computer software.
- Recognise that a range of technology is used in places such as homes and schools.
- Select and use technology for particular purposes.

Computing in KS1/KS2

Key Stage 1 outcomes:

- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions.
- Write and test simple programs.
- Organise, store, manipulate and retrieve data in a range of digital formats.
- Communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school.

Key Stage 2 outcomes

- Design and write 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; generate appropriate inputs and predicted outputs to test programs.
- Use logical reasoning to explain how a simple algorithm works 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 worldwide web; and the opportunities they offer for communication and collaboration.
- Describe how Internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely.
- 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.

Planning

We deliver all aspects of the computing National Curriculum using the Teach Computing Scheme of Work. Throughout the two / one-year cycles in Key Stages 2 and 1 here at Hartington, the children will participate in computing work themed around computing systems and networks, data and information programming and creating media. Our children have opportunities to engage with a variety of information technology including Beebot floor robots, iPads laptops, Data Logging software, Crumble Kits and Micro Bits. A minority of children will have particular teaching and learning requirements which go beyond the provision for that age range and if not addressed, could create barriers to learning. This might include more able children, those with SEN or those with EAL. Teachers will consider individual pupil needs and requirements, then plan and differentiate where necessary, to support individuals or groups of pupils to enable them to participate effectively ensuring full inclusion takes place.

This is how it works

- Lesson provided through cross curricular or discrete lessons
- Clear progression of skills developed throughout school
- Progression of knowledge developed each year
- Children will have had the opportunity to use a range of good quality tools and resources and develop competency in using them safely
- Workshops and computing days that bring topics to life

This is what adults do

- Teachers and phase teams work collaboratively to support each other in the teaching of computing, understanding and applying current developments in the subject, and providing direction for the subject in the school.
- Teachers who show enthusiasm for the subject regardless of personal capabilities
- Curriculum leader evaluates the strengths and weaknesses in the subject and indicate areas for further improvement.
- Create a positive learning environment to encourage discussion and personal opinion
- Ensure a safe working environment
- Look for opportunities to use specialists and outside providers when necessary

This is how we support

We teach computing to all children, whatever their ability, in accordance with the school curriculum policy of providing a broad and balanced education to all children. Teachers provide learning opportunities matched to the needs of children with learning difficulties. Different technologies are used to allow children with special educational needs to have access and contribute to lessons.

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- Teachers provide learning opportunities matched to the needs of children with learning difficulties.
- Small group or 1:1 where needed
- A range of equipment and resources so children can make progress

This is how we challenge:

- Differentiated lessons
- Additional activities to stretch learning or develop skills
- Extra-curricular activities targeted at gifted and talented children

This is how we ensure all children can access the curriculum

- EAL and SEN children are introduced to vocabulary before the lesson
- Peer support
- Providing equipment that may support individuals

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 1 hour allocated to Computing each week using a mixture of unplugged activities and the following technology:

- Laptops
- iPads
- Programming equipment

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.

The SEND lead advises 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.

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.

Assessment and Recording

Continuous assessment for learning through summative and formative assessment is combined with an end of unit task e.g. recorded piece of work, whole class quiz or practical task, supports the school's final professional judgement.

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 at least a half termly 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)

Safeguarding Children: Online Safety

At Hartington C of E Primary School, 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.

The biggest impact we want on our children is that they understand the consequences of using the internet and that they are also aware of how to keep themselves safe online. We believe in teaching children the importance of using computers appropriately and developing skills for staying safe online.

As well as teaching children about online safety through their computing lessons, we also take part in the National Safer Internet Day annually, to positively reinforce the key messages around staying safe online with pupils and parents. This allows us to implement an effective and engaging approach to online safety while meeting our safeguarding duties as outlined in the latest KCSIE (Keeping Children Safe in Education) guidance.

The school has developed a separate policy which details our approach to online safety and safeguarding children and staff when using technology both within and beyond the school.

Impact

Our Computing Curriculum has been structured to demonstrate a progression of skills and ensures that children can build on their understanding, as each new concept and skill is taught with opportunities for children to revisit skills and knowledge as they progress through school.'

This is what you might typically see

- Happy and engaged learners
- Children demonstrating transferable skills, knowledge and expertise
- Lessons which are, creative and fun fostering a love of learning
- Children demonstrating a rich vocabulary
- Curious children who ask questions and take part in discussions
- Children who understand the importance of making mistakes and persevering to work through problems
- Confident children who are willing to persevere

This is how we know how well our children are doing

- Informal judgements based on observation during lessons.
- End of term assessments
- Annual assessments in line with the National Curriculum in England 2014
- Summative assessment discussed during transition meeting with next class teacher

This is how computing contributes to the spiritual, moral, social and cultural development of the child

Within computing lessons children are given the opportunity to work collaboratively and communicate effectively with each other. We encourage children to reflect on evaluate their ability to work together and to discuss how their communication had an effect on their learning. The cultural and social impact of computing and digital technology are made clear in the ability to share, add to and create content in a connected way with others. Children have regular online safety lessons and workshops and are aware of how their actions on line might affect their peers. In a small rural community computing is used to create link with people and communities that are different from our own through visits to the Derby Open Centre or via online access to places of worship.

Cultural Capital

Through our teaching of Computing children are able to use their skills to access a wide range of experiences otherwise unavailable to them. At Hartington we have virtual visits with different communities, visit Cathedrals, galleries and museums and make use of access to rich opportunities to enhance music and the arts. The children access the wider world through the use of technology to help develop knowledge and understanding and application of this within other areas of the curriculum. This allows and supports an increased awareness of the diversity within society within a world beyond their locality.

This is the impact of the teaching

At Hartington the children will refer to themselves as computer scientists. You will see children who confidently use technology to help them gain access to all areas of the curriculum and in different contexts. The children will be able to articulate how technology helps them on a daily basis and how it may be a part of their lives in the future. They will be able to use technology to enable them to take responsibility for their own learning at home when they need to use a blended learning approach. The children at Hartington talk articulately about the dangers associated with the internet in and out of school and can explain what to do when they are faced with difficult situations. They demonstrate responsibility, respect and resilience both on and offline.

Monitoring Arrangements

The Computing Subject Leader follows a systematic and regular programme of evaluation and monitoring of the Computing curriculum, across the school. This is so that she can measure the impact and monitor the quality of education being provided to all pupils, 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/Learning walks
- Collecting and analysing planning
- Work scrutinise
- Inspection of children's computing folder and the quality of the digital content they create.
- Gathering information from observations of other subjects
- Pupil conversations/ interviews / pupils voice
- Staff interviews / feedback

At the end of each half term the class teacher makes a judgement as to whether a child is working at the level, working towards the expected level or working at a Greater Depth (achieving above).

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 and the School Development Plan.

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 teacher:

- 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:

- 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 / CPD is needed by individual staff / groups of staff / the whole school
- 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 regular visit from our computing technicians (IT Just Done) who works under the direction of the headteacher.

- The ICT and computing technicians (IT Just Done) will be responsible for regularly updating antivirus software.
- Use of ICT and computing will be in line with the school's Acceptable Use Policy'. (All staff, volunteers and children must sign a copy of the schools AUP.)
- Parents will be made aware of the 'Acceptable Use Policy'.

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.

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.

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.

Links with other policies:

- EYFS Policy
- Marking Policy
- Assessment Policy
- Online Safety Policy
- SEND Policy
- Pupil Premium
- Sex and Relationship education
- Equality Policy

This policy was written by T.Blackwell

This Policy was reviewed in January 2024

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