

Aycliffe Village Primary School – How do we teach Computing?

2019-20

Computing Intent:

At Aycliffe Village Primary School, we believe that Computing is an integral part of preparing children to live in a world where technology is continuously and rapidly evolving, so much so that children are being prepared to work with technology that doesn't even exist yet. For this reason, we feel that it is important that children are able to participate in the creation of these new tools to fully grasp the relevance of and the possibilities of emerging technologies thus preparing them for the world of work.

Our aims are to fulfil the requirements of the National Curriculum for Computing whilst also providing enhanced collaborative learning opportunities, engagement in rich content and supporting pupil's conceptual understanding of new concepts which support the needs of all our pupils.

“A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world...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.”

National Curriculum

Our Computing curriculum aims to develop the heart and mind of every child. Computing teaching at Aycliffe Village Primary School has deep links with mathematics, science and design and technology and our aim is to provide a broad and balanced curriculum whilst ensuring that pupils become digitally literate and digitally resilient. Technology is ever evolving and we aim to develop pupils who can use and express themselves, develop their ideas through, information and communication technology at a suitable level for the future workplace and as active participants in a digital world.

The aims of our Computing curriculum are to develop pupils who:

- Are responsible, competent, confident and creative users of information and communication technology.
- Know how to keep themselves safe whilst using technology and on the internet and be able to minimise risk to themselves and others.
- Become responsible, respectful and competent users of data, information and communication technology.
- Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- Can analyse problems in computational terms, and have repeated practical experience writing computer programs in order to solve such problems.
- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- Become digitally literate and are active participants in a digital world.
- Question what they read or see online and be critical of what they witness when appropriate.
- Are equipped with the capability to use technology throughout their lives.

- Understand the importance of governance and legislation regarding how information is used, stored, created, retrieved, shared and manipulated.
- Have a 'can do' attitude when engaging with technology and its associated resources.
- Utilise computational thinking beyond the Computing curriculum.
- Understand and follow E-Safety rules.
- Understand the E-Safety messages can keep them safe online.
- Know who to contact if they have concerns.
- Apply their learning in a range of contexts, e.g. at school and at home.
- Know where to locate the CEOP button and how to use it.

Implementation:

To ensure high standards of teaching and learning in computing, we implement a curriculum that is progressive throughout the whole school. Computing is a foundation subject in the National Curriculum and at Aycliffe Village implementation of the computing curriculum is in line with 2014 Primary National Curriculum requirements for KS1 and KS2 and the Foundation Stage Curriculum in England. This provides a broad framework and outlines the knowledge and skills taught in each key stage.

Computing teaching at Aycliffe Village will deliver the requirements of the National Curriculum through half-termly units. Teachers plan using our long term plan which highlights the knowledge, skills and vocabulary for each year group and is progressive from year to year. Our Computing LTP is broken down into three strands that make up the computing curriculum. These are Computer Science, Information Technology and Digital Literacy. Computer Science underlines the knowledge and skills relating to programming, coding, algorithms and computational thinking. Information Technology underlines the knowledge and skills relating to communication, multimedia and data representation and handling. Digital Literacy underlines the knowledge and skills relating to online safety and technology uses all of which are covered at Aycliffe Village whether combined or discreetly.

When teaching computing teachers should also follow the children's interests to ensure their learning is engaging, broad and balanced. Teachers should ensure that ICT and computing capability is also achieved through core and foundation subjects and where appropriate and necessary ICT and computing should be incorporated into work for all subjects using our wide range of interactive ICT resources.

Computing teaching at Aycliffe Village is practical and engaging and a variety of teaching approaches and activities are provided based on teacher judgement and pupil ability. We have a wide range of resources to support our computing teaching including but not limited to, iPads, laptops, bee-bots, and software or apps that allow pupils to create, edit and evaluate their own work across the curriculum. Pupils may use laptops or iPads independently, in pairs, alongside a TA or in a group with the teacher. Teachers and pupils are also aware of the importance of health and safety and pupils are always supervised when using technology and accessing the internet.

Pupils at Aycliffe Village are fully encouraged to engage with ICT and technology outside of school. Pupils have logins for a range of apps linked to Maths and English and their progress can be checked by their teacher. As we move forward, pupils will be able to submit some aspects of homework by email.

Special Educational Needs Disability (SEND) / Pupil Premium / Higher Attainers

All children will have Quality First Teaching. Any children with identified SEND or in receipt of pupil premium funding may have work additional to and different from their peers in order to access the curriculum dependent upon their needs. As well as this, our school offers a demanding and varied curriculum, providing children with a range of opportunities in order for them to reach their full potential and consistently achieve highly from their starting points.

At Aycliffe Village Primary School we provide a variety of opportunities for computing learning inside and outside the classroom. Computing and safeguarding go hand in hand and at Aycliffe Village we provide a huge focus on internet safety inside and outside of the classroom. Additional to all pupils studying an online safety unit through their computing lessons, every year we also take part in National Internet Safety Day in the Spring Term. The Computing co-ordinator alongside class teachers will plan additional internet safety lessons and activities to take part in following a specific yearly theme. Other enrichment opportunities in the past have also included Lego Control workshop, Raspberry Pi workshops and pupils having the opportunity to attend Minecraft workshops. Furthermore, all teaching staff at Aycliffe Village have received their E-Safety training in 2019 and will utilise the online materials to encourage discussions, support issues as they arise in and out of the classroom and promote the materials to parents/carers. Finally, at Aycliffe Village we actively encourage parent partnership within the computing curriculum and outside of school. Parents are made aware of e-safety issues through the school website, facebook page, links, letters, and information newsletters.

Impact:

Our Computing Curriculum is high quality, well thought out and is planned to demonstrate progression and build on and embed current skills. We focus on progression of knowledge and skills in the different computational components and alike other subjects discreet vocabulary progression also form part of the units of work.

If children are keeping up with the curriculum, they are deemed to be making good or better progress.

We measure the impact of our curriculum through the following methods:

- Pupil discussions and interviewing the pupils about their learning.
- Governor monitoring with our subject computing link governor.
- Moderation staff meetings with opportunities for dialogue between teachers.
- Photo evidence and images of the pupils practical learning.
- Video analysis through recording of performance in lessons.
- A reflection on standards achieved against the planned outcomes.
- Learning walks and reflective staff feedback.
- Dedicated Computing leader time.