Computing Policy

At Wybunbury Delves we aim to 'light the spark for a love of learning and of life' and believe Computing is a subject which offers the very best opportunities to achieve this.

"A computer is like a violin. You can imagine it making beautiful music, but you have to learn how to play it."

Bill Gates, Microsoft Founder

Introduction
A computing education is essential in our technologically diverse world. Schools play a vital role in teaching children the skills they'll need to thrive in a digital future, through the national computing curriculum. In this digital age we need to equip our children to utilise computational thinking in order to understand and change the world.

Intent
Computers and technology are part of nearly every aspect of modern life. Through teaching computing, we intend to equip children to participate in a rapidly-changing world where work and leisure activities are increasingly transformed and enhanced by technology. Computing skills and knowledge are a major factor in enabling children to be confident, creative and independent learners, who understand the place technology has in our lives and they are well equipped to use it.

We intend to give our children the knowledge and understanding that will be essential for a future which is going to be heavily reliant on computers and technology along with the necessary skills and experience to access the opportunities and challenges that they will encounter. This includes enabling them to be independent critical thinkers who can use their knowledge and understanding to problem solve. At Wybunbury Delves, we believe it essential that our children learn how to use a wide range of technologies and are exposed to a variety of software to build their knowledge and confidence in computing. It is our intention to ensure that all our children receive this exposure and become familiar with many areas of computing through the teaching of our curriculum.

Key Connections:

- **Empowering Digital Creators:**
  - Encouraging our children to use their computing skills to create positive and impactful digital content.
  - A curriculum that emphasises not just consumption of technology, but also responsible and innovative creation.
  - Our children are encouraged to use their digital knowledge to "shine" by creating projects that benefit their community or address real-world problems.
- **Promoting Digital Citizenship:**
  - "Let your light shine" implies ethical and responsible behaviour. In a computing context, this translates to strong emphasis on digital citizenship.
  - Our children learn to use technology safely, respectfully, and responsibly.
  - They understand the impact of their online actions and strive to be positive contributors to the digital world.
- **Fostering Innovation and Problem-Solving:**
  - Computing is a field of constant innovation. The "light" represents the spark of creativity and problem-solving that our children develop.
  - The curriculum encourages our children to think critically, to find solutions to complex problems, and to explore new possibilities with technology.

- o This could involve coding, developing apps, or designing digital tools that address specific needs.
- **Building Confidence and Digital Literacy:**
    - o Gaining proficiency in computing can empower our children and boost their confidence.
    - o The curriculum aims to equip students with the digital literacy skills they need to navigate the modern world successfully.
    - o By "letting their light shine" through their digital abilities, our children become confident and capable users of technology.

Aims

- Provide a relevant, challenging and enjoyable curriculum for ICT and computing for all pupils.
- Meet the requirements of the National Curriculum programmes of study for ICT and computing.
- Use ICT and computing as a tool to enhance learning throughout the curriculum.
- 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.

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
- 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.

Implementation

At Wybunbury Delves, we have adopted the Teach Computing Curriculum created by the National Centre for Computing Education. This choice has been thoughtfully considered and the curriculum has been carefully evaluated to ensure the component knowledge taught throughout the curriculum is well-sequenced and enables all pupils to know more, remember more and be able to do more.

The curriculum's spiral design ensures pupils develop secure and increasingly complex mental models of core computing concepts, apply their growing understanding of these concepts in various computing contexts and do so in a way which is safe, responsible and effective.

Lessons aim to engage, inspire and challenge all pupils ensuring that all learners:

- Understand and use key vocabulary.
- Use computational thinking and creativity to solve various problems in an ever-changing way.
- Understand computer science and how computers work.
- Are equipped to express themselves via technology appropriately, so learners are active members in the digital world and future workplaces.

Learning across the school is based on the following key strands:

- Using technology responsibly and safely.
- Programming skills.
- Physical computing skills.
- Digital literacy skills, computer science and information technology.

The importance of and passion for computing should permeate throughout the school. Children should be fascinated by the creativity and benefits of computing. Learning about computing ensures that children will be well-prepared as technology continues to develop.

"Machines take me by surprise with great frequency." Alan Turing

Objectives of the Computing Curriculum

Early years (Non-Statutory)
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 interactive whiteboard or programme a toy. Recording devices can support children to develop their communication skills. This is particular useful with children who have English as an additional language.

Key Stage 1
By the end of 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 a sequence of instructions.
• Create and debug simple programs.
• Use logical reasoning to predict and computing the behaviour of simple programs.
• Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
• Recognise common uses of information technology beyond school.
• 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 2
By the end of Key Stage 2 pupils should be taught to:
• 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.
• 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 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.
• 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.
• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Assessment and recording
Music is a complex subject made up of multiple skills. It's therefore difficult to assess children's overall progress in music as a grade, level, or number. With this in mind, the Charanga scheme of work is sequenced logically for the progressive development of musical skills – skills that are revisited and mastered over time. As children work through the scheme they will sing, play tuned and untuned instruments, listen to recorded and live music, and compose and improvise using the interrelated dimensions of music. They will learn about music history, exploring a range of musical styles and traditions, while using and understanding staff and other notations. Video evidence and photographs where appropriate are stored on SeeSaw and evidence can be found in music books.

Impact
Learning, understanding and application is monitored via numerous strategies including: formative and summative techniques. Also, practical tasks such as: programming a component or machine to function, demonstrate learners' understanding of a certain topic or problem. The scheme of work builds on prior learning too, to ensure children are able to progress through the units effectively.

Leadership of Computing

The Computing leader(s) will follow the school's subject leadership timeline to ensure that the monitoring and development of the subject is maintained at a high standard by:
- Monitoring planning across school;
- Discussions with pupils;
- Conducting learning walks to observe the coverage of computing;
- Provide guidance to colleagues
- Assist with maintaining and replenishing resources that are required (within the budget);
- Assisting staff to implement assessment through school;
- Ensure that the Schemes of Work allow for progression across school;
- Keep up to date with change or new initiatives that would support the development of computing at Wybunbury Delves CE Primary School.

Spiritual, Moral, Social and Cultural

The **spiritual** development of children is shown by their:
- by wondering at the power of the digital age – using the internet
- Understanding the advanced and limitations of ICT

The **moral** development of children is shown by:
- By teaching the importance of Internet and online safety when working online using a variety of different platforms.
- Ensuring the children have the knowledge and tools to report any instances of bullying, cyber-bullying and online safety issues.
- Exploring the moral issues around data and sharing information.

The **social** development of children is show by their:
- By highlighting and teaching ways to stay safe when using online services and social media.
- Teaching and discussing the different ways that the Internet has impacted on communication.
- Preparing the children for the challenges of living and learning in a technologically enriched increasingly interconnected world.
- Ensuring the children acknowledge advances in technology and appreciation for human achievement in a technological world.
- Making clear the guidelines about the ethical use of the Internet and how we keep others and ourselves safe by discussing the moral and social implications of cyberbullying.

The **cultural** development of children is shown by their:
- Providing the children the opportunity to learn about different cultures through the use of the Internet and online platforms – such as Newsround, Picture News and First News.
- Providing the children opportunities to explore human achievements and creativity in relation to a worldwide communication platform.
- Opportunities to develop a sense of awe and wonder at human ingenuity.

Equality and Inclusion

All pupils regardless of gender, cultural heritage, race, colour, nationality, ethnic origin, religion or special needs, will be given the opportunity to experience and acquire skills according to the National Curriculum. We believe that we should aim to create an environment in which all children learn to respect and value each other and each other's interests. This can be achieved by employing the following strategies:
- Mixing groups in terms of gender and ability.
- Setting suitable learning challenges.
- Structuring activities so all are fully involved. For instance, all children must have a 'job/role' within an activity to ensure everyone takes part and is involved.
- Responding to the diverse learning needs of pupils.
- Overcoming potential barriers to learning and assessment for individuals and groups.
- Considering the needs of children with physical or learning difficulties and taking the necessary steps (by enlisting extra help, adapting equipment or differentiating tasks) to ensure they have equal access to the curriculum.

- Giving all the children an opportunity to share their work. For instance, allowing time at the end of a lesson for the whole class to perform a role play, share their ideas or work with the class.
- Recognising the need to extend and provide a greater challenge for more able pupils.

Outcomes

At Wybunbury Delves CE Primary School, we strive to ensure our children are equipped and ready to navigate the digital world we live in. For them to understand the benefits and limitations and for them to be able to efficiently use technology safely.

Policy Review: March 2025
Planned Review: March 2027