Warden House Primary School

Computing Policy

Agreed by the Senior Leadership Team: Term 6 2023

"What a computer is to me is the most remarkable tool that we have ever come up with. It's the equivalent of a bicycle for our minds." - Steve Jobs.

Intent:

At Warden House we aspire to use opportunities within our Computing curriculum provision to ensure that pupils have rich, deep learning experiences that balance all the aspects of Computing. With technology playing such a significant role in society today, we believe 'Computational Thinking' is a skill children must be taught if they are able to participate effectively and safely in this digital world. We want our pupils to understand that there is always a choice with using technology and as a school we utilise technology (especially social media) to model positive use. A high-quality computing education equips pupils to use creativity to understand and change the world. Computing has deep connections with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. We understand the accessibility opportunities technology can provide for our pupils. Therefore, at Warden House Primary School, the core of computing is Computing Science. Pupils are introduced to a wide range of technology, including laptops, iPads, PCs, kindles and interactive whiteboards, allowing them to continually practise and improve the skills they learn. This ensures they become digitally literate so that they can express themselves and develop their ideas through information and computer technology- at a level suitable for the future workplace as active participates in a digital world. We encourage staff to try and embed 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.

Implementation:

The sequence of learning and teaching practices for Computing at Warden House are designed to help pupils to remember what they have been taught over the long term whilst integrating new knowledge into larger ideas. Principles of cognitive load and retrieval are embedded within our teaching and learning structure to increase the learning, retention and recall of information and ideas within Computing. The curriculum sequence builds knowledge, skills and understanding over the course of the primary age range whilst enabling regular opportunities to revisit learning using retrieval practices. Teachers use a variety of strategies within lessons and units such as quizzing, and retrieval practices to ensure the children's understanding, identify and challenge misconceptions and embed learning being mindful of cognitive load.

Our Computing curriculum is split into three strands; computer science, information technology and digital literacy. These three strands work hand in hand with the following five areas to deliver a broad and balanced Computing curriculum: computer systems and networks, programming, creating media, data handling and online safety. These areas create a cyclitic route through which pupils can develop their computing knowledge and skills by revisiting and building on previous learning.

EYFS

Although the technology strand has been removed from the new EYFS curriculum, children should have opportunities to do the following:

- Take a photograph with a camera or tablet
- Search for information on the internet
- Play games on the interactive whiteboard
- Explore an old typewriter or other mechanical toys
- Use a Beebot
- Watch a video clip
- Listen to music

KS1

- Access to technology during Continuous Provision such as iPads, kindles and interactive whiteboards.
- Children upload their independent work completed during Continuous Provision onto Tapestry.
- Knowledge mats/organisers which outlines 'sticky knowledge' (including vocabulary) all children must master;
- A cycle of lessons for computing, which carefully plans progression and depth;
- Retrieval practice such as brain dumps/quizzes/four from before to support learners' ability to block learning and increase space in the working memory;
- Challenge questions for pupils to apply their knowledge in a philosophical/open manner;
- Trips and visiting experts who will enhance the learning experience.

KS2

- Knowledge mats/organisers which outlines 'sticky knowledge' (including vocabulary) all children must master;
- A cycle of lessons for computing, which carefully plans progression and depth;
- Retrieval practice such as brain dumps/quizzes/four from before to support learners' ability to block learning and increase space in the working memory;
- Challenge questions for pupils to apply their knowledge in a philosophical/open manner;
- Trips and visiting experts who will enhance the learning experience.

Impact:

We encourage our children to enjoy and value the curriculum we deliver. We will constantly ask the why behind their learning and not just the how. We want learners to discuss, reflect and appreciate the impact computing has on their learning, development and well-being. Finding the right balance with technology is key to an effective education and a healthy lifestyle. We feel the way we implement computing helps children realise the need for the right balance and one they can continue to build on in their next stage of education and beyond. We encourage regular discussions between staff and pupils to best embed and understand this. The way pupils showcase, share, celebrate and publish their work will best show the impact of our curriculum. We also look for evidence through reviewing pupil's knowledge and skills digitally through Tapestry and observing learning regularly. Progress of our computing curriculum is demonstrated through outcomes and the record of coverage in the process of achieving these outcomes.

Aims:

Computing at Warden House Primary School is a valued part of the curriculum, providing a purposeful means for exploring, appreciating and understanding technology; how it has evolved and how it continues to evolve. Computing allows children to learn the right balance with technology and learn how to be safe online. Computing enables children to be confident with a wide range of technology and develop the necessary skills for everyday life. Computing encourages children to learn through experience, particularly through practical activities and enquiry.

Pupils will:

By the end of each key stage, know, can apply and understand the matters, skills and processes specified in the relevant programmes of study. By using the Kapow computing scheme, children will develop a deeper understanding of computational concepts.

The Foundation Stage

Although the technology strand has been removed from the new EYFS curriculum, there are lots of other assessment opportunities that arise from delivering a well-planned Computing scheme. Our Computing lessons are largely cross-curricular with strong links to communication and language, mathematics, physical development and the characteristics of effective learning. While there is no longer a specific technology strand, the skills learned in computing lessons will ensure progression across all other subjects.

Key Stage 1

In Year 1 and 2 pupils will:

- 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
- 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

In year 3, 4, 5 and 6 pupils will:

- 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
- 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
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Inclusion

In all classes there are children of differing ability and age. We recognise this fact and provide suitable learning opportunities for all children (including those who may be gifted and talented or have additional needs) by matching the challenge of the task to the ability of the child. Each child is valued, respected and challenged regardless of ability, race, gender, religion, social background, culture or disability.

Cross curricular links

Cross curricular opportunities will be provided within subjects, which include English, Maths, Science, Art, History, RE and PSHE. This will be delivered in a creative and irresistible way.

Equal opportunities

All children are entitled to an enriched, broad and balanced Geography Curriculum.

Health & safety
Any trips outside of the school must be risk assessed.

Assessment, recording and reporting
The Geography subject leader and class teacher are responsible for assessment, attainment and monitoring the standard of the children's work and the quality of teaching in Geography through completing the Foundation Subject Assessment sheets for Geography in line with the school's assessment policy. The subject leader is responsible for supporting colleagues in the teaching of Geography, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school.

The role of the subject manager
The subject leader will complete an annual action plan where they will evaluate the strengths and weaknesses in the subject and indicate areas for further improvement. Throughout each academic year, the subject leader must undertake monitoring of Geography across the whole school.

Review
This policy will be reviewed by the *Senior* Leadership team as part of the school's two-year review cycle to evaluate the school's progress towards its computing targets, with additional required action to be identified and tracked by the Computing manager. Progress will be discussed with the school senior leadership team and reported to the governors. This evaluation will form the basis for an action plan, which will then inform the school Short Term Plan.

This Policy was written by Beth Glanville – Subject Leader