THE FLITCH GREEN

ACADEMY
Learning for life

<u>Computing Subject Statement</u>

Computing Lead: Sarah Evans

'Everyone should learn how to code; it teaches you how to think.'

Steve Jobs, Co-founder of Apple, Inc.

Intent

We want our children to be confident and competent digital users who possess a wide range of skills and knowledge across a variety of programs, software, platforms and devices. Through our computing curriculum, children will develop their computational thinking as well as computer science concepts and the application of digital literacy skills. Our children use information technology to create digital content that enables them to think creatively, express themselves and innovate. Children create rich, multimedia content which is shared across the world in order to give them a wider critical audience for their work. We believe that in order to truly prepare our children for their digital world, it is important that they learn about advanced developments in technology, such as the creation of augmented reality, so that they can explore what is possible in order to 'change the world'. Underpinning our approach is the commitment to the teaching of how to use technology responsibly, respectfully and safely so that children are prepared for navigating the online world.

Implementation

At the Flitch Green Academy, we combine published lesson resources from the National Centre of Computing Education, along with our own bespoke planning for Information Technology. Our computing curriculum is divided into four strands which are delivered each half term: **Computing systems, Creating Media, Programming and Data and Information**. All of these strands cover the three core areas of computing: Information Technology, Computer Science and Digital Literacy. Our curriculum is based on a spiral curriculum where each strand is revisited regularly. This enables pupils to consolidate knowledge and skills, and build on prior learning within that theme.

Many areas of the computing curriculum are taught discretely but with cross curricular links to set learning in meaningful contexts.

In computer programming, abstract concepts are introduced through **unplugged computing activities** first in order to bring concepts alive. For example, using songs to teach 'repetition' or dance to teach 'sequencing'. This enables pupils to deepen and embed conceptual understanding before applying this to the screen. Real world examples and links are also made where possible.

Teachers follow the structure of the PRIMM approach for teaching computer programming: **predict, run, investigate, modify and make.** New vocabulary is introduced from the beginning so that children can practise using this before writing code. Teachers are also encouraged to model the

process of programming and debugging through live coding to explain the thought processes, making mistakes and demonstrating what to do when things go wrong.

Each lesson is sequenced so that it builds on the learning from the previous lesson, and where appropriate, activities are scaffolded so that all pupils can succeed and thrive. The scaffolded activities provide pupils with extra resources, such as visual prompts, to reach the same learning goals as the rest of the class. Exploratory tasks also encourage pupils to foster a deeper understanding of a concept, encouraging pupils to apply learning in a different context.

As children become confident in using computing skills, these are further developed to deepen understanding because children use technology as a **tool for learning**. Teachers use the **SAMR model** to plan how to integrate technology across the curriculum and children are also given opportunities to make their own decisions about how and when to use technology to present their learning.**.**

Through the **Digital Leader** programme, children support the use of technology across the school. Digital Leaders deliver training for staff, pupils and educators from other schools, support other classes when using technology, maintain Seesaw for class computing evidence, share online safety knowledge and advice and explore and review new apps.

Impact

How will teachers know that pupils have learnt the planned curriculum?

Pupils will develop detailed knowledge and skills and achieve well. Assessment opportunities are built into each lesson and teachers will use a range of questioning techniques throughout a lesson to check pupil understanding and address misconceptions in relation to the key learning points. Quizzes are also built into the units to reinforce key knowledge and vocabulary.

Children's computing skills are assessed at the end of each unit using the **assessment rubric document** created by the National Centre of Excellence in Computing. Teachers will make judgments against the assessment framework for a child at working towards, Basic, Advancing or a Deep level.

How will leaders assure themselves that the planned curriculum is helping pupils to learn more?

The **Seesaw** platform is used as a digital record for examples of children's progress across computing units in each class, including final projects. The computing lead will meet with small groups of pupils and use questioning to check and ensure information and knowledge is acquired and understood with increasing confidence. Feedback will be given to teaching staff to inform future planning.