Landscore Primary School

Subject Rationale - Computing

Purpose of study

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.

Aims

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- 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

Intent

At Landscore we want our pupils to **be masters of technology and not slaves to it.** We appreciate that technology is everywhere and will play a pivotal part is our pupils lives. Our pupils will understand that there is always a choice with using technology. We want them to make wise choices in how to use technology. Children at Landscore understand how technology can be used for good and become aware of how it can be used to cause harm. We look to educate them on how to be responsible **digital citizens** use technology positively and safely.

Our curriculum promotes opportunities for problem solving, programming with a real world outcome and exploration and presentation of their learning. We encourage staff to try to embed computing across the whole curriculum to make learning creative, accessible and have meaningful links to other areas of the curriculum and our 'themes'.

We aim for our pupils to be fluent with a range of tools to best express their understanding and hope that by Upper Key Stage 2, children have the independence and confidence to choose the best tool to fulfil the outcome and purpose set by teachers.

Implementation

At Landscore, the majority of computing is embedded across the curriculum. Digital Literacy is specifically taught during at least three themes each year. Children are given the opportunity to work individually and in peer groups. Children can learn through high quality resources, such as Beebots, Google Chrome books or Learnpads, Lego Wedo and data loggers. Outcomes for learning are planned to allow children chances to use their creativity and innovation to produce final pieces.

Teachers use key concepts and the National Curriculum content to ensure they are delivering sessions that build on children's knowledge and allow for the development of key practical skills.

Computer Science is specifically taught during two themes each year. With Espresso Coding, a simple to use Primary Coding programme, children will explore algorithms and learn how to design, write and debug programs. Digital Citizenship strands are visited during PSHE and computing. Through a carefully mapped curriculum, pupils will understand the risks related to using the internet and know ways to keep themselves safe when online, as well as the possible negative impact it can have on their mental well-being and ways to manage this.

Impact

- The work children produce shows achievement, progression and is aspirational across pupil groups. Through a range of learning outcomes, children can demonstrate a progression of skills and increase in knowledge as they move up through the school.
- Children are systematic in their approach to computing and problem solving, understanding the term algorithm. They are able to debug and problem solve when there are issues with programs.
- The children are ready for the next stage of their education.