

Curriculum Intent for Computing

Intent

At Preston Manor Lower School, we teach Computing to prepare children for a world increasingly influenced by digital technology. Our goal is to develop computer scientists who are able to use technology confidently and safely, applying computational thinking and a broad knowledge of computer systems to any challenges they may face.

Computing is organised into a long term plan identifying which units of learning will be covered across the year, ensuring that it is broad and balanced, enjoyable and engaging, challenging and meets the needs of all learners in our school. Sequenced lessons ensure that there is progression. Knowledge and skills are built upon across the half term. Progression is also clear across the year groups.

It provides opportunities for children to develop as independent, confident and successful learners, with high aspirations, who know how to make a positive contribution to their community and the wider society. It also prepares students to use computers safely and responsibly, particularly when it comes to the challenges of online safety.

From Reception to Year 6, the children will increase their long-term memory by building a bank of knowledge and skills which they can apply across the curriculum. Through teaching these units of learning, the teachers will further develop their subject knowledge of the subjects they are teaching.

By the end of Reception, the children will know that information can be retrieved on computers and complete a simple program on a computer, as well as recognising that technology is used in a wide range of places. They will interact with real technological items by using buttons, knobs and pulleys and select and use technology for particular purposes.

By the end of KS1, the children will be able to understand what algorithms are and create and debug simple programs. They will use technology purposefully to create, organise, store, manipulate and retrieve digital content. For example they may make a database of their friends' favourite foods. While doing this, children will be taught how to use technology safely and respectfully, keeping personal information private. This includes being able to identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

By the end of KS2, the children will be able to continue using technology safely, respectfully and responsibly, including recognising acceptable and unacceptable behaviour. They will design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems and use logical reasoning to explain how some simple algorithms work, or how errors in them can occur. For example, they may design and then play a computer game, or guide an avatar through a maze. Children will moreover understand computer networks and use search technologies effectively. Finally, by the end of KS2 the children will be able to accomplish given goals using programs they have designed and created, including collecting, analysing, evaluating and presenting data and information. This could involve creating a formula in a spreadsheet to convert m to cm or using a series of data in a spreadsheet to create a line graph.

Implementation

The curriculum incorporates the statutory requirements of the National Curriculum 2014 and other experiences and opportunities which best meet the learning and developmental needs of the children in our school.

Computing is planned and taught for a half term, or can be taught in blocks. Educational visits and visitors are arranged to enhance the children's learning experiences. Displays will support, reflect and celebrate the children's learning. In 2019-20, we have introduced the Purple Mash Computing scheme, which provides fun and engaging units of learning which are closely linked to the skills outlined in the National Curriculum.

Knowledge organisers are sent to families before the unit of learning is taught to allow the children and their family to discuss the forthcoming learning and carry out further research to support the learning. They will have the opportunity to read around the subject. It also highlights the knowledge and vocabulary the children will gain. The children will also complete a home learning project to support their learning.

CPD has been planned across the year to support the teaching and learning process, focussing on planning, challenge, questioning and developing cultural capital.

Impact

Enjoyment of the curriculum promotes achievement, confidence and good behaviour. Children feel safe to try new things.

In Computing, the children will be very clear about why they are learning the content taught to them. By the end of the unit of learning, the children will have acquired new vocabulary and new knowledge, which they will be able to recall and improve their long-term memory. They will be able to use the skills they have learned across the curriculum. Children will make progress over time, which will be clear in their books. The subject knowledge and pedagogy of learning for teachers will be improved. Individual teachers will have been supported through targeted CPD.