

Computing at Leyburn Primary School

Intent

The teaching of computing at Leyburn Primary School helps children to use computational thinking and creativity to understand and change their world. The use of computing skills is encouraged across all areas of the curriculum.

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 ICT, express themselves and develop their ideas through information and communication technology – at a level suitable for their next phase of education, their future workplace and as active, responsible and respectful participants in a digital world.

Our aims are to fulfil the requirements of the National Curriculum for computing by ensuring each child:

- 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.

How are British Values taught through computing?

British values, including those of democracy, the rule of law, individual liberty and mutual respect and tolerance of those with different faiths and beliefs are embedded in the computing curriculum. Students explore issues such as the rule of law in context of copyright, plagiarism and their own personal rights online. Teaching pupils the value of liberty and respect is developed in the study of digital footprints and combatting online bullying.

These values are also encouraged in the day to day teaching and learning through showing respect for different viewpoints and ideas as well as in the ability to work individually, in groups and collaboratively. Pupils are also taught how to report concerns about content and contact.

Implementation

We are using the scheme made by the National Centre for Computing Education in order to ensure that the domain knowledge of computing teaching at Leyburn follows sequenced and cumulative steps. These are inter-connected by themed units across the 4 key areas of computing: computing systems and networks, creating media, programming and data/information. By having the topics centred around these units, pupils are able to make links between their learning from one topic and year group to another, as well as use this knowledge to make connections with their own use of technology in their daily lives. Pupils

learn substantive knowledge, such as how networks and the world wide web work, but these very much act as an aid to giving children context in which to build their learning around the threads in other curriculum areas.

Pupils in Early Years Foundation Stage are taught to be aware of the technology around them. Key Stage 1 pupils study topics that allow them to gain a fundamental understanding of technology and its usefulness in our everyday lives. Key Stage 2 pupils begin to consider more deeply the logical approach to coding and programming and the way in which society relies of technology and networks for worldwide communication.

Computing as a subject is taught in a blocked sequence. We teach units of work that will challenge and extend prior knowledge in order to construct a secure, new understanding of substantive knowledge. In addition to this, disciplinary knowledge is developed through cross-curricular application and independent selection of appropriate technology for a given purpose. Prior knowledge is revisited before introducing new ideas, and misconceptions are actively diagnosed and discussed through low-stakes assessments. British values are planned into each unit of work to ensure opportunities to promote these are optimised.

Wherever possible, computing teaching will include a range of devices and technology such as PC, ipads, cameras and also unplugged activities where appropriate.

Impact

Our curriculum has been planned to have high expectations of all learners and demonstrate coherence and progression. If children are assessed to be achieving the lesson aims then they are deemed to be making good or better progress. We measure the impact of our curriculum through work scrutiny, pupil discussions and a reflection on standards achieved against the planned outcomes. Impact will be reviewed at the end of the academic year as this curriculum has been in place since September 2022.

Reviewed October 2022