COMPUTING

Subject Lead: Patrick Burns

Intent

Computers and the wider digital world will play a significant role in the future lives and learning of all the children at Sheldwich Primary School. The purpose of Computing at Sheldwich is to equip all our pupils with the ability to use computational thinking and creativity to understand the constantly evolving technological world, and the necessary skills to flourish in an educational and employment environment which increasingly values facility in coding. We aim to offer a broad and exciting computing curriculum, that caters to all our children's needs. We recognise that computing has deep links with other subjects including Mathematics, Science, and Design Technology, and we aim to utilise this cross-curricular nature to embed pupils' learning across a range of subjects, bringing insight to all of them through computing. By the time pupils leave Sheldwich Primary School, they will have gained key knowledge and skills in four strands of the computing curriculum: **computing systems and networks** (what a computer is and how networks, including the internet, can be used to retrieve and share information), **programming and computational thinking** (creating software to direct computers to achieve specific goals; solving problems through decomposition, pattern recognition, abstraction and algorithms), **data and information** (understanding how data is stored, organised and used, to reflect and describe the real world) and **creating media** (creating, editing and manipulating a range of digital artefacts including text, images, audio and video). Woven through all of these strands is the importance of using technology safely, respectfully and responsibly to become confident and creative digital citizens.

Implementation

Computing is taught weekly, both in discrete computing skills lessons and as part of the cross-curricular topic. The teachers are supported in the planning and delivery of the Computing curriculum by both the National Centre for Computing Education's Teach Computing curriculum and the Rising Stars: SwitchedOn Computing curriculum. These, alongside cross curricular learning activities, ensures that the children learn a broad range of specific Computing skills and are provided with a context in which to practice them.

- Both computer based and unplugged lessons are used to deepen the children's understanding of sequencing, decomposition and computational thinking.
- As new skills are taught, children have the opportunity to experiment creatively and independently to embed those skills and apply them in problem solving contexts.
- Children focus on a topic each half-term where they get to explore different software, practise and develop their skills in using it, and then create a piece of work (for example, a video game, a blog or a text adventure).
- Control of physical systems is explored in KS1 through the use of Blue-Bots, and in KS2 through the use of micro:bits and :Move Motor robots.
- Children are taught to be responsible and aware users of digital technology through e-safety themes being addressed regularly in Computing and P.S.H.E. lessons.

- A high priority is placed on the children's facility in coding and its use to write, understand and debug purposeful computer programs.
- All children have the opportunity to reach enrichment activities in order to deepen their understanding.
- Where possible, links are made with other subjects across the curriculum.
- Children's passions for computing are encouraged through an after-school Coding Club and their achievements are celebrated through whole-school coding assemblies.
- Logical thinking is promoted through the significant profile of chess within the school. There are two after-school chess clubs, an annual whole school tournament and the school enters two teams in a local adult chess league.
- The whole of KS2 enter the annual UK Bebras Computational Thinking Challenge.

Impact

As a result of our teaching, you will see:

- Engaged children who are all challenged and enthused by digital learning.
- Confident children who are able to apply their understanding of computing to solve problems and present their ideas in creative and innovative ways.
- Lessons that use a variety software to support learning and broaden and enhance the children's digital literacy.
- Pupils who are able to use technology responsibly, and understand how to behave considerately and how to stay safe in a digital world.

Assessment

Teacher assessment is used to guide the planning and provision of support in all lessons. Teachers will monitor the progress of all children and formally assess the children termly based on the understanding they demonstrate throughout the term in the lessons, and, were appropriate, the level of achievement of the specified learning outcomes in the final piece of work.

Reporting to Parents and Carers takes place on a regular basis through informal updates if/when required, during consultation sessions held twice a year and through a formal written 'Mid-Year' and 'End of Year' report.

Resources

NCfCE	https://teachcomputing.org/curriculum
Rising Stars	https://www.risingstars-uk.com/series/switched-on-computing
Scratch	https://scratch.mit.edu
micro:bit Makecode	https://makecode.microbit.org
Purple Mash	https://www.purplemash.com/sch/sheldwich
UK Bebras	https://www.bebras.uk/