Computing

Aims and Purpose

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.

- 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.

Teaching, learning and planning

There are many aspects of computing: digital devices, search engines, applications, programming, multimedia, digital art, data handling, sharing data, algorithms, digital content and safety. Computing has the flexibility to be woven throughout the curriculum making links within all subjects. The teaching and learning of computing has been seen to have a positive impact on children's ability to make sense of and contribute to their world and we do not underestimate its importance.

The school regularly engages in whole school projects such as, Online Safety Week and Cyber Ambassador Training in collaboration with Hampshire's Police Crime Commissioner. The school works with experts to inspire and challenge our children to express them themselves through a variety of experiences.

A long-term plan is in place with a two-year rolling programme as we have vertically grouped classes. Classteachers plan their own medium term computing planning using the Computing progression of skills document for their year groups. Where possible, content is linked to class termly projects and the big enquiry questions. Throughout the week each class has access to the computer suite and a variety of computing equipment (IPad, bee-bot, blue-bot, data collector, recorder, camera, green screen).

After learning about a particular strand of computing, pupils will invest time in developing their computing skills, saving their work on the network or taking screenshots/photographs of their learning. All our computers and Ipads are networked, giving every pupil access to their own work on any device.

During each strand, pupils may plan and create work based on their topic and reflect on the skills they have developed throughout their learning journey. Opportunities to share their work and outcomes with members of the school community and experts are planned for.

Assessment

We encourage pupils to treat their saved learning profiles like journals, their thoughts and learning are recorded. Each child is unique and their learning profile should be unique, enabling children to develop their skills and independence in a creative computing way.

Teachers assess pupil's knowledge, understanding and skills in computing by making observations of the children working during lessons. Feedback given to pupils by their peers or teachers will be in the form of recorded verbal conversations or comment boxes next to their learning so that their work is not marked in the process. Pupils are also encouraged to be critical of their own work, identifying their own next steps.

Twice a year, pupil's work is assessed against the following strands:

- What is a computer
- communicating
- understanding and sharing data
- programming and computational thinking
- online safety and digital literacy

Assessments are used to inform and improve future practice and support children in closing gaps.

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