COMPUTING

Curriculum statement

At Drake's and Otterton C of E Primary Schools, we want our children to become resilient, positive, articulate young people who are able to make well informed life choices. We believe that this is supported by the taught curriculum, as well as the enrichment opportunities we offer our pupils.

Through the study of Computing, children will be able to develop a wide range of fundamental skills, knowledge and understanding that will equip them for the rest of their life. Computers and technology are such a part of everyday life that our children would be at a disadvantage would they not be exposed to a thorough and robust Computing curriculum.

Intent

The aim of our computing curriculum is to instil a love of the subject through a variety of plugged and unplugged experiences. We have a clear vision statement for the children in our schools which include:

- Putting computational thinking at the forefront of their learning across the curriculum.
- To become digitally literate.
- To be creative and resilient digital citizens
- Keep themselves safe in an ever-changing digital landscape
- Based on sound knowledge, build solid foundations for the world in which they will live and work.

These statements are embedded within the teaching of our computing curriculum.

It is our absolute priority that children are fully engaged in computing sessions and make good progress over time. We teach children a 'suitcase of skills' which we know and understand will be transferrable to other areas of the curriculum and will encourage creativity, logical thinking and problem solving. We are clear that children must be taught the art form of 'Computational Thinking' in order to provide them essential knowledge that will enable them to participate effectively and safely in the digital world beyond our gates.

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

Implementation

At Drake's and Otterton C of E Primary Schools, we teach computing in both explicit computing lessons and through other areas of the curriculum, fully embedding technology in everyday teaching and learning. Examples of this include the use of: Times Tables Rock Stars during maths sessions; 'garage band' in music; and quizzing in Accelerated Reader sessions.

Quality first teaching facilitates progression across all key stages within the strands of digital literacy, information technology and computer science. In KS1, one of the ways we are teaching the pupils about the language and concepts associated with computer programming is by using Bee Bots, which are simple programmable robots. Children in KS2 have access to the hardware (computers, tablets, and programmable equipment) and software that they need to develop knowledge and skills of digital systems and their applications. Our computing curriculum is rich in vocabulary and children are encouraged to 'think like a computer programmer'. We encourage all children, including our youngest children, to use the correct terminology when discussing, sharing and celebrating their learning.

We strongly believe in making computing relevant, purposeful and know how important it is to give children the opportunities to share and show their skills. For example, children are encouraged to take part in an expert assembly. This is when the children become an expert in an area of their choice e.g. fast cars. They put together a PowerPoint presentation which they then share and present to the school in an assembly. Another popular unit and good example of using computing for a purpose is when we offer our KS2 children a brief and their task is to make a game suitable for the KS1 children. The children are encouraged to carry out market research, explore current popular games and create based on what they have found out. We have also found it very powerful when the children become the teachers. We have seen great examples of this when our KS2 children teach the youngest children in the school about basic laptop skills.

Internet Safety: We strongly believe that the most important job that we have is to teach the children in our schools about how to be safe. The children are growing up in a world full of technology and, while being exciting, can lead to dangers. We take part in the annual 'internet safety day' but we feel that this is not enough. Children are taught about how to be safe using technology as part of their computing sessions at least once a half term. We are conscious that incidents involving internet safety are occasionally reported on the news and, if it is appropriate, we facilitate discussions in a child friendly manner about what has happened.

Wider Curriculum: Opportunities for the safe use of digital systems through extra-curricular provision are offered. We offer a Coding Club in both schools which has proven to be extremely popular. We have also collaborated with other schools in the Link Academy Trust to put on a Gifted and Talented computing session which was ran by a local secondary school.

Parental Communication: Parents are informed when issues relating to online safety arise and further information/support is provided if required. This can be accessed on our website.

Impact

Drake's and Otterton C of E Primary Schools strive to ensure that every child can become a confident user of technology, while being able to use it to accomplish a wide variety of goals, both at home and in school. We want the children in our schools to have a secure and comprehensive knowledge of the implications of technology and digital systems by the time they leave our school. This is so important in a society where technologies and trends are rapidly evolving. They will be able to apply the British values of democracy, tolerance, mutual respect, rule of law and liberty when using digital systems, this will hold them in great stead in their future endeavours.

We strongly believe that the skills that we teach our children in computing are transferrable to other areas of the curriculum and contribute being successful lifelong learners. For example the four cornerstones of computational thinking are:

- decomposition - breaking down a complex problem or system into smaller, more manageable parts
- pattern recognition – looking for similarities among and within problems
- abstraction – focusing on the important information only, ignoring irrelevant detail
- algorithms - developing a step-by-step solution to the problem, or the rules to follow to solve the problem

These skills are essential for solving problems both now and as they grow, whether it be mathematical, writing in different genres or even learning to drive. We are passionate in educating the 'whole child' and equipping our children with skills that they will be able to take with them and use for the rest of their lives.

The Curriculum Leader for Computing is: Mr Peter Halford

Computing in the Early Years:
It is important in the Early Years stage of schooling to give children a broad, play based experience of computing in a range of contexts, including outdoor play. Children in Early Years settings, experience a wide range of technologies throughout their play including; iPads, computers, cameras, beebots and interactive whiteboards. They use these forms of technologies to access age appropriate software, to provide opportunities for mark making as well as supporting their imaginative play, often re-enacting real life experiences both inside and outside of the classroom. Children thrive on the ability to incorporate technology into their learning and through careful planning of their continuous provision, Early Years practitioners can provide several devices for children to use competently and independently, to support child led learning. In addition to this, technology is a fantastic tool to enable children to build confidence, control and improve language development through specific online programs. Recording devices can support children to develop their communication and language skills further as well as building simple IT skills.