

# Bonneygrove Primary School Curriculum Guidance



## COMPUTING

## **INTENT**

At Bonneygrove Primary School, we understand that our pupils live in a rapidly changing world where computing plays an ever increasing role. Our Broadening Horizons Computing curriculum has been developed and made specific to the learners at Bonneygrove Primary School to equip children with the skills to adapt to new technology and give them the confidence to use computing in everyday life, through education, home and eventually future employment. Our broad and balanced computing curriculum is systematic and structured to provide the essential knowledge that children need to be educated citizens and prepare them for future success. It promotes high expectations and is delivered in a systematic and structured way, to ensure it meets the National Standards. It offers a range of opportunities for consolidation, challenge and variety. It allows children to apply the fundamental principles and concepts of computer science and is vocabulary rich, enabling them to develop analytical problem-solving skills and learn to evaluate and apply information technology across a range of subjects. Online safety is also an important part of the computing curriculum and, through our Golden Threads, we challenge our children through debates and ethics to think more widely about the implications of technology in their lives, their future and the world. It also enables them to become responsible, competent, confident and creative users of information technology.

## **Pupil Voice**

*'I like computing because I like typing things.'*

*Grace Year Two*

*'I like it because you can google stuff!'*

*Freddie Year Two*

*'It is interesting because you can use maths and coding on Google Sheets and do different things.'*

*Ella Year Six*

*I like spreadsheets on Excel because you are learning new things.'*

*Ethan Year Six*

## **IMPLEMENTATION**

The computing curriculum has been created to inspire children with a range of skills and concepts in the modern computing world. It includes a range of programming elements for both Key Stage One and Key Stage Two and incorporates key knowledge and understanding to ensure preparation of using technological devices safely and responsibly and because of the needs of children's ever emerging technology at home. Knowledge and skills are mapped across each topic and year group to ensure systematic progression. In Key Stage One, the focus is on developing the use of algorithms, programming and how technology can be used safely and purposefully. In Key Stage Two, lessons still focus on algorithms, programming and coding but in a more complex way and for different purposes. Children also develop their knowledge of computer networks, internet services and the safe and purposeful use of the internet and technology. Children have the opportunity to explore and respond to key issues such as digital communication, cyberbullying, online safety, security, plagiarism and social media. Data Handling is featured more heavily in Upper Key Stage Two. Skills learnt through Key Stage One and Lower Key Stage Two are used to support data presentation. All this provides coverage in line with the National Curriculum.

To support children in their learning, Bonneygrove Primary School has up to date technology. Each classroom has a new Clevertouch Interactive Whiteboard and a new laptop. Our children have access to hardware (ipads, chromebooks, and programmable equipment) and software that they need to develop knowledge and skills of digital systems and their applications, for many purposes across the wider curriculum, as well as discrete computing lessons. This enables children to combine common office skills with writing algorithms and using logical reasoning for a primary introduction to computer science.

## **IMPACT**

Learning in computing, will be enjoyed across the school. Teachers will have high expectations and quality evidence, will be presented in a variety of forms. Children will use digital and technological vocabulary accurately, alongside a progression in their technical skills. They will be confident using a range of hardware and software and will produce high-quality purposeful products. Children will see the digital world as part of their world extending beyond school, and understand that they have choices to make. They will be confident and respectful digital citizens going on to lead happy and healthy digital lives.

## **Role of the Subject Leader**

Computing will be led by the whole staff and will be an annual focus for a staff meeting. Standards of teaching and learning will be adjusted using work sampling and data review. The policy will be reviewed at this meeting.

## **Objectives**

The following objectives derived from the above aims will form the basis of our decisions when planning a scheme of work. Assessment will also be related to these objectives:

- to develop pupils' enjoyment and interest in computing and an appreciation of its contribution to aspects of everyday life.
- to develop children's individual computing capability and understanding
- to use electronic devices for effective and appropriate communication
- to develop computing as a tool for learning and investigation
- to equip pupils with the confidence and capability to use IT throughout their education, home and further work life
- to apply their digital literacy skills and knowledge to their learning in other areas.

## **Principles of teaching and learning**

### **Differentiation and Additional Educational Needs**

The study of computing will be planned to give pupils a suitable range of differentiated activities appropriate to their age and abilities. Tasks will be set which challenge all pupils, including the more able. For pupils with SEN the task will be adjusted or pupils may be given extra support. The grouping of pupils for practical activities will take account of their strengths and weaknesses and ensure that all take an active part in the task and gain in confidence.

### **Cultural Capital**

The computing curriculum is designed to give all pupils, particularly the disadvantaged, the knowledge and cultural capital they need to succeed in life

### **Cross-curricular skills and links**

The teaching of Computing contributes to teaching and learning in all curriculum areas. It also offers ways of impacting on learning, which are not possible with conventional methods. Teachers use software to present information visually, dynamically and interactively, so that children understand concepts more quickly. For example, graphics work links in closely with work in art, and work using databases supports work in mathematics, while role-play simulations and the Internet prove very useful for researching Horizons subjects. Computing enables children to present their information and conclusions in the most appropriate way. Quite a lot of software is generic, and can therefore be used in several curriculum areas.

English Computing is a major contributor to the teaching of English. Children's reading development is supported through Bug Club. As the children develop mouse and keyboard skills, they learn how to edit and revise text on a computer. They also learn how to improve the presentation of their work by using desktop publishing software. Children use computing in mathematics to collect data, make predictions, analyse results, and present information graphically. Screen robots allow pupils to give exact instructions for a particular route, or to use their knowledge of angles to draw a range of polygons.

Software is used to animate and model scientific concepts, and to allow children to investigate processes, which it would be impracticable to do directly in the classroom.

Computing contributes to the teaching of PSHE in that children in Computing classes learn to work together in a collaborative manner. They also develop a sense of global citizenship by using the Internet and e-mail. Through discussion of safety and other issues related to electronic communication, the children develop their own view about the use and misuse of computing, and they also gain an insight into the interdependence of computing users around the world.

### **Continuity and Progression**

Bonneygrove Primary School has a curriculum, which starts to teach pupils the key skills necessary to become young computer programmers and users/designers of a range of media. As pupils move through the key stages, the work is designed to build upon previous units studied to ensure that they are progressing and developing ever-greater skills and broadening their knowledge base.

### **Equality of Opportunity**

All children have equal access to the Computing curriculum and its associated practical activities. The SLT, Class Teachers and TAs at Bonneygrove Primary School are responsible for ensuring that all children, irrespective of gender, learning ability, physical disability, ethnicity and social circumstances, have access to the whole curriculum and make the greatest possible progress. Where appropriate, work will be adapted to meet pupils' needs and, if appropriate, extra support given. More able pupils will be given suitably challenging activities. Gender and cultural differences will be reflected positively in the teaching materials used.

All children have equal access to the Computing Curriculum, its teaching and learning, throughout any one year. This is being monitored by analysing pupil performance throughout the school to ensure that there is no disparity between groups.

### **Health and safety**

Children will not be given the responsibility of plugging in ICT equipment and trailing leads should be made safe behind equipment. All hardware will undergo annual PAT testing. Children should not work longer than an hour without a break. Staff should ensure that the children are aware of the dangers of continuous use (e.g. Eye/wrist strain)

### **Assessment for Learning, recording and reporting**

Throughout the school, teachers will assess whether children are working at/above or below the expected level for their age based on their understanding and application of the content of the National Curriculum 2014. Progress and attainment is reported to parents through parents' evenings and end of year reports.

### **Marking for Improvement (see policy)**

Much of the work done in computing lessons is of a practical or oral nature and, as such, recording will take many varied forms thus making marking different. It is, however, important that written work is marked regularly and clearly, as an aid to progression and to celebrate achievement. When appropriate, pupils may be asked to self-assess or peer assess their own or other's work.

### **Resourcing**

Each classroom has a new Clevertouch Interactive Whiteboard and a new laptop. Our children have access to hardware (ipads, chromebooks, and programmable equipment such as Beebots) and a range of different software and Apps.