

# RIVERSDALE PRIMARY SCHOOL

# Computing Policy

Date:

Review Date:

Signed: \_\_\_\_\_ (Governor)

Signed: \_\_\_\_\_ (Headteacher)



## **INTENT**

In line with the 2014 National Curriculum for Computing, our aim is to provide a high-quality computing education which equips children to use computational thinking and creativity to understand and change the world. The curriculum will teach children key knowledge about how computers and computer systems work, and how they are designed and programmed. Learners will have the opportunity to gain an understanding of computational systems of all kinds, including plugged and unplugged.

By the time they leave Riversdale Primary School children will have gained key knowledge and skills in the three main areas of the computing curriculum: computer science (programming and understanding how digital systems work), information technology (using computer systems to store, retrieve and send information) and digital literacy (evaluating digital content and using technology safely and respectfully). The objectives within each strand support the development of learning across the key stages, ensuring a solid grounding for future learning and beyond.

Through our curriculum delivery, we intend to:

- provide a relevant, challenging and enjoyable computing curriculum for all pupils
- meet the requirements of the national curriculum programmes of study for computing
- use computing as a tool to enhance learning throughout the curriculum
- respond to new developments in technology
- equip pupils with the confidence and capability to use computing throughout their later life
- enhance learning in other areas of the curriculum using computing
- develop the understanding of how to use computing safely and responsibly

## **IMPLEMENTATION**

At Riversdale Primary School, computing is taught using a half-termly project approach. This ensures that children can develop depth in their knowledge and skills over the duration of each of their computing topics. Teachers use a computing curriculum framework and progression map which has been developed using high-quality resources from providers such as Kapow Learning, Google and Barefoot Computing. This curriculum acts as a starting point for the planning of computing lessons, which allows staff to ensure that these are linked to engaging contexts in other subjects and topics whilst appealing to the interests and needs of the pupils they teach.

The school has a small set of iPads, and three portable laptop trolleys, each with a class set of laptops, to ensure that all year groups can use a range of devices and programs for many purposes across the wider curriculum, as well as in discrete computing lessons. Employing cross-curricular links motivates pupils and supports them to make connections and remember the steps they have been taught.

The implementation of the curriculum also ensures a balanced coverage of computer science, information technology and digital literacy. The children will have experiences of all three strands in each year group, but the subject knowledge imparted becomes increasingly specific and in depth, with more complex skills being taught, thus ensuring that learning is built upon. For example, children in Key Stage 1 learn what algorithms are, which leads them to the design stage of programming in Key Stage 2, where they design, write and debug programs, explaining the thinking behind their algorithms.

## **TEACHING AND LEARNING**

First and foremost, we believe in supporting pupils and families in the safe use of technology. As a National Online Safety School, we have built our curriculum around online safety and safeguarding. Therefore, each year group begins the academic year with a unit centred solely around online safety. These messages are then consistently addressed and reiterated throughout the year. Pupils are also given the opportunity to refresh their knowledge around this, address new concepts or debate ideas at the start of the Spring and Summer terms, thus ensuring that online safety remains at the forefront of their computing education. These lessons are resourced using a specific programme of lessons developed by Google which fit in with the school ethos and values and are added to by resources from the National Online Safety website.

As the aims of computing are to equip children with the skills necessary to use technology to become independent learners, the teaching style that we adopt is as active and practical as possible. While at times we do give children direct instruction on how to use hardware or software, the main emphasis of our teaching in computing is for individuals or groups of children to use computers to help them in whatever they are trying to study. So, for example, children might research a history topic on the internet (e.g., Fake news during WW2 in Year 6). Children who are learning science might use the computer to model a problem or to analyse data. We encourage the children to explore ways in which the use of computing can improve their results, for example, how a piece of writing can be edited or how the presentation of a piece of work can be improved by moving text about, etc. A programme is currently being trialled in Year 6 called Showbie. This brings the classroom together in one simple app in which pupils and teachers can record feedback, make comments, and edit work.

## **THE EARLY YEARS AND FOUNDATION STAGE**

It is important in the foundation stage to give children a broad, play-based experience of computing in a range of contexts, including outdoor play. Computing is not just about computers. Early years learning environments should feature computing scenarios based on experience in the real world, such as in role play. Children gain confidence, control and language skills through opportunities to 'paint' on the whiteboard or program a toy. Recording devices can support children to develop their communication skills. This is particularly useful with children who have English as an additional language.

### **KEY STAGE 1**

By the end of key stage 1, pupils should be taught to:

- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions
- Write and test simple programs
- Use logical reasoning to predict and computing the behaviour of simple programs
- Organise, store, manipulate and retrieve data in a range of digital formats
- Communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school

### **KEY STAGE 2**

By the end of key stage 2, pupils should be taught to:

- Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use sequence, selection, and repetition in programs; work with variables and various forms of input and output; generate appropriate inputs and predicted outputs to test programs
- Use logical reasoning to explain how a simple algorithm works and to detect and correct errors in algorithms and programs
- Understand computer networks including the Internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- Describe how Internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely
- Select, use and combine a variety of software (including Internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information

## **PLANNING**

We recognise that all classes have children with widely differing computing abilities. This is especially true when some children have access to equipment at home, while others do not. We provide suitable learning opportunities for all children by taking into consideration the needs and experience of the child. We achieve this in a variety of ways, by:

- setting common tasks which are open-ended and can have a variety of responses;
- setting tasks of increasing difficulty;

- grouping children in mixed groups/pairs in the room and setting tasks where peer learning and support can take place;
- providing resources of different complexity where appropriate;
- using teaching assistants to support the work of individual children or groups of children.

## **INCLUSION**

At Riversdale, we plan to provide for all pupils to achieve, including boys and girls, higher achieving pupils, gifted and talented pupils, those with SEN, pupils with disabilities, pupils from all social and cultural backgrounds, children who are in care and those subject to safeguarding, pupils from different ethnic groups and those from diverse linguistic backgrounds.

## **RESOURCES AND ACCESS**

The school acknowledges the need to continually maintain, update and develop its resources and to make progress towards a consistent, compatible PC system by investing in resources that will effectively deliver the strands of the national curriculum and support the use of computing across the school. Teachers are required to inform the computing leader of any faults as soon as they are noticed. Resources, if not classroom based, are located in the computer suite.

### Resources include:

- Every classroom from nursery to Year 6 has a laptop/desktop connected to the school network and an interactive whiteboard with audio and video facilities.
- There is a computer suite of 31 desktops.
- Each class teacher has been allocated an iPad for teaching and learning purposes.
- Each class from Year 1 to Year 6 has an allocated slot across the week for teaching of specific computing skills.
- The computer suite is available for use throughout the school day as part of computing lessons and for cross-curricular use.
- Pupils may use computing independently, in pairs, alongside a TA or in a group with a teacher.
- A governor will be invited to take a particular interest in computing in the school.

Along with the computers, the school has the following:

- Hardware:
  - colour printers
  - scanners
  - digital cameras
  - video recorder
  - electronic keyboard
  - calculator
  - robot (Bee-Bots)
- Software:
  - a word processing package
  - painting/drawing software
  - clip art
  - music composition package
  - a multimedia program
  - spreadsheets/database programs
  - control program
  - photo editing software
  - video editing software
  - programming software

## **CROSS CURRICULAR LINKS**

The contribution of computing to teaching in other curriculum areas:

Computing contributes to teaching and learning in all curriculum areas. For example, graphics work links in closely with work in art, and work using databases supports work in mathematics, while the Internet proves very useful for research in humanities subjects. Computing enables children to present their information and conclusions in the most appropriate way.

### English:

ICT is a major contributor to the teaching of English. Through the development of keyboard skills and the use of computers, children learn how to edit and revise text. They learn how to improve the presentation of their work by using desk-top publishing software.

### Mathematics:

Many ICT activities build upon the mathematical skills of the children. Children use computing in mathematics to collect data, make predictions, analyse results, and present information graphically. They also acquire measuring techniques involving positive and negative numbers, including decimal places.

### SMSC and Citizenship:

Computing contributes to the teaching of SMCS and citizenship as children learn to work together in a collaborative manner. They develop a sense of global citizenship by using the Internet and email. Through the discussion of moral issues related to electronic communication, children develop a view about the use and misuse, and they also gain a knowledge and understanding of the interdependence of people around the world.

## **IMPACT**

Our approach to the curriculum results in a fun, engaging, and high-quality computing education. The quality of children's learning is evident in dedicated folders on the school system. Evidence such as this is used to feed into teachers' future planning, and as a topic-based approach continues to be developed, teachers are able to revisit misconceptions and knowledge gaps in computing when teaching other curriculum areas. This supports varied paces of learning and ensures all pupils make good progress.

Much of the subject-specific knowledge developed in our computing lessons equip pupils with experiences which will benefit them in secondary school, further education and future workplaces. From research methods, use of presentation and creative tools and critical thinking, computing at Riversdale Primary School gives children the building blocks that enable them to pursue a wide range of interests and vocations in the next stage of their lives.

## **HEALTH AND SAFETY/SAFEGUARDING**

The school is aware of the health and safety issues involved in children's use of computing. All electrical appliances in school are tested accordingly. It is advised that staff should not bring their own electrical equipment in to school but if this is necessary, then the equipment must be PAT tested before being used in school. This also applies to any equipment brought into school by, for example, people running workshops, activities, etc. and it is the responsibility of the member of staff organising the workshop, etc. to advise those people. All staff should visually check electrical equipment before they use it and take any damaged equipment out of use. Damaged equipment should then be reported to the ICT technician, bursar or head teacher who will arrange for repair or disposal.

## **SECURITY**

- The ICT and Computing technician will be responsible for regularly updating anti-virus software.
- Use of computing will be in line with the school's 'acceptable use policy'. All staff, volunteers and children must sign a copy of the schools AUP.
- Parents will be made aware of the 'acceptable use policy'.
- All pupils and parents will be aware of the school rules for responsible use of computing and the Internet and will understand the consequence of any misuse.

- The agreed rules for safe and responsible use of computing and the Internet will be displayed in all computing areas.

## **MONITORING AND REVIEWING**

The monitoring of the standards of the children's work and of the quality of teaching in computing is the responsibility of the subject leader. The subject leader is also responsible for supporting colleagues in the teaching of computing, for keeping informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school. The subject leader gives the head teacher an annual summary report in which s/he evaluates the strengths and weaknesses in the subject and indicates areas for further improvement. The subject leader has specially allocated time for carrying out the vital task of reviewing samples of the children's work and for visiting classes to observe the teaching.

This policy will be reviewed at least every two years.