

Redhill Primary Academy



Computing Policy

Reviewed Summer 2021

This policy should be read in conjunction with the academy's Online Safety Policy.

Aims and Purposes

The Computing curriculum should offer opportunities for our children to:

- Develop their understanding of the fundamental principles and concepts of computer science.
- Develop their skills in using hardware and software to manipulate information in their process of problem solving, recording and expressive work.
- Develop a high quality computing education which equips them to understand and change the world through logical thinking and creativity.
- Develop their understanding of how digital systems work and to become digitally literate individuals.
- Explore their attitudes towards ICT, its value for themselves, others and society, and their awareness of its advantages and limitations.

Computer Science

Our children should acquire and develop the skills associated with computer science in order to:

- Design, write and debug 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.
- Use logical reasoning to explain how some algorithms work and 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.

Information Technology

Our children should acquire and develop skills associated with Information technology in order to:

- Use search technologies effectively.
- Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
- Acquire and refine the techniques e.g. saving, copying, and checking the accuracy of input and output needed to use ICT.
- Develop the skills of collecting first hand data, analysing and evaluating it, making inferences or predictions and testing them, drawing and presenting conclusions, and use all these in their work with ICT.

Digital Literacy

Our children should acquire and develop their skills in digital literacy in order to:

- Understand the opportunities networks offer for communication and collaboration.
- Be discerning in evaluating and presenting data and information.
- Be able to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Language and Communication

Our children should:

- Develop language skills e.g. in systematic writing and in presenting their own ideas.
- Use the appropriate technical vocabulary.
- Read non-fiction online texts and extract information from online sources.

Current Curriculum Offer

Digital Literacy is taught through Computing and PHSCE every term using the Project Evolve resources. Through this scheme of work, we cover all of the strands set out through the Education for a Connected World Framework: self-image and identity, online relationship, online reputation, online bullying, managing online information, health wellbeing and lifestyle, privacy and security and copyright and ownership. Computer science and information technology are taught using the Knowsley scheme of work which ensures a coverage of the Key Stage 1 and Key Stage 2 national curriculum objectives. For each unit, knowledge and skills unit overviews have been created which teachers should use as a reference point when planning and adapting their lessons.

Values and Attitudes

Our children should uphold the 'A Valued Me' system throughout all computing sessions and when using technology across the curriculum:

- Respect- use technology safely and respectfully to achieve specific goals.
- Friendship- work with others, listening to their ideas and expertise and treating these with respect e.g. cooperating and collaborating when using a computer or digital device as part of a group to ensure that all contribute.
- Responsibility- be responsible for and aware of the security of their own and other people's information in electronic form e.g. recognise that they should ask before reading or copying from other's work.
- Empathy- demonstrate understanding of how my online behaviour will affect others and supporting those who may experience unkind online behaviour online.
- Honesty- acknowledge the ownership of ideas and recognise the value of information held on IT systems e.g. recognising how much work has gone into producing a computer file, and how easily careless access can destroy it.
- Independence- using the key concepts and approaches of tinkering, creating, persevering, debugging and collaborating to develop computational thinking and achieve specific goals.

In addition to the 'A Valued Me' system children should:

- Recognise the importance of printed output e.g. keeping examples of work safe so that source files may be easily identified when work is developed at a later date.
- Be creative and persistent e.g. when assembling a computer file from a large amount of source material.
- Consider the origin and quality of information and its fitness for purpose.
- Evaluate critically their own and others' use of ICT.
- Recognise the strengths and limitations of ICT and its users e.g. recognising that a word processor is an effective and efficient tool to help writing, but, on occasion, handwritten text is more appropriate.
- Develop knowledge and understanding of important ideas, processes and skills and relate these to everyday experiences.

- Learn about ways of thinking and finding out about and communicating ideas; explore values and attitudes through IT.

Features of Progression

To ensure children make progress in Computing, teaching should promote opportunities for children, as they move through the Key Stage, to progress:

- From using single forms of information to combining different types of information, matching the form of presentation to the audience and what is being communicated.
- From personal use of ICT to using ICT to meet the needs of, and communicate with, others.
- From using ICT to replicate and enrich what could be done without ICT e.g. playing a word game or drawing a picture to using ICT for purposes that could not have been envisaged without it such as exploring 'what if' situations and modelling new ones.
- From using everyday language to describe work with ICT to use increasingly precise technical vocabulary and ways of recording.
- From personal use of ICT in a few areas to understanding a wider range of uses of ICT and the consequences of its use for themselves, their work and others.
- From using ICT to address a single task e.g. writing a story to address more complex issues, and balancing conflicting needs and criteria.
- From organising information as separate items e.g. single graphic image to organising information in sequences and more complicated, interactive, structures e.g. a multimedia presentation or a database.
- From initial exploration of ideas and patterns to more systematic use of ICT for analysis and design.

In choosing software, there has been a strong emphasis on software which can be used across multiple curricular areas. The challenge is not to add more software, but to ensure that software we have is used effectively. Software can be considered in the following categories:

- Microsoft productivity tools – Office (or simplified Office tools like 2Simple for younger learners), Explorer and accessories (like Paint, Photostory).
- Digital learning content – video, audio, shockwave activities. Some of this content is proprietary like Espresso and purple mash (which are content platforms on a dedicated server), but we are increasingly using web based media such as Teachers TV, LGFL, BBC clips and YouTube.
- Specific educational applications – Data logging, control technology, music/audio, simulation and French Virtual Learning Platform.
- Specific software to support learning needs (e.g. Dragonspeak, Clicker5);
- Apple software (using an iPad) (e.g. Comic Life, Garage Band, puppetpals and iMovie).

Computing Vision

At Redhill, we will deploy and use cost-effective Computing to equip learners with life skills across the curriculum. Through use of ICT, we will enrich and extend the learning experience, enable more effective classroom teaching, facilitate efficient administration and communication; and support and enable pupils to progress at the highest rate throughout their time at Redhill Primary Academy.

Management Roles

The Role of Senior Management:

The overall responsibility for the use of Computing rests with the senior leadership and management of a school. The Head Teacher and governors, in consultation with subject co-ordinator and staff:

- Determines the ways Computing should support, enrich and extend the curriculum.
- Decides the provision and allocation of resources.
- Decides ways in which developments can be assessed, and records maintained.
- Ensures that Computing is used in a way to achieve the aims and objectives of the academy.
- Ensures that there is a Computing policy, and identifies a Computing co-ordinator.

The Role of the Computing Co-ordinator:

The co-ordinator should:

- Ensure the development of a scheme of work for the Computing curriculum. This will develop the pre-requisites for the use of Computing across the curriculum.
- Promote the integration of Computing within teaching and learning activities across different subject areas, develop and monitor the contribution of different subjects to its cross-curricular use.
- Manage the provision and deployment of resources and give guidance on classroom organisation support.
- Encourage colleagues and support them in the teaching, planning and resourcing of computing.
- Act as a contact point between the school and support agencies.
- Provide limited technical expertise, drawing on the support of the ICT Technician employed by the school.
- Co-ordinate the evaluation and review of the school's Computing policy.

The Role of Subject Co-ordinators

There is a clear distinction between teaching about Computing and teaching with Computing. Subject co-ordinators plan where Computing should be used in their subject schemes of work. This involves the use of short dedicated programs that support specific learning objectives.

The Role of Class Teachers

Even though whole school co-ordination and support is essential to the development of Computing capability, it remains the responsibility of each teacher to plan appropriate Computing activities and assist the co-ordinator in the monitoring and recording of pupil progress in Computing.

Deploy and Use Cost-Effective Computing

ICT is dependent on having in place a secure, reliable, and available infrastructure across the school that is fit for purpose in line with the Computing vision and aims. The infrastructure at Redhill includes:

- Leased Line Broadband, secure with Fire wall & Endpoint Anti-Virus with content-filtering.
- Whole school Ethernet networks (curriculum and Guest VLAN).
- Curriculum digital content cache server.
- Whole school wireless network.
- Cloud based Email Services.

- Cloud based file storage for all Staff users.
- Mobile device management by Intune.
- Interactive touchscreens in each classroom.
- Projector, screen and sound system in hall with attached curriculum device.
- Sufficient laptops and computers available for pupil learning.
- Maintenance and technical support contracts to achieve reliability and availability.

Children are also provided with varied opportunities to work with non-computer technologies including:

- Digital cameras
- Digital video recorders
- Microphones
- iPads
- Controllable robots
- Digital microscopes
- Control technology equipment
- Programmable robots
- Data logging equipment
- Radio controlled toys

Specific resources may be needed for individuals with specific learning needs and these will be purchased through the SEND budget.

Using the internet

Why is Internet Use Important?

Access to the Internet is fundamental to achieving a vision for the future. It can improve the quality of education in many ways. It opens doorways to a wealth of information, knowledge, and educational resources, increasing opportunities for learning in and beyond the classroom. Teachers use online materials to prepare lessons, and students to extend their range of learning. Interactive teaching methods, supported by the Internet, enable teachers to give more attention to individual students' needs and support shared learning. This can help to rectify inequalities in education experienced by students. Access to the Internet helps educational administrators to reduce the costs and improve the quality of schools and colleges.

Educationalists are enthusiastically exploring opportunities and discovering new ways in which they can use the Internet to improve education outcomes.