Curriculum Overview for Computing

Year 4

Unit	Expectations	Computing PoS	Software/Apps	Hardware
4.1 **We are software developers** Developing a simple educational game	• Develop an educational computer game using selection and repetition. • Understand and use variables. • Start to debug computer programs. • Recognise the importance of user interface design, including consideration of input and output.	• Design, write and debug programs that accomplish specific goals. • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	**Software:** Scratch/Snap! **Apps:** Pyonkee	Laptop/desktop computer, microphones (not essential)
4.2 **We are toy designers** Prototyping an interactive toy	• Design and make an on-screen prototype of a computer-controlled toy. • Understand different forms of input and output (such as sensors, switches, motors, lights and speakers). • Design, write and debug the control and monitoring program for their toy.	• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. • Use sequence, selection, and repetition in programs; work with various forms of input and output. • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	**Software:** Scratch/Snap! **Apps:** Pyonkee	Laptops/computers, microphones and speakers, BBC micro:bit and Raspberry Pi
4.3 **We are musicians** Producing digital music	• Use one or more programs to edit music. • Create and develop a musical composition, refining their ideas through reflection and discussion. • Develop collaboration skills. • Develop an awareness of how their composition can enhance work in other media.	• Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • Understand computer networks including the internet; ... and the opportunities they offer for communication and collaboration. • Be discerning in evaluating digital content. • Select, use and combine a variety of software (including internet services) 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. • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour.	**Software:** Isle of Tune, Audacity®, LMMS/GarageBand, MuseScore (optional), SoundBox **Apps:** Isle of Tune, GarageBand	Computers or tablets, microphones, midi instruments, if available

			Software/Apps	Equipment
4.4 **We are HTML editors** Editing and writing HTML	• Understand some technical aspects of how the internet makes the web possible. • Use HTML tags for elementary mark up. • Use hyperlinks to connect ideas and sources. • Code up a simple web page with useful content. • Understand some of the risks in using the web.	• 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. • Use technology safely, respectfully and responsibly; know a range of ways to report concerns and unacceptable behaviour. • Use and combine a variety of software (including internet services) to accomplish given goals, including presenting information.	**Software:** Firefox, Brackets, Chrome developer tools **Apps:** Safari, Koder	Laptop/desktop computers
4.5 **We are co-authors** Producing a wiki	• Understand the conventions for collaborative online work, particularly in wikis. • Be aware of their responsibilities when editing other people's work. • Become familiar with Wikipedia, including potential problems associated with its use. • Practise research skills. • Write for a target audience using a wiki tool. • Develop collaboration skills. • Develop proofreading skills.	• Solve problems by decomposing them into smaller parts. • 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. • Use search technologies effectively. • Use ... a variety of software (including internet services) ... to ... create ... content ... including ... presenting information. • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**Software:** Learning platform wiki tools/ MediaWiki/Google Sites/ other hosted wiki **Apps:** Web browser (e.g. Safari), Wikipedia app	Computers and internet connection, web server (if hosting MediaWiki)
4.6 **We are meteorologists** Presenting the weather	• Understand different measurement techniques for weather, both analogue and digital. • Use computer-based data logging to automate the recording of some weather data. • Use spreadsheets to create charts • Analyse data, explore inconsistencies in data and make predictions • Practise using presentation software and, optionally, video.	• Work with variables and various forms of input and output. • Use logical reasoning to explain how some simple algorithms work. • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. • Select, use and combine a variety of software (including internet services) 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.	**Software:** Microsoft Excel®/Google Sheets, web browser, Microsoft PowerPoint®/IWB software **Apps:** Weather Station by Netatmo, Weather Station.UK, Numbers, Keynote/Explain Everything	Equipment for measuring weather