

Overview of units

Unit	Learning outcomes	Computing programme of study	Software	Hardware
4.1 We are software developers Developing a simple educational game	Pupils learn to: - 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.	Main: - Scratch Alternatives: - Snap!	- Laptop/desktop/Chromebook computers or tablets - Microphones (optional)
4.2 We are makers Coding for micro:bit	Pupils learn: - about the input – process – output model of computation - about the inputs and outputs available on a BBC micro:bit - to program using the MakeCode block-based environment - to test and debug programs they write, using an on-screen simulator and the micro:bit - how to convert and transfer a program written on screen to the micro:bit.	- 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.	Microsoft MakeCode	- Laptop/desktop computers - BBC micro:bits (with USB cables and battery packs)
4.3 We are musicians Creating a piece of music in GarageBand	Pupils learn to: - create a repeating percussion rhythm - play music using virtual instruments - compose or edit tunes using the piano roll (pitch and duration) tool - perform electronic music using pre-recorded loops, and create their own loops - create a multi-track composition or performance using multiple instruments - give feedback to others on their compositions and performances.	- Use sequence and repetition; work with various forms of input and output. - Be discerning in evaluating digital content. - Select, use and combine a variety of software on a range of digital devices to design and create a range of content that accomplishes given goals. - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour.	GarageBand	- iPads - Headphones - Musical instruments such as MIDI keyboards (optional)

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4.4 We are bloggers Sharing experiences and opinions	Pupils learn to: - become familiar with blogs as a medium and a genre of writing - create a sequence of blog posts on a theme - incorporate additional media - comment on the posts of others - develop a critical, reflective view of a range of media, including text.	- 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 a variety of software (including Internet services) on a range of digital devices to design and create a range of content that accomplish given goals. - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour.	Main: - Bloggng tool such as WordPress or Blogger - Audacity - iMovie - Camera app - Snapseed Alternatives: - Seesaw	- Laptop/desktop computers - Digital cameras - Audio recorders or tablets
4.5 We are artists Fusing geometry and art	Pupils learn to: - develop an appreciation of the links between geometry and art - become familiar with the tools and techniques of a vector graphics package - develop an understanding of turtle graphics - experiment with the tools available, refining and developing their work as they apply their own criteria to evaluate it and receive feedback from their peers - develop some awareness of computer-generated art.	- Use sequence, selection and repetition in programs; work with variables and various forms of output. - Select, use and combine a variety of software (including Internet services) on a range of digital devices to design and create a range of content that accomplish given goals.	Main: - Inkscape - Scratch Alternatives: - Vectornator X (iPad) - Google Draw (Chromebooks) - Logo	Laptop/desktop/ Chromebook computers or tablets
4.6 We are meteorologists Presenting the weather	Pupils learn to: - 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 and video software.	- 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.	Main: - Google Sheets - Google Slides Alternatives: - Microsoft Excel - Microsoft PowerPoint	- Laptop/desktop/ Chromebook computers or tablets - Smart home weather station or other equipment for measuring for weather