

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: <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> Scratch Alternatives: <ul style="list-style-type: none"> Snap! 	<ul style="list-style-type: none"> Laptop/desktop/Chromebook computers or tablets Microphones (optional)
4.2 We are makers Coding for micro:bit	Pupils learn: <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Microsoft MakeCode 	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> GarageBand 	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> Blogging tool such as WordPress or Blogger Audacity iMovie Camera app Snapseed Alternatives: <ul style="list-style-type: none"> Seesaw 	<ul style="list-style-type: none"> Laptop/desktop computers Digital cameras Audio recorders or tablets
4.5 We are artists Fusing geometry and art	Pupils learn to: <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> Inkscape Scratch Alternatives: <ul style="list-style-type: none"> Vectornator X (iPad) Google Draw (Chromebooks) Logo 	<ul style="list-style-type: none"> Laptop/desktop/ Chromebook computers or tablets
4.6 We are meteorologists Presenting the weather	Pupils learn to: <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> Google Sheets Google Slides Alternatives: <ul style="list-style-type: none"> Microsoft Excel Microsoft PowerPoint 	<ul style="list-style-type: none"> Laptop/desktop/ Chromebook computers or tablets Smart home weather station or other equipment for measuring for weather