

Overview of units

Unit	Expectations	Computing PoS	Software/Apps	Hardware
4.1 We are software developers Developing a simple educational game	<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. 	Software: Scratch/Snap! Apps: Pyonkee	Laptop/desktop computer, microphones (not essential)
4.2 We are toy designers Prototyping an interactive toy	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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

<p>4.4 We are HTML editors Editing and writing HTML</p>	<ul style="list-style-type: none"> • 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. 	<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 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. 	<p>Software: Firefox, Brackets, Chrome developer tools</p> <p>Apps: Safari, Koder</p>	<p>Laptop/desktop computers</p>
<p>4.5 We are co-authors Producing a wiki</p>	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. 	<p>Software: Learning platform wiki tools/ MediaWiki/Google Sites/ other hosted wiki</p> <p>Apps: Web browser (e.g. Safari), Wikipedia app</p>	<p>Computers and internet connection, web server (if hosting MediaWiki)</p>
<p>4.6 We are meteorologists Presenting the weather</p>	<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 software and, optionally, video. 	<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 and information. 	<p>Software: Microsoft Excel®/Google Sheets, web browser, Microsoft PowerPoint®/IWB software</p> <p>Apps: Weather Station by Netatmo, Weather Station.UK, Numbers, Keynote/Explain Everything</p>	<p>Equipment for measuring weather</p>