

# Overview of units

Unit	Expectations	Computing PoS	Software/Apps	Hardware
<p><b>4.1</b> <b>We are software developers</b> Developing a simple educational game</p>	<ul style="list-style-type: none"> <li>• Develop an educational computer game using selection and repetition.</li> <li>• Understand and use variables.</li> <li>• Start to debug computer programs.</li> <li>• Recognise the importance of user interface design, including consideration of input and output.</li> </ul>	<ul style="list-style-type: none"> <li>• Design, write and debug programs that accomplish specific goals.</li> <li>• Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</li> <li>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</li> </ul>	<p><b>Software:</b> Scratch/Snap! <b>Apps:</b> Pyonkee</p>	<p>Laptop/desktop computer, microphones (not essential)</p>
<p><b>4.2</b> <b>We are toy designers</b> Prototyping an interactive toy</p>	<ul style="list-style-type: none"> <li>• Design and make an on-screen prototype of a computer-controlled toy.</li> <li>• Understand different forms of input and output (such as sensors, switches, motors, lights and speakers).</li> <li>• Design, write and debug the control and monitoring program for their toy.</li> </ul>	<ul style="list-style-type: none"> <li>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems.</li> <li>• Use sequence, selection, and repetition in programs; work with various forms of input and output.</li> <li>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</li> </ul>	<p><b>Software:</b> Scratch/Snap! <b>Apps:</b> Pyonkee</p>	<p>Laptops/computers, microphones and speakers, BBC micro:bit and Raspberry Pi</p>
<p><b>4.3</b> <b>We are musicians</b> Producing digital music</p>	<ul style="list-style-type: none"> <li>• Use one or more programs to edit music.</li> <li>• Create and develop a musical composition, refining their ideas through reflection and discussion.</li> <li>• Develop collaboration skills.</li> <li>• Develop an awareness of how their composition can enhance work in other media.</li> </ul>	<ul style="list-style-type: none"> <li>• Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</li> <li>• Understand computer networks including the internet; ... and the opportunities they offer for communication and collaboration.</li> <li>• Be discerning in evaluating digital content.</li> <li>• 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.</li> <li>• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour.</li> </ul>	<p><b>Software:</b> Isle of Tune, Audacity®, LIMMS/ GarageBand, MuseScore (optional), SoundBox <b>Apps:</b> Isle of Tune, GarageBand</p>	<p>Computers or tablets, microphones, midi instruments, if available</p>

<p><b>4.4</b> <b>We are HTML editors</b> Editing and writing HTML</p>	<ul style="list-style-type: none"> <li>• Understand some technical aspects of how the internet makes the web possible.</li> <li>• Use HTML tags for elementary mark up.</li> <li>• Use hyperlinks to connect ideas and sources.</li> <li>• Code up a simple web page with useful content.</li> <li>• Understand some of the risks in using the web.</li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Use technology safely, respectfully and responsibly; know a range of ways to report concerns and unacceptable behaviour.</li> <li>• Use and combine a variety of software (including internet services) to accomplish given goals, including presenting information.</li> </ul>	<p><b>Software:</b> Firefox, Brackets, Chrome developer tools <b>Apps:</b> Safari, Koder</p>	<p>Laptop/desktop computers</p>
<p><b>4.5</b> <b>We are co-authors</b> Producing a wiki</p>	<ul style="list-style-type: none"> <li>• Understand the conventions for collaborative online work, particularly in wikis.</li> <li>• Be aware of their responsibilities when editing other people's work.</li> <li>• Become familiar with Wikipedia, including potential problems associated with its use.</li> <li>• Practise research skills.</li> <li>• Write for a target audience using a wiki tool.</li> <li>• Develop collaboration skills.</li> <li>• Develop proofreading skills.</li> </ul>	<ul style="list-style-type: none"> <li>• Solve problems by decomposing them into smaller parts.</li> <li>• 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.</li> <li>• Use search technologies effectively.</li> <li>• Use ... a variety of software (including internet services) ... to ... create ... content ... including ... presenting information.</li> <li>• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	<p><b>Software:</b> Learning platform wiki tools/ MediaWiki/Google Sites/ other hosted wiki <b>Apps:</b> Web browser (e.g. Safari), Wikipedia app</p>	<p>Computers and internet connection, web server (if hosting MediaWiki)</p>
<p><b>4.6</b> <b>We are meteorologists</b> Presenting the weather</p>	<ul style="list-style-type: none"> <li>• Understand different measurement techniques for weather, both analogue and digital.</li> <li>• Use computer-based data logging to automate the recording of some weather data.</li> <li>• Use spreadsheets to create charts</li> <li>• Analyse data, explore inconsistencies in data and make predictions</li> <li>• Practise using presentation software and, optionally, video.</li> </ul>	<ul style="list-style-type: none"> <li>• Work with variables and various forms of input and output.</li> <li>• Use logical reasoning to explain how some simple algorithms work.</li> <li>• Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</li> <li>• 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.</li> </ul>	<p><b>Software:</b> Microsoft Excel®/Google Sheets, web browser, Microsoft PowerPoint®/IWB software <b>Apps:</b> Weather Station by Netatmo, Weather Station.UK, Numbers, Keynote/Explain Everything</p>	<p>Equipment for measuring weather</p>