

Overview of units

Unit	Expectations	Computing PoS	Software/Apps	Hardware
<p>6.1 We are adventure gamers Making a text-based adventure game</p>	<ul style="list-style-type: none"> Learn some of the syntax of a text-based programming language. Use commands to display text on screen, accept typed user input, store and retrieve data using variables and select from a list. Plan a text-based adventure with multiple 'rooms' and user interaction. Thoroughly debug the program. 	<ul style="list-style-type: none"> Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. 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. 	<p>Software: Python (using the IDLE editor) or Trinket.io</p> <p>Apps: Pythonista or Python 3.4 for iOS (iOS), SL4A (Android), or Trinket.io via Safari or other browser</p> <p>Bluetooth keyboards are recommended for tablets</p>	<p>Laptop/desktop computers. Python is installed as standard on the Raspberry Pi.</p>
<p>6.2 We are computational thinkers Mastering algorithms for searching, sorting and mathematics</p>	<ul style="list-style-type: none"> Develop the ability to reason logically about algorithms. Understand how some key algorithms can be expressed as programs. Understand that some algorithms are more efficient than others for the same problem. Understand common algorithms for sorting and searching. Appreciate algorithmic approaches to problems in mathematics. 	<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. 	<p>Software: Scratch and Snap!</p> <p>Apps: Pyonkee, and Snap! using Safari</p>	<p>Laptop/desktop computers; some 'unplugged' resources.</p>
<p>6.3 We are advertisers Creating a short television advert</p>	<ul style="list-style-type: none"> Think critically about how video is used to promote a cause. Storyboard an effective advert for a cause. Work collaboratively to shoot suitable original footage and source additional content, acknowledging intellectual property rights. Work collaboratively to edit the assembled content to make an effective advert. 	<ul style="list-style-type: none"> 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. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 	<p>Software: Movie Maker®/iMovie</p> <p>Apps: iMovie</p>	<p>Desktop/laptop computers; digital video cameras/digital cameras/tablet computers.</p>

<p>6.4 We are network technicians Exploring computer networks including the internet</p>	<ul style="list-style-type: none"> • Appreciate that computer networks transmit and receive information digitally. • Understand the basic hardware needed for computer networks to work. • Understand key features of internet communication protocols. • Develop a basic understanding of how domain names are converted to numerical IP addresses. 	<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; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 	<p>Software: For <i>Extension</i> activities: the pupils could use the Command Prompt in Windows to access simple tools such as ping, ipconfig, nslookup, tracert. Open Visual Traceroute (or web-based equivalents) and/or a network emulator (GS3)</p> <p>Apps: Web-based equivalent tools via the browser, CISCO Packet Tracer Mobile.</p>	<p>Desktop/laptop computers; Raspberry Pi.</p>
<p>6.5 We are travel writers Using media and mapping to document a trip</p>	<ul style="list-style-type: none"> • Research a location online using a range of resources appropriately. • Understand the safe use of mobile technology, including GPS. • Capture images, audio and video while on location. • Showcase shared media content through a mapping layer. 	<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 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. • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 	<p>Software: Google Maps/Google Earth, Pixlr, Movie Maker®, Audacity, Google Sites</p> <p>Apps: Google Earth, Snapseed, iMovie, Garageband, TrackRec</p>	<p>Tablet computers and/or smartphones, desktop/laptop computers, web server or online hosting.</p>
<p>6.6 We are publishers Creating a yearbook or magazine</p>	<ul style="list-style-type: none"> • Manage or contribute to large collaborative projects, facilitated using online tools. • Write and review content. • Source digital media while demonstrating safe, respectful and responsible use. • Design and produce a high-quality print document. 	<ul style="list-style-type: none"> • Understand computer networks including the internet and the opportunities they offer for communication and collaboration. • 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. • Use technology safely, respectfully and responsibly. 	<p>Software: Microsoft Publisher/Scribus/iBook Author, Pixlr, Microsoft Word/Google Docs, Adobe Acrobat, Google Drive</p> <p>Apps: Pages/Book Creator, Snapseed, Google Drive</p>	<p>Laptop/desktop computers, digital cameras, iPads.</p>