Overview of units

Unit	Expectations	Computing PoS	Software/Apps	Hardware
6.1 **We are adventure gamers** Making a text-based adventure game	• 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.	• 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.	**Software:** Python (using the IDLE editor) or trinket.io **Apps:** Pythonista or Python 3.4 for iOS (iOS), SL4A (Android), or trinket.io via Safari or other browser Bluetooth keyboards are recommended for tablets	Laptop/desktop computers. Python is installed as standard on the Raspberry Pi.
6.2 **We are computational thinkers** Mastering algorithms for searching, sorting and mathematics	• 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.	• 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 and Snap! **Apps:** Pyonkee, and Snap! using Safari	Laptop/desktop computers; some 'unplugged' resources.
6.3 **We are advertisers** Creating a short television advert	• 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.	• 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.	**Software:** Movie Maker®/iMovie **Apps:** iMovie	Desktop/laptop computers; digital video cameras/digital cameras/tablet computers.

			Software	Hardware
6.4 **We are network technicians** Exploring computer networks including the internet	• 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.	• 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.	**Software:** For *Extension* 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) **Apps:** Web-based equivalent tools via the browser, CISCO Packet Tracer Mobile.	Desktop/laptop computers; Raspberry Pi.
6.5 **We are travel writers** Using media and mapping to document a trip	• 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.	• 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.	**Software:** Google Maps/Google Earth, Pixlr, Movie Maker®, Audacity, Google Sites **Apps:** Google Earth, Snapseed, iMovie, Garageband, TrackRec	Tablet computers and/ or smartphones, desktop/laptop computers, web server or online hosting.
6.6 **We are publishers** Creating a yearbook or magazine	• 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.	• 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.	**Software:** Microsoft Publisher/Scribus/ iBook Author, Pixlr, Microsoft Word/ Google Docs, Adobe Acrobat, Google Drive **Apps:** Pages/Book Creator, Snapseed, Google Drive	Laptop/desktop computers, digital cameras, iPads.