

Overview of units

Unit	Expectations	Computing PoS	Software/Apps	Hardware
5.1 We are game developers Developing an interactive game	<ul style="list-style-type: none"> • Create original artwork and sound for a game. • Design and create a computer program for a computer game, which uses sequence, selection, repetition and variables. • Detect and correct errors in their computer game. • Use iterative development techniques (making and testing a series of small changes) to improve their game. 	<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. • 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... 	Software: Scratch/Snap! (or Kodu) Apps: Pyonkee	Desktop/laptop computers, microphones
5.2 We are cryptographers Cracking codes	<ul style="list-style-type: none"> • Be familiar with semaphore and Morse code. • Understand the need for private information to be encrypted. • Encrypt and decrypt messages in simple ciphers. • Appreciate the need to use complex passwords and to keep them secure. • Have some understanding of how encryption works on the web. 	<ul style="list-style-type: none"> • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. • 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: Scratch 2.0/Snap!, The Black Chamber (website) Apps: The Black Chamber in the web browser, Pyonkee	Laptop/desktop computers
5.3 We are artists Fusing geometry and art	<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, in particular fractal-based landscapes. 	<ul style="list-style-type: none"> • 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. • 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. 	Software: Inkscape/Adobe Illustrator/CorelDRAW, Scratch/Snap!, Terragen, Logo Apps: Adobe Ideas/neu.draw, Pyonkee, i-Logo	Laptop or desktop computers/tablets

<p>5.4 We are web developers Creating a website about cyber safety</p>	<ul style="list-style-type: none"> • Develop their research skills to decide what information is appropriate. • Understand some elements of how search engines select and rank results. • Question the plausibility and quality of information. • Develop and refine their ideas and text collaboratively. • Develop their understanding of online safety and responsible use of technology. 	<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, Bing, Google Sites/wiki tool in the school's learning platform/WordPress/Adobe Slate</p> <p>Apps: Google Search app, Google Sites via browser/WordPress/Adobe Slate</p>	<p>Desktop or laptop computers/tablets</p>
<p>5.5 We are bloggers Sharing experiences and opinions</p>	<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. • 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. • ... be discerning in evaluating digital content. 	<p>Software: WordPress/Blogger/learning platform blogging tool or similar, GIMP, Audacity®, Microsoft Windows Movie Maker®</p> <p>Apps: WordPress, Camera, Snapseed</p>	<p>Computers, digital cameras, audio recorders/tablets</p>
<p>5.6 We are architects Creating a virtual space</p>	<ul style="list-style-type: none"> • Understand the work of architects, designers and engineers working in 3D. • Develop familiarity with a simple CAD (computer aided design) tool. • Develop spatial awareness by exploring and experimenting with a 3D virtual environment. • Develop greater aesthetic awareness. 	<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. 	<p>Software: Trimble SketchUp (used for 3D modelling), Screencast-o-matic (for final screencast), Minecraft</p> <p>Apps: Home Design 3D/3dVAS, Sketchup Viewer</p>	<p>Laptops/computers</p>