Overview of units

Unit	Expectations	Computing PoS	Software/Apps	Hardware
1.1 **We are treasure hunters** Using programmable toys	• Understand that a programmable toy can be controlled by inputting a sequence of instructions. • Develop and record sequences of instructions as an algorithm. • Program the toy to follow their algorithm. • Debug their programs. • Predict how their programs will work.	• Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. • Create and debug simple programs. • Use logical reasoning to predict the behaviour of simple programs. • Recognise common uses of information technology beyond school.	**Software:** Programming interface for programmable toy **Apps:** Bee-Bot app; Daisy the Dinosaur	Programmable toy, such as a Bee-Bot or Roamer Too. Audio recorders are needed for the first step (your phone may be sufficient)
1.2 **We are TV chefs** Filming the steps of a recipe	• Break down a process into simple, clear steps, as in an algorithm. • Use different features of a video camera. • Use a video camera to capture moving images. • Develop collaboration skills. • Discuss their work and think about how it could be improved.	• Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. • Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • Recognise common uses of information technology beyond school. • Use logical reasoning to predict the behaviour of simple programs.	**Software:** Microsoft Paint, Microsoft Windows Live Movie Maker®/iMovie for OS X **Apps:** Brushes, iMovie	Computers, cameras with movie mode/tablets
1.3 **We are painters** Illustrating an eBook	• Use the web safely to find ideas for an illustration. • Select and use appropriate painting tools to create and change images on the computer. • Understand how this use of ICT differs from using paint and paper. • Create an illustration for a particular purpose. • Know how to save, retrieve and change their work. • Reflect on their work and act on feedback received.	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • Recognise common uses of information technology beyond school. • Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	**Software:** Tux Paint/Microsoft Paint/2Simple 2Paint A Picture, IWB software, Microsoft Word®, Microsoft PowerPoint® **Apps:** Brushes, SketchBook Express	Laptop/desktop computers or tablets

1.4 **We are collectors** Finding images using the web	• Find and use pictures on the web. • Know what to do if they encounter pictures that cause concern. • Group images on the basis of a binary (yes/no) question. • Organise images into more than two groups according to clear rules. • Sort (order) images according to some criteria. • Ask and answer binary (yes/no) questions about their images.	• Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. • Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. • Recognise common uses of information technology beyond school.	**Software:** Web browser, Microsoft PowerPoint® or IWB Software **Apps:** Web browser, Keynote or Explain Everything	Internet connection, laptop/desktop computers
1.5 **We are storytellers** Producing a talking book	• Use sound recording equipment to record sounds. • Develop skills in saving and storing sounds on the computer. • Develop collaboration skills as they work together in a group. • Understand how a talking book differs from a paper-based book. • Talk about and reflect on their use of ICT. • Share recordings with an audience.	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • Recognise common uses of information technology beyond school. • Use technology safely and respectfully ...	**Software:** Microsoft PowerPoint®/2Create A Story/IWB software **Apps:** Keynote/Explain Everything/Voice Memo	Computers/tablets, MP3 recorders/microphones
1.6 **We are celebrating** Creating a card digitally	• Develop basic keyboard skills, through typing and formatting text. • Develop basic mouse skills. • Use the web to find and select images. • Develop skills in storing and retrieving files. • Develop skills in combining text and images. • Discuss their work and think about whether it could be improved.	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • Recognise common uses of information technology beyond school. • Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	**Software:** Microsoft PowerPoint®/Microsoft Word®/Clicker 6, Microsoft Paint/2Paint A Picture **Apps:** Pages/Keynote	Laptops/computers/tablets, printer

Overview of units

Unit	Expectations	Computing PoS	Software/Apps	Hardware
2.1 **We are astronauts** Programming on screen	• Have a clear understanding of algorithms as sequences of instructions. • Convert simple algorithms to programs. • Predict what a simple program will do. • Spot and fix (debug) errors in their programs.	• Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. • Create and debug simple programs. • Use logical reasoning to predict the behaviour of simple programs.	**Software:** Scratch, Kodu, Scratch Jr **Apps:** Hopscotch, Daisy the Dinosaur	Programmable toy, such as a Bee-Bot or Roamer Too
2.2 **We are games testers** Exploring how computer games work	• Describe carefully what happens in computer games. • Use logical reasoning to make predictions of what a program will do. • Test these predictions. • Think critically about computer games and their use. • Be aware of how to use games safely and in balance with other activities.	• Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. • Use logical reasoning to predict the behaviour of simple programs. • Recognise common uses of information technology beyond school. • Use technology safely and respectfully, keeping personal information private.	**Software:** Scratch, Screencast-o-matic, web-based or open source games, pupils' games **Apps:** Snap! in the browser; free game apps	Desktop/laptop computers, IWB, internet connection; optionally, MP3 recorders, pupils' own game consoles
2.3 **We are photographers** Taking better photos	• Consider the technical and artistic merits of photographs. • Use a digital camera or camera app. • Take digital photographs. • Review and reject or rate the images they take. • Edit and enhance their photographs. • Select their best images to include in a shared portfolio.	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • Recognise common uses of information technology beyond school. • Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	**Software:** Picasa, Pixlr **Apps:** iPhoto, Snapseed	Desktop or laptop computers and digital cameras/tablets/smartphones

2.4 **We are researchers** Researching a topic	• Develop collaboration skills through working as part of a group. • Develop research skills through searching for information on the internet. • Improve note-taking skills through the use of mind mapping. • Develop presentation skills through creating and delivering a short multimedia presentation.	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • Recognise common uses of information technology beyond school. • Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	**Software:** FreeMind, Bitly, Google Custom Search, web browser, Microsoft PowerPoint® **Apps:** iThoughtsHD, Safari, Keynote	Laptop or desktop computers or tablets, internet connection
2.5 **We are detectives** Collecting clues	• Understand that email can be used to communicate. • Develop skills in opening, composing and sending emails. • Gain skills in opening and listening to audio files on the computer. • Use appropriate language in emails. • Develop skills in editing and formatting text in emails. • Be aware of e-safety issues when using email.	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • Recognise common uses of information technology beyond school. • Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	**Software:** Your school's email system, Microsoft Excel® **Apps:** Mail, Numbers	Desktop or laptop computers or tablets; network access
2.6 **We are zoologists** Collecting data about bugs	• Sort and classify a group of items by answering questions. • Collect data using tick charts or tally charts. • Use simple charting software to produce pictograms and other basic charts. • Take, edit and enhance photographs. • Record information on a digital map.	• Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • Recognise common uses of information technology beyond school. • Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	**Software:** Microsoft Excel®/ IWB software, Picasa/Photo Gallery, Google Maps Engine/Google Earth **Apps:** Numbers, Snapseed, RunKeeper	Desktop or laptop computers with digital cameras/tablets, internet connection

Overview of units

Unit	Expectations	Computing PoS	Software/Apps	Hardware
3.1 **We are programmers** Programming an animation	• Create an algorithm for an animated scene in the form of a storyboard. • Write a program in Scratch to create the animation. • Correct mistakes in their animation programs.	• Design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts. • Use sequence ... in programs; work with variables and various forms of input and output. • Use logical reasoning to detect and correct errors in algorithms and programs. • Select, use and combine a variety of software ... to design and create ... content that accomplish(es) given goals, including ... presenting ... information.	**Software:** Scratch (recommended) or Microsoft PowerPoint® **Apps:** Snap! in a web browser	Laptop or desktop computers (recommended) or tablets, cameras (optional), microphones (optional)
3.2 **We are bug fixers** Finding and correcting bugs in programs	• Develop a number of strategies for finding errors in programs. • Build up resilience and strategies for problem solving. • Increase their knowledge and understanding of Scratch. • Recognise a number of common types of bug in software.	• 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 2.0, Screencast-o-matic (if appropriate) **Apps:** Snap! in the web browser (Scratch requires Adobe Flash® Player, which is not available on iPad)	Laptop/desktop computers, microphone (if appropriate)
3.3 **We are presenters** Videoing performance	• Gain skills in shooting live video, such as framing shots, holding the camera steady, and reviewing. • Edit video, including adding narration and editing clips by setting in/out points. • Understand the qualities of effective video, such as the importance of narrative, consistency, perspective and scene length.	• 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. • Work with various forms of input and output. • Use technology safely, respectfully and responsibly.	**Software:** Microsoft Windows Movie Maker® or iMovie **Apps:** iMovie	Digital cameras, flip cameras (or similar), tablet computers/iPod Touch or similar

3.4 **We are network engineers** Exploring computer networks, including the internet	• Understand the physical hardware connections necessary for computer networks to work. • Understand some features of internet protocols. • Understand some diagnostic tools for investigating network connections. • Develop a basic understanding of how domain names are converted to IP addresses.	• Understand computer networks, including the internet; how they can provide multiple services. • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**Software:** Simple diagnostic tools accessed via the command prompt: ping, ipconfig, nslookup, tracert/equivalent web-based tools **Apps:** Web-based equivalent tools via a web browser	Desktop or laptop computer/Raspberry Pi
3.5 **We are communicators** Communicating safely on the internet	• Develop a basic understanding of how email works. • Gain skills in using email. • Be aware of broader issues surrounding email, including 'netiquette' and e-safety. • Work collaboratively with a remote partner. • Experience video conferencing.	• 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.	**Software:** Email system (your school's own system, Gmail or another system), video conferencing software (Skype, Google Hangouts or Janet video conferencing), presentation software **Apps:** Skype, FaceTime	Webcam and speakers
3.6 **We are opinion pollsters** Collecting and analysing data	• Understand some elements of survey design. • Understand some ethical and legal aspects of online data collection. • Use the web to facilitate data collection. • Gain skills in using charts to analyse data. • Gain skills in interpreting results.	• 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. • 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.	**Software:** Web browser, Google Forms, Google Sheets and Google Slides/ InspireData®/Microsoft Excel® and Microsoft Word® **Apps:** Google Drive/web browser	Laptop or desktop computer with internet connection

Overview of units

Unit	Expectations	Computing PoS	Software/Apps	Hardware
4.1 **We are software developers** Developing a simple educational game	• 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.	• 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:** Snap! in the web browser (Scratch requires Flash, which is not available on iPad)	Laptop/desktop computer, microphones (not essential)
4.2 **We are toy designers** Prototyping an interactive toy	• 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.	• 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 **Apps:** Web browser and Snap!	Laptops/computers, microphones and speakers
4.3 **We are musicians** Producing digital music	• 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.	• 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) **Apps:** Isle of Tune, GarageBand	Computers or tablets, microphones, midi instruments, if available

4.4 **We are HTML editors** Editing and writing HTML	• 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.	• 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.	**Software:** Firefox, Brackets **Apps:** Safari, Koder	Laptop/desktop computers
4.5 **We are co-authors** Producing a wiki	• 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.	• 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.	**Software:** Learning platform wiki tools/ MediaWiki/Google Sites/ other hosted wiki **Apps:** Web browser (e.g. Safari), Wikipedia app	Computers and internet connection, web server (if hosting MediaWiki)
4.6 **We are meteorologists** Presenting the weather	• 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.	• 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.	**Software:** Microsoft Excel®/Google Sheets, web browser, Microsoft PowerPoint®/IWB software **Apps:** Weather Station by Netatmo, Weather Station.UK, Numbers	Equipment for measuring weather

Overview of units

Unit	Expectations	Computing PoS	Software/Apps	Hardware
5.1 **We are game developers** Developing an interactive game	• 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.	• 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 (or Kodu) **Apps:** Snap! in the web browser (Scratch requires Flash, which is not available on iPad)	Desktop/laptop computers, microphones
5.2 **We are cryptographers** Cracking codes	• 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.	• 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, The Black Chamber (website) **Apps:** Snap!, The Black Chamber in the web browser (Safari)	Laptop/desktop computers
5.3 **We are artists** Fusing geometry and art	• 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.	• 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, Terragen Classic, Logo **Apps:** Adobe Ideas/neu. draw, Snap!	Laptop or desktop computers/tablets

5.4 **We are web developers** Creating a website about cyber safety	• 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 e-safety and responsible use of technology.	• 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, Bing, Google Sites/wiki tool in the school's learning platform/WordPress **Apps:** Google Search app, Google Sites via browser	Desktop or laptop computers/tablets
5.5 **We are bloggers** Sharing experiences and opinions	• 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.	• 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.	**Software:** WordPress/ Blogger/learning platform blogging tool or similar, GIMP, Audacity®, Microsoft Windows Movie Maker® **Apps:** WordPress, Camera, Snapseed	Computers, digital cameras, audio recorders/tablets
5.6 **We are architects** Creating a virtual space	• 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.	• 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.	**Software:** Trimble SketchUp (used for 3D modelling), Screencast-o-matic (for final screencast) **Apps:** Home Design 3D/3dVAS	Laptops/ computers

Overview of units

Unit	Expectations	Computing PoS	Software/Apps	Hardware
6.1 **We are app planners** Planning the creation of a mobile app	• Develop an awareness of the capabilities of smartphones and tablets. • Understand geolocation, including GPS. • Identify interesting, solvable problems. • Evaluate competing products. • Pitch a proposal for a smartphone or tablet app.	• 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. • Work with ... various forms of input and output.	**Software:** App Inventor/ TouchDevelop, Picasa Web, Google Drive Presentation or similar **Apps:** Codea, TouchDevelop	Computers and tablets or smartphones (can be done with a phone emulator)
6.2 **We are project managers** Developing project management skills	• Scope a project to identify different components that must be successfully combined. • Identify their existing talents and plan how they can develop further knowledge and skills. • Identify the component tasks of a project and develop a timeline to track progress. • Identify the resources they'll need to accomplish a project. • Use web-based research skills to source tools, content and other resources. • Consider strategies to ensure the quality of a collaborative project.	• Solve problems by decomposing them into smaller parts. • 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. • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	**Software:** Google Apps for Education/ VLE/GitHub/Basecamp **Apps:** Web browser (Safari)	Laptop or desktop computers, internet access
6.3 **We are market researchers** Researching the app market	• Create a set of good survey questions. • Analyse the data obtained from a survey. • Work collaboratively to plan questions. • Conduct an interview or focus group. • Analyse and interpret the information obtained from interviews or a focus group. • Present their research findings.	• 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 Drive applications/ Microsoft Office, Microsoft Windows Movie Maker® **Apps:** Web browser, Keynote, iMovie	Laptop/desktop computers, internet access

6.4 **We are interface designers** Designing an interface for an app	• Work collaboratively to design the app's interface. • Use wireframing tools to create a design prototype of their app. • Develop or source the individual interface components (media assets) they will use. • Address accessibility and inclusion issues. • Document their design decisions and the process they've followed.	• 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, including collecting, analysing, evaluating and presenting data and information. • Be discerning in evaluating digital content. • Recognise acceptable/unacceptable behaviour.	**Software:** Justinmind Prototyper/Pencil Project/Microsoft PowerPoint® **Apps:** SketchyPad or iMockups (pay-for apps)	Laptop/desktop/ tablets
6.5 **We are app developers** Developing a simple mobile phone app	• Become familiar with another programming toolkit or development platform. • Import existing media assets to their project. • Write down the algorithms for their app. • Program, debug and refine the code for their app. • Thoroughly test and evaluate their app.	• 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, including collecting, analysing, evaluating and presenting data and information.	**Software:** App Inventor/ TouchDevelop **Apps:** TouchDevelop/ Codea	Computers and tablets/ smartphones/ phone emulator
6.6 **We are marketeers** Creating video and web copy for a mobile phone app	• Consider key marketing messages, including identifying a unique selling point. • Develop a printed flyer or brochure incorporating text and images. • Further develop knowledge, skills and understanding in relation to creating a website. • Further develop skills relating to shooting and editing video.	• 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) … to design and create … content that accomplishes given goals, including collecting, analysing, evaluating and presenting ... information. • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**Software:** Microsoft Publisher™, WordPress/Google Sites, Movie Maker® and other programs chosen by the pupils **Apps:** Pages, WordPress, iMovie and other apps chosen by the pupils	Laptops/ desktop computers, cameras