

# Whybridge Junior School



## Computing New National Curriculum 2014 Planning Document

Unit	Title	Unit summary	Computing Programme of Study focus	Suggested software/hardware
1.1	We are treasure hunters	Using programmable toys	Programming	Programmable toys
1.2	We are TV chefs	Filming a recipe	Computational thinking	Word/Movie Maker/iMovie/Adobe Premier Elements
1.3	We are painters	Illustrating an eBook	Creativity	Tux Paint/Paint/2Paint/Word
1.4	We are collectors	Finding images using the web	Computer networks	Internet browser/PowerPoint or IWB software
1.5	We are storytellers	Producing a talking book	Communication/Collaboration	PowerPoint/Photostory/Clicker 5
1.6	We are celebrating	Creating a card electronically	Productivity	PowerPoint/Word/Clicker 5
2.1	We are astronauts	Programming on screen	Programming	Scratch
2.2	We are games testers	Exploring how computer games work	Computational thinking	Selection of free online games
2.3	We are photographers	Taking, selecting and editing digital images	Creativity	Picasa/Pixelr/Picasa Web/Photoshop Elements
2.4	We are researchers	Researching a topic	Computer networks	FreeMind/Linkbunch/PowerPoint
2.5	We are detectives	Communicating clues	Communication/Collaboration	Email software/Word
2.6	We are zoologists	Recording bug hunt data	Productivity	PowerPoint/Excel/2Count
3.1	We are programmers	Programming an animation	Programming	Scratch/Snap!/PowerPoint
3.2	We are bug fixers	Finding and correcting bugs in programs	Computational thinking	Scratch/Snap!
3.3	We are presenters	Videoring performance	Creativity	Movie Maker/Adobe Premier Elements/iMovie
3.4	We are network engineers	Exploring computer networks, including the internet	Computer networks	Access to school network and command prompt
3.5	We are communicators	Communicating safely on the internet	Communication/Collaboration	Email software/Video conferencing software/webcam
3.6	We are opinion pollsters	Collecting and analysing data	Productivity	Excel/InspireData/Google Drive
4.1	We are software developers	Developing a simple educational game	Programming	Scratch/2DIY/Snap!
4.2	We are toy makers	Prototyping an interactive toy	Computational thinking	Arduino/Lego WeDo/Scratch
4.3	We are musicians	Producing digital music	Creativity	JamStudio/GarageBand/Audacity/LMMS
4.4	We are HTML editors	Editing and writing HTML	Computer networks	Brackets/Notepad/Kompozer
4.5	We are co-authors	Producing a wiki	Communication/Collaboration	MediaWiki/PBWorks/Google Sites
4.6	We are meteorologists	Presenting the weather	Productivity	Excel/Google Drive/PowerPoint/IWB Software
5.1	We are game developers	Developing an interactive game	Programming	Scratch/2DIY/Snap!/Kodu
5.2	We are cryptographers	Cracking codes	Computational thinking	Scratch/Snap!/Excel
5.3	We are artists	Fusing geometry and art	Creativity	Scratch/Inkscape/Illustrator
5.4	We are web developers	Creating a web page about cyber safety	Computer networks	Google Sites/PBWorks/MediaWiki
5.5	We are bloggers	Sharing experiences and opinions	Communication/Collaboration	Wordpress/Blogger
5.6	We are architects	Creating a virtual space	Productivity	SketchUp/Picasa Web
6.1	We are app planners	Planning the creation of a mobile app	Computer networks	App Inventor/App Shed/Codea/PhoneGap
6.2	We are project managers	Developing project management skills	Computational thinking	MS Project/Basecamp
6.3	We are market researchers	Researching the app market	Productivity	Open Office Calc/Google Docs/InspireData
6.4	We are interface designers	Designing an interface for an app	Communication/Collaboration	Balsamiq/Justinmind
6.5	We are app developers	Developing a simple mobile phone app	Programming	App Inventor/App Shed/Codea/PhoneGap
6.6	We are marketers	Creating video and web copy for a mobile phone app	Creativity	Movie Maker/Adobe Premier Elements/iMovie/WeVideo

## Overview of units

Unit	Expectations	Computing PoS	Software/Apps	Hardware
<b>3.1</b> <b>We are programmers</b> Programming an animation	<ul style="list-style-type: none"> <li>• Create an algorithm for an animated scene in the form of a storyboard.</li> <li>• Write a program in Scratch to create the animation.</li> <li>• Correct mistakes in their animation programs.</li> </ul>	<ul style="list-style-type: none"> <li>• Design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts.</li> <li>• Use sequence ... in programs; work with variables and various forms of input and output.</li> <li>• Use logical reasoning to detect and correct errors in algorithms and programs.</li> <li>• Select, use and combine a variety of software ... to design and create ... content that accomplish(es) given goals, including ... presenting ... information.</li> </ul>	<b>Software:</b> Scratch (recommended) or Microsoft PowerPoint® <b>Apps:</b> Snap! in a web browser	Laptop or desktop computers (recommended) or tablets, cameras (optional), microphones (optional)
<b>3.2</b> <b>We are bug fixers</b> Finding and correcting bugs in programs	<ul style="list-style-type: none"> <li>• Develop a number of strategies for finding errors in programs.</li> <li>• Build up resilience and strategies for problem solving.</li> <li>• Increase their knowledge and understanding of Scratch.</li> <li>• Recognise a number of common types of bug in software.</li> </ul>	<ul style="list-style-type: none"> <li>• 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>	<b>Software:</b> Scratch 2.0, Screencast-o-matic (if appropriate) <b>Apps:</b> Snap! in the web browser (Scratch requires Adobe Flash® Player, which is not available on iPad)	Laptop/desktop computers, microphone (if appropriate)
<b>3.3</b> <b>We are presenters</b> Videoing performance	<ul style="list-style-type: none"> <li>• Gain skills in shooting live video, such as framing shots, holding the camera steady, and reviewing.</li> <li>• Edit video, including adding narration and editing clips by setting in/out points.</li> <li>• Understand the qualities of effective video, such as the importance of narrative, consistency, perspective and scene length.</li> </ul>	<ul style="list-style-type: none"> <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>• Work with various forms of input and output.</li> <li>• Use technology safely, respectfully and responsibly.</li> </ul>	<b>Software:</b> Microsoft Windows Movie Maker® or iMovie <b>Apps:</b> iMovie	Digital cameras, flip cameras (or similar), tablet computers/iPod Touch or similar

<p><b>3.4</b> <b>We are network engineers</b> Exploring computer networks, including the internet</p>	<ul style="list-style-type: none"> <li>• Understand the physical hardware connections necessary for computer networks to work.</li> <li>• Understand some features of internet protocols.</li> <li>• Understand some diagnostic tools for investigating network connections.</li> <li>• Develop a basic understanding of how domain names are converted to IP addresses.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand computer networks, including the internet; how they can provide multiple services.</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> Simple diagnostic tools accessed via the command prompt: ping, ipconfig, nslookup, tracert/equivalent web-based tools</p> <p><b>Apps:</b> Web-based equivalent tools via a web browser</p>	<p>Desktop or laptop computer/Raspberry Pi</p>
<p><b>3.5</b> <b>We are communicators</b> Communicating safely on the internet</p>	<ul style="list-style-type: none"> <li>• Develop a basic understanding of how email works.</li> <li>• Gain skills in using email.</li> <li>• Be aware of broader issues surrounding email, including 'netiquette' and e-safety.</li> <li>• Work collaboratively with a remote partner.</li> <li>• Experience video conferencing.</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>• 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; identify a range of ways to report concerns about content and contact.</li> </ul>	<p><b>Software:</b> Email system (your school's own system, Gmail or another system), video conferencing software (Skype, Google Hangouts or Janet video conferencing), presentation software</p> <p><b>Apps:</b> Skype, FaceTime</p>	<p>Webcam and speakers</p>
<p><b>3.6</b> <b>We are opinion pollsters</b> Collecting and analysing data</p>	<ul style="list-style-type: none"> <li>• Understand some elements of survey design.</li> <li>• Understand some ethical and legal aspects of online data collection.</li> <li>• Use the web to facilitate data collection.</li> <li>• Gain skills in using charts to analyse data.</li> <li>• Gain skills in interpreting results.</li> </ul>	<ul style="list-style-type: none"> <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>• 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> </ul>	<p><b>Software:</b> Web browser, Google Forms, Google Sheets and Google Slides/InspireData<sup>®</sup>/Microsoft Excel<sup>®</sup> and Microsoft Word<sup>®</sup></p> <p><b>Apps:</b> Google Drive/web browser</p>	<p>Laptop or desktop computer with internet connection</p>

## Overview of units

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

<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 <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</p>	<p>Equipment for measuring weather</p>

## Overview of units

Unit	Expectations	Computing PoS	Software/Apps	Hardware
<b>5.1</b> <b>We are game developers</b> Developing an interactive game	<ul style="list-style-type: none"> <li>• Create original artwork and sound for a game.</li> <li>• Design and create a computer program for a computer game, which uses sequence, selection, repetition and variables.</li> <li>• Detect and correct errors in their computer game.</li> <li>• Use iterative development techniques (making and testing a series of small changes) to improve their game.</li> </ul>	<ul style="list-style-type: none"> <li>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</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> <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...</li> </ul>	<b>Software:</b> Scratch (or Kodu) <b>Apps:</b> Snap! in the web browser (Scratch requires Flash, which is not available on iPad)	Desktop/laptop computers, microphones
<b>5.2</b> <b>We are cryptographers</b> Cracking codes	<ul style="list-style-type: none"> <li>• Be familiar with semaphore and Morse code.</li> <li>• Understand the need for private information to be encrypted.</li> <li>• Encrypt and decrypt messages in simple ciphers.</li> <li>• Appreciate the need to use complex passwords and to keep them secure.</li> <li>• Have some understanding of how encryption works on the web.</li> </ul>	<ul style="list-style-type: none"> <li>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</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 technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	<b>Software:</b> Scratch 2.0, The Black Chamber (website) <b>Apps:</b> Snap!, The Black Chamber in the web browser (Safari)	Laptop/desktop computers
<b>5.3</b> <b>We are artists</b> Fusing geometry and art	<ul style="list-style-type: none"> <li>• Develop an appreciation of the links between geometry and art.</li> <li>• Become familiar with the tools and techniques of a vector graphics package.</li> <li>• Develop an understanding of turtle graphics.</li> <li>• 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.</li> <li>• Develop some awareness of computer-generated art, in particular fractal-based landscapes.</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>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</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>	<b>Software:</b> Inkscape/ Adobe Illustrator/ CorelDRAW, Scratch, Terragen Classic, Logo <b>Apps:</b> Adobe Ideas/neu. draw, Snap!	Laptop or desktop computers/tablets

<p><b>5.4</b> <b>We are web developers</b> Creating a website about cyber safety</p>	<ul style="list-style-type: none"> <li>• Develop their research skills to decide what information is appropriate.</li> <li>• Understand some elements of how search engines select and rank results.</li> <li>• Question the plausibility and quality of information.</li> <li>• Develop and refine their ideas and text collaboratively.</li> <li>• Develop their understanding of e-safety and responsible use of technology.</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 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> <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> Google, Bing, Google Sites/wiki tool in the school's learning platform/WordPress</p> <p><b>Apps:</b> Google Search app, Google Sites via browser</p>	<p>Desktop or laptop computers/tablets</p>
<p><b>5.5</b> <b>We are bloggers</b> Sharing experiences and opinions</p>	<ul style="list-style-type: none"> <li>• Become familiar with blogs as a medium and a genre of writing.</li> <li>• Create a sequence of blog posts on a theme.</li> <li>• Incorporate additional media.</li> <li>• Comment on the posts of others.</li> <li>• Develop a critical, reflective view of a range of media, including text.</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>• 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; identify a range of ways to report concerns about content and contact.</li> <li>• ... be discerning in evaluating digital content.</li> </ul>	<p><b>Software:</b> WordPress/Blogger/learning platform blogging tool or similar, GIMP, Audacity®, Microsoft Windows Movie Maker®</p> <p><b>Apps:</b> WordPress, Camera, Snapseed</p>	<p>Computers, digital cameras, audio recorders/tablets</p>
<p><b>5.6</b> <b>We are architects</b> Creating a virtual space</p>	<ul style="list-style-type: none"> <li>• Understand the work of architects, designers and engineers working in 3D.</li> <li>• Develop familiarity with a simple CAD (computer aided design) tool.</li> <li>• Develop spatial awareness by exploring and experimenting with a 3D virtual environment.</li> <li>• Develop greater aesthetic awareness.</li> </ul>	<ul style="list-style-type: none"> <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> Trimble SketchUp (used for 3D modelling), Screencast-o-matic (for final screencast)</p> <p><b>Apps:</b> Home Design 3D/3dVAS</p>	<p>Laptops/computers</p>



## Overview of units

Unit	Expectations	Computing PoS	Software/Apps	Hardware
<b>6.1</b> <b>We are app planners</b> Planning the creation of a mobile app	<ul style="list-style-type: none"> <li>Develop an awareness of the capabilities of smartphones and tablets.</li> <li>Understand geolocation, including GPS.</li> <li>Identify interesting, solvable problems.</li> <li>Evaluate competing products.</li> <li>Pitch a proposal for a smartphone or tablet app.</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 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> <li>Work with ... various forms of input and output.</li> </ul>	<b>Software:</b> App Inventor/ TouchDevelop, Picasa Web, Google Drive Presentation/ Prezi or similar <b>Apps:</b> Codea, TouchDevelop	Computers and tablets or smartphones (can be done with a phone emulator)
<b>6.2</b> <b>We are project managers</b> Developing project management skills	<ul style="list-style-type: none"> <li>Scope a project to identify different components that must be successfully combined.</li> <li>Identify their existing talents and plan how they can develop further knowledge and skills.</li> <li>Identify the component tasks of a project and develop a timeline to track progress.</li> <li>Identify the resources they'll need to accomplish a project.</li> <li>Use web-based research skills to source tools, content and other resources.</li> <li>Consider strategies to ensure the quality of a collaborative project.</li> </ul>	<ul style="list-style-type: none"> <li>Solve problems by decomposing them into smaller parts.</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; identify a range of ways to report concerns about content and contact.</li> <li>Be discerning in evaluating digital content.</li> <li>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</li> </ul>	<b>Software:</b> Google Apps for Education/ VLE/GitHub/Basecamp <b>Apps:</b> Web browser (Safari)	Laptop or desktop computers, internet access
<b>6.3</b> <b>We are market researchers</b> Researching the app market	<ul style="list-style-type: none"> <li>Create a set of good survey questions.</li> <li>Analyse the data obtained from a survey.</li> <li>Work collaboratively to plan questions.</li> <li>Conduct an interview or focus group.</li> <li>Analyse and interpret the information obtained from interviews or a focus group.</li> <li>Present their research findings.</li> </ul>	<ul style="list-style-type: none"> <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; identify a range of ways to report concerns about content and contact.</li> </ul>	<b>Software:</b> Google Drive applications/ Microsoft Office, Microsoft Windows Movie Maker® <b>Apps:</b> Web browser, Keynote, iMovie	Laptop/desktop computers, internet access

<p><b>6.4</b> <b>We are interface designers</b> Designing an interface for an app</p>	<ul style="list-style-type: none"> <li>• Work collaboratively to design the app's interface.</li> <li>• Use wireframing tools to create a design prototype of their app.</li> <li>• Develop or source the individual interface components (media assets) they will use.</li> <li>• Address accessibility and inclusion issues.</li> <li>• Document their design decisions and the process they've followed.</li> </ul>	<ul style="list-style-type: none"> <li>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</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> <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>• Be discerning in evaluating digital content.</li> <li>• Recognise acceptable/unacceptable behaviour.</li> </ul>	<p><b>Software:</b> Justinmind Prototyper/Pencil Project/Microsoft PowerPoint®</p> <p><b>Apps:</b> SketchyPad or iMockups (pay-for apps)</p>	<p>Laptop/desktop/ tablets</p>
<p><b>6.5</b> <b>We are app developers</b> Developing a simple mobile phone app</p>	<ul style="list-style-type: none"> <li>• Become familiar with another programming toolkit or development platform.</li> <li>• Import existing media assets to their project.</li> <li>• Write down the algorithms for their app.</li> <li>• Program, debug and refine the code for their app.</li> <li>• Thoroughly test and evaluate their app.</li> </ul>	<ul style="list-style-type: none"> <li>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</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> <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> App Inventor/ TouchDevelop</p> <p><b>Apps:</b> TouchDevelop/ Codea</p>	<p>Computers and tablets/ smartphones/ phone emulator</p>
<p><b>6.6</b> <b>We are marketers</b> Creating video and web copy for a mobile phone app</p>	<ul style="list-style-type: none"> <li>• Consider key marketing messages, including identifying a unique selling point.</li> <li>• Develop a printed flyer or brochure incorporating text and images.</li> <li>• Further develop knowledge, skills and understanding in relation to creating a website.</li> <li>• Further develop skills relating to shooting and editing video.</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 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) ... to design and create ... content that accomplishes given goals, including collecting, analysing, evaluating and 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> Microsoft Publisher™, WordPress/Google Sites, Movie Maker® and other programs chosen by the pupils</p> <p><b>Apps:</b> Pages, WordPress, iMovie and other apps chosen by the pupils</p>	<p>Laptops/ desktop computers, cameras</p>