**Technology Guidelines**

The WA Curriculum requires teachers to implement Digital Technologies. This poses challenges due to our limited availability of technology resourcing and infrastructure. The need for a sustainable approach to the provision of resources for teachers to deliver the needs of the curriculum has become apparent. North Cottesloe Primary School requires a program that enables balance between innovation in technology and traditional methodologies to deliver curriculum. This document articulates our methodology in the use of devices and forms guidelines around how, when and why they will be used.

The Department’s Focus 2021 strategic plan mandates that schools will*, increase capacity and confidence in the use of ICT.* Further to this, the recent Public School Review of North Cottesloe requires that, prior to the next review in 3 years, we:

* Continue to monitor the availability of digital learning options, with reliable information and communications technology support a priority.
* Explore the application of digital learning options to ensure students have access to 21st century teaching practice.

Historical background

A number of neighbouring public schools have overcome limited ICT resourcing through Bring Your Own Device programs; families providing devices for students to use in class. North Cottesloe considered a BYOD model in 2019 but chose not to progress, primarily due to:

1. Likely inconsistencies between devices, with consequent control, maintenance and administration problems;
2. Locking individual students into one device type (e.g. tablet) over a number of years;
3. Consequent lesser value for family investment compared with P&C funding for banks of school-owned/leased and managed devices.

As a consequence of this process, the school in collaboration with a small parent body group, determined that there was a need to develop Technology Guidelines to ensure effective supplementation of the whole school curriculum and address student online safety.

Aims

North Cottesloe Primary School aims to develop student knowledge, understanding and skills in the area of Digital Technologies and ICT Capabilities whilst aligning with the Department of Education’s curriculum documents and the school Business Plan. We will do this by providing opportunities for students, both individually and collaboratively, to:

* Employ process and production skills to create solutions to digital problems.
* Develop knowledge and understanding about digital systems, data and programming.
* Learn protocols and practices when using ICT.
* Investigate, create & communicate with ICT.
* Manage and operate ICT.

Context

The school’s ability to provide ICT for students and staff; hardware, software, administration and support, is reliant upon the provision of adequate resourcing. Staff require ongoing professional learning and time-efficient access to contemporary computers, interactive whiteboards and other digital resources in order to provide the best educational opportunities to students. Funding constraints limit the level of resourcing that can be dedicated to the supply of ICT. North Cottesloe Primary School will work closely with the parent community and the P&C Association to secure additional resources to support the students’ learning needs.

Resourcing

Having access to sufficient ICT devices ensures learning programs proceed with efficiency. To meet the learning needs of a classes, an ICT Levy is to be considered for future implementation needs. This consideration should be in consultation with the schools P&C.

Technology approach

North Cottesloe Primary School is dedicated to a sustainable approach to curriculum delivery and resourcing in the area of technologies. Providing teachers with support, equipment and infrastructure needs to be considered. The approach comprises 9 parts:

1. classroom implementation;
2. devices;
3. IT support;
4. infrastructure;
5. teacher development;
6. research, consultation and implementation;
7. software;
8. communication; and
9. security.
10. Classroom implementation

Digital Technologies complements pedagogy and is not seen as an alternative to fundamental knowledge and skills such as handwriting and number facts. Teachers use the breadth of technological devices at their disposal, in a flexible manner, to deliver the outcomes in the technology elements of the WA. Technology use is integrated across the learning program to alleviate scheduling difficulties and access to resources.

Teachers use the SAMR Model framework that categorizes four different degrees of classroom technology integration. SAMR is an acronym for Substitution, Augmentation, Modification, and Redefinition. The model facilitates a common language across disciplines, as teachers strive to help students visualize complex concepts. The model assists our students to strive for personal excellence in the use of technology.

Teachers will use technology to:

* Deliver the outcomes in the ICT capabilities across learning areas;
* Access digital robotics to deliver the Digital Technologies curriculum;
* Explicitly teach coding as part of the Digital Technologies curriculum. *Refer to the list of approved applications (apps) in this document below.*
* Communicate classroom learning through SeeSaw. (SeeSaw Guidelines document has more detail regarding the appropriate and timely use of SeeSaw);
* Develop a bank of evidence in the process of assessing progress and achievement across learning areas (not necessarily ICT/Digital Technologies); and
* Facilitate explicit learning intention involving the use of the technology.

Active learning

Staff and parents are aware of the current Health Department recommendation to limit screen time of 5 -12 year olds to no more than 2 hours per day. Both the school and parents take responsibility for ensuring students use of devices is limited and controlled. Staff are committed to monitoring the amount of screen time and ensuring that individual use of a device is for active learning purposes as defined below. Staff support Health Department recommendations and are committed to limiting individual use of devices to a notional maximum of five hours per week. Staff will ensure that ICT devices will be used for active learning opportunities. Active learning time is defined as use of ICT devices for:

Using:

* Selecting and using hardware and software;
* Understanding ICT systems;
* Managing digital data;
* Recognising intellectual property;
* Applying digital information security practices;
* Applying personal protocols; and
* Identify the impact of ICT in society.

Creating:

* Defining and planning information searches;
* Selecting and evaluating data and information;
* Locating, generating and accessing data and information;
* Generating ideas, plans and processes;
* Generating solutions to challenges and learning area tasks;
* Collaborating, sharing and exchanging; and
* Understanding computer mediated communications.

Designing:

* Understanding digital systems;
* Understanding how data is represented;
* Collecting, managing and analysing data; and
* Creating digital solutions by:
  + Investigating and defining;
  + Generating and designing;
  + Producing and implementing;
  + Evaluating; and
  + Collaborating and managing.

Cyber security and ethical practice

The Cyber Safety outcomes from the WA Curriculum are deliver as a facet of an integrated approach to curriculum delivery. We employ an explicit approach to teaching social/ethical practice, security, privacy and information accuracy in the application of all technologies; targeted to age groups.

This includes:

1. Critical thinking about online information accuracy and distortion – including search engine and news site algorithms/biases; and that social media presence /websites have strong promotion objectives;
2. Understanding of tracking and profiling by most devices, websites and apps and the associated risks; how providers use and sell this information;
3. Ensuring all student digital profiles, log-ins, pseudonyms, activity and associated records cannot enable student identification, other than by school staff, actively involved in teaching or managing that particular student;
4. Student awareness of their digital footprint and safeguarding information and profiles;
5. Understanding and avoiding technology digital safety and security threats / viruses, malware and data/ identity theft on at all levels - personal, family, school community, national security.

The school manages several fail-safes to ensure that all students can use ICT responsibly and stay safe (also see ‘Security’ section within this document.) These include:

1. *Digital User Agreement* - Students and parents sign a digital user agreement on enrolment to the school, outlining the roles and responsibilities of responsible use of digital equipment at the school and the consequences should any breach occur.
2. *Internet Filter –* The Department of Education supplies public schools with a Cisco internet filter that prevents access to certain websites and online locations (including searches). NCPS also ‘blacklists’ websites at point of need and prevents phrases and words from being used or searched.
3. *3rd Party Permissions* – Digital programs that the school utilises may include student information to be released to 3rd parties. Parents are informed of these programs and permission is requested for those that the Department of Education deem to contain some risk. Wherever possible, the school will use pseudonyms to ensure that students cannot be identified by such 3rd parties (and only teaching staff may be able to link the student to the pseudonym). Refer to appendix in this document for more information and a link to the Department’s policy.
4. *Other Safety Measures* – Although not currently a part of school practice, NCPS will employ up-to-date investigation strategies around the use of a range of other safety measures including at least; the use of an approved search engine used only under teacher supervision; configuration of browsers and apps to block tracking/profiling/identification capabilities and delete information when student exits; auto-updating device antivirus software regularly and ensure it is configured to scan continuously and automatically delete spyware/grayware etc.Configuration of all wireless and other networks so that no device may connect to the school network, other than properly configured and authorised school devices.
5. Devices

**Interactive whiteboards, smartboards and LED panels**

Interactive boards (IWB) have replaced blackboards and standard whiteboards in all classrooms. They provide teachers with the flexibility to prepare lesson presentations ahead of time, with software such as PowerPoint. Teachers use IWBs as part of everyday lessons for a variety of purposes included but not limited to: use of online programs to assist in the ‘We Do’ of the Gradual Release model (I Do, We Do, You Do); use of stimulus pictures, books or short videos to introduce topics or concepts; display templates for students to use when practising skills and; use it interactively with students to practise skills and demonstrate understanding.

**iPads**

iPads replace the cameras, tape recorders and hands-on activities that were once common in classrooms. Each classroom has access to sufficient iPads to minimise the borrowing of devices from other classrooms and interrupting classroom learning. Securing sufficient iPads, to complete activities without interrupting other classes, is a priority of the school’s ICT resourcing program.

Teachers will NOT use iPads -

* As an incentive, unless specifically stated and agreed to in a student’s individual learning plan
* As a recreational activity

**Notebooks/laptops**

Laptops allow students to develop keyboard skills and is a focus for students in Year 3 & above. This is important in preparation for secondary education and for completing the Year 5 NAPLAN Writing. A priority of the ICT resourcing program is the provision of one-to-two devices for students from Year 4 – 6.

*NB: Any increase in allocation of laptop/notebook use at the school must accompany an understanding that sustainable resourcing is required.*

**Digital technology**

A variety of resources are available for teachers to use in their facilitation of the Digital Technologies curriculum. These include:

* EV3 LEGO robots - LEGO Robolab
* Digital cameras - Edison robots
* Bee Bots - Spiro robots
* LEGO Technics

**Mobile phones**

[Departmental policy](https://www.education.wa.edu.au/mobile-phones) requires that primary school students do not have mobile phones on site. Phone brought to school need to be handed in to the office.

**Smart watches**

[Departmental policy](https://www.education.wa.edu.au/mobile-phones) requires that students who wear smart watches to school keep these devices on “flight mode” during the school day. Smart watches with stand-alone internet connectivity or school wireless network connectivity must be handed in to the office.

1. IT support

The school maintains a funding structure to employ the services of a dedicated IT solutions company in the selection of; computer systems and software, application system design, custom programming, testing, integration and training. Day-to-day troubleshooting and support is provided by staff members and the Department of Education’s IT assistance facility.

1. Infrastructure

North Cottesloe Primary School has been supported through the Department of Education's implementation of IT support over the past 10 years. The initial infrastructure was supplied at no charge to the school but now requires replacing through the school’s budget. The school manages this replacement through an expected outlay of expenditure annually and will replace this infrastructure on a needs basis.

1. Teacher development

Several strategies enable teachers to increase their capability, skill and confidence in the use of technology to enhance their teaching and support student learning. The IT Deputy works alongside teachers, using a coaching model, to set goals and review learning. This includes; demonstration lessons, observation and feedback, in-class support and collaborative planning. Professional learning in IT development is available periodically throughout the year through our Professional Learning Communities and is offered to staff with the expectation that they will provide learning to colleagues.

1. Research, risk, consultation and implementation

Change is a constant element in education. Change in the area of technology can have significant implications for budgeting and resourcing structures across the school. North Cottesloe Primary School ensures the implementation of interventions, in response to any change, are evidence based and consult with stakeholders in regard to changes to practice.

Phase 1

* The school decides validity and purpose of ICT change, both software and infrastructure, considering:
  + alignment with Business Plan objects and Department of Education initiatives;
  + risk and opportunity assessment of proposed change, prior to implementation, including:
    - benefit to student learning;
    - potential impact upon student wellbeing; and
    - cyber safety.
* Consultation with staff
* Budgetary concerns

Phase 2

* Develop guidelines and support for all stakeholders and further consultation with staff
* Ensure resourcing structure is sustainable

Phase 3

* Information for community
* Implementation

1. Software

Operation systems and suites of software such as MS Office are provided through Department of Education licence agreements. Additional software licencing is the responsibility of the school and must ensure resources are available to sustain any agreements.

**Apps**

All apps are reviewed annually. Apps are subject to the user agreement between individual students, carers and the school. Teachers are able to request the installation of additional Apps to meet the specific learning needs of different phases of learning.

1. Communication

The North Cottesloe Primary School Communication Guidelines outline the methodology and frequency of communication across the school community.

* School Stream app: For distributing outgoing information to families.
* SeeSaw: Teacher communication with parents regarding curriculum matters.
* Email: Communication with individual parents

1. Security

All Internet access is subject to the Department of Education’s content filters. Accessing the school’s internet provides information to the Department and the school in regards to individual use and profiling. The school is able to blacklist websites, phrases and words and allows, or blocks, websites with certain categories of content. All devices are subject to this filtering.

Department filters ensure no student using our network has open access to the internet. Students are required to sign a Responsible Online Access agreement and, should they breach this agreement, will have online access removed. The school will respond to any breach of student safety and security through a rigorous investigation process of any incident followed by explicit communication with stakeholders including parents and staff.

Administration will ensure that each student log on to an ICT device with unique user credentials. Our internet filter will automatically record sites visited and per-application usage times, centrally logging and aggregating this information.

Digital communication (emailing for students) formulates a small portion of the WA Curriculum in Year 5 and above. The Department of Education provides all students with a username and email address that is accessed through the online portal, IKON. The protocols for access to, and use of, email facilities are standard for all Department staff and students.

**Appendix**

Rationale

**Technologies: Digital Technologies**

Technologies provide students with authentic learning challenges that foster curiosity, confidence, persistence, innovation, creativity, respect and cooperation. These attributes are necessary when using and developing solutions to make sense of complex ideas and relationships in all areas of learning. Technologies helps students to be regional and global citizens, capable of actively and ethically communicating and collaborating.

<https://k10outline.scsa.wa.edu.au/home/teaching/curriculum-browser/technologies/technologies-overview/rationale>

**General Capabilities**:

*ICT (Information, Communication and Technology*) - The Melbourne Declaration on the Educational Goals for Young Australians (MCEETYA 2008) recognises that in a digital age, and with rapid and continuing changes in the ways that people share, use, develop and communicate with ICT, young people need to be highly skilled in its use. To participate in a knowledge-based economy and to be empowered within a technologically sophisticated society now and into the future, students need the knowledge, skills and confidence to make ICT work for them at school, at home, at work and in their communities.

<https://k10outline.scsa.wa.edu.au/home/teaching/general-capabilities-over/information-and-communication-technology-ict-capability/introduction/scope-of-ict-capability>

*Critical and Creative Thinking* - In the Western Australian Curriculum, students develop capability in critical and creative thinking as they learn to generate and evaluate knowledge, clarify concepts and ideas, seek possibilities, consider alternatives and solve problems. Critical and creative thinking is integral to activities that require students to think broadly and deeply using skills, behaviours and dispositions such as reason, logic, resourcefulness, imagination and innovation in all learning areas at school and in their lives beyond school.

<https://k10outline.scsa.wa.edu.au/home/teaching/general-capabilities-over/critical-and-creative-thinking/introduction>

**SAMR Model:**

The SAMR Model is a framework created by Dr. Ruben Puentedura that categorizes four different degrees of classroom technology integration. The letters "SAMR" stand for Substitution, Augmentation, Modification, and Redefinition. The SAMR model was created to share a common language across disciplines as teachers strive to help students visualize complex concepts. This model is the conduit for teaching at North Cottesloe Primary School to allow our students to strive for their own personal excellence in the use of technology.

<https://www.schoology.com/blog/samr-model-practical-guide-edtech-integration>

**3rd Party Permissions:**

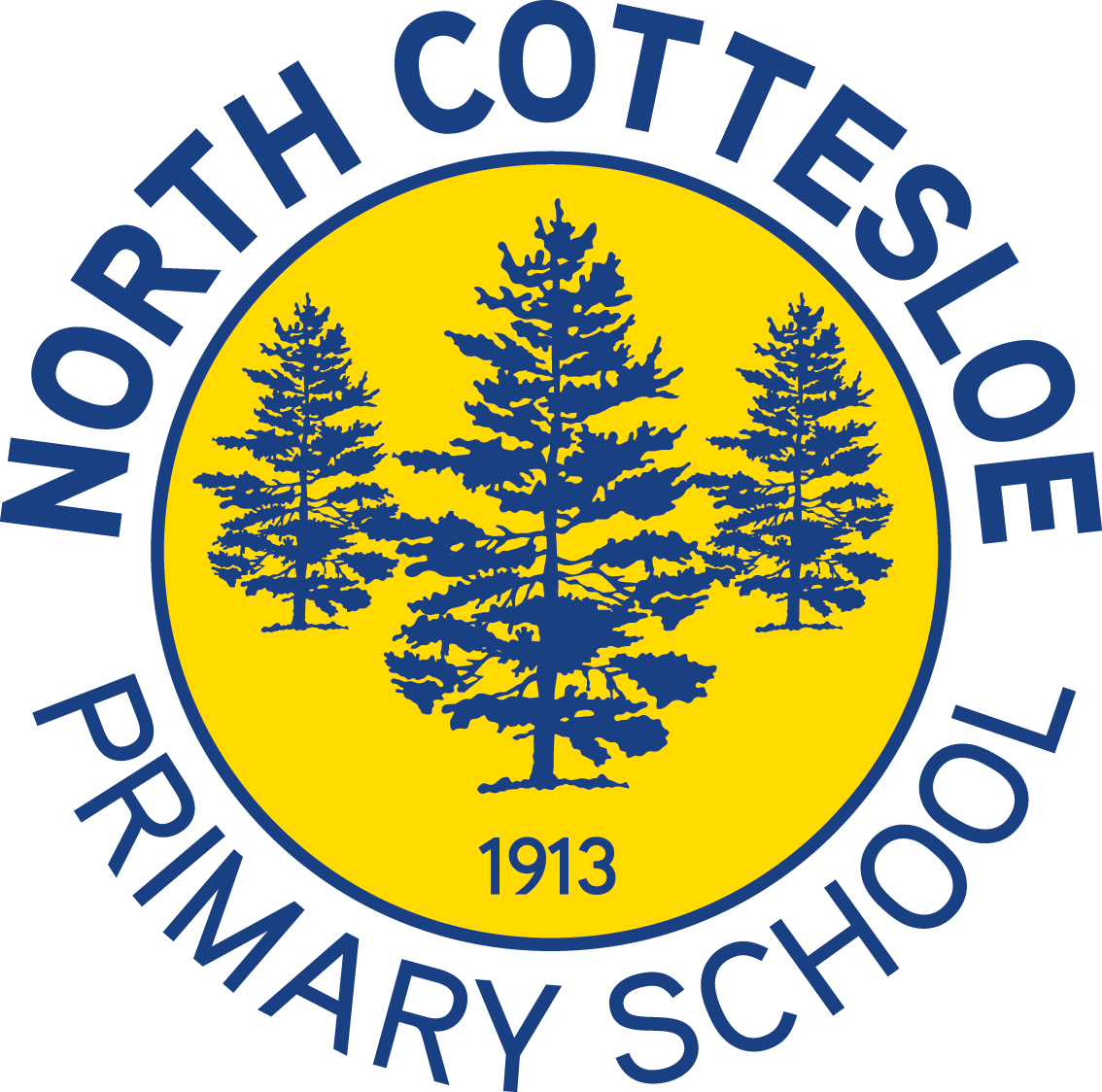
Companies that provide digital programs and resources to public schools in WA are required to undergo an analysis by the Department of Education as to their safe online practices given that some companies require student identifying information to be provided. Schools may be obligated to provide this information (e.g. NAPLAN) and sometimes require specific permission from parents for their child’s information to be given to these companies. The Students Online in Public Schools policy can provide more information under section 3.4 using the link below.

<http://det.wa.edu.au/policies/detcms/policy-planning-and-accountability/policies-framework/policies/students-online-in-public-schools-policy.en?cat-id=3457966>

Applications currently approved for use on ALL class iPads (PrePrimary excluded – audit in progress)

* Robotics Apps (Dash & Sphero)
* iPad management app, Meraki; testing apps including Janison replay (for ICAS) & NAP Browser (for NAPLAN)
* Individually purposed iPads such as those used for students with diagnosed disability

|  |  |  |
| --- | --- | --- |
|  | | |
| **Application** | **Name** | **Curriculum Tool** |
|  | Book Creator  $7.99 | Book creator is a multimedia publishing application that enable students to create interactive books. Its scope for use goes across all curriculum areas enabling students to enhance reflection and sharing of ideas. |
| **Examples of curriculum use:** | * Creation of interactive books * Goal reflection journals * Assessment & analysis of progress | |
| **https://apps.apple.com/au/app/book-creator-for-ipad/id442378070** | | |
| Macintosh HD:Users:matmon:Desktop:Screen Shot 2014-08-15 at 12.33.39 PM.png | Popplet  $4.49 | Used as a mind-map, Popplet helps students think and learn visually. Students can capture facts, thoughts and images and learn to create relationships between them. |
| **Examples of curriculum use:** | * Creation of storyboards * Exploration of character dialogue through speech bubbles * Expressive posters | |
| **https://apps.apple.com/au/app/popplet/id374151636** | | |
| download | Sphero Edu Free | Sphero Edu is the core app used to code and control our Sphero robots. Coding has become an essential part of the curriculum. The Sphero robot series has created a hands on platform that engages student while providing critical and creative problem solving opportunities. Coding/Robotics is incorporated in both the core curriculum program and extra curriculum lunch club program. |
| **Examples of curriculum use:** | * Exploration of measurement concepts such as time, speed and distance through use of code * Exploration of shapes and angles through use of code * Creative thinking and problem solving through use of code. | |
| [**https://apps.apple.com/au/app/sphero-edu/id1017847674**](https://apps.apple.com/au/app/sphero-edu/id1017847674) | | |
| C:\Users\08263803\Desktop\download.jpg | Swift Playground Free | Swift Playground provides further coding opportunities with a range of robotics programs including the Sphero series. Swift enables students to use a coding language that is used in real life programing. |
| |  |  | | --- | --- | | **Examples of curriculum use:** | * Problem-solving using coding * Creative thinking across learning areas * Creating solutions to world, national and local problems | | | |
| **https://apps.apple.com/au/app/swift-playgrounds/id908519492** | | |
|  | Explain Everything  Free | Explain Everything is the app to reflect, create and share. This process enhances student voice, while creating greater feedback opportunity. Using simple word processing, recording and creative process, students are able to create documents to explain their understanding of a topic or skill. |
| **Examples of curriculum use:** | * Concept reflection tutorials * Inquiry presentations * Video and audio recordings that are used for content understanding, reflection and sharing. | |
| [**https://apps.apple.com/au/app/explain-everything-whiteboard/id1020339980**](https://apps.apple.com/au/app/explain-everything-whiteboard/id1020339980) | | |
| Macintosh HD:Users:matmon:Desktop:Keynote.png | Keynote Free | Keynote is one of Apple’s flagship presentation app. Enabling students to combine a wide range of multi-media components to share and present information and thoughts. Often used by students to share information or reflect on ideas, keynote makes presentation easy. |
| **Examples of curriculum use:** | * Inquiry presentations * Student reflections and journals * Basic Website development | |
| [**https://apps.apple.com/au/app/keynote/id361285480**](https://apps.apple.com/au/app/keynote/id361285480) | | |
|  | iMovie Free | iMovie allows students to create their own content regardless of the them or topic. Often used during inquiry sessions, iMovie provides students with the best multi-media platform to create videos, short films and photo presentations. |
| **Examples of curriculum use:** | * Class projects * Writing (All genres)- Creating a screen play * Reflection videos * Writing (Persuasive) Use of trailer feature to create a high impact persuasive | |
| [**https://apps.apple.com/au/app/imovie/id377298193**](https://apps.apple.com/au/app/imovie/id377298193) | | |
| D:\Users\08263803\Desktop\stop motion.PNG | Stop Motion Studio  Free | (Paid Pro version available)  Stop motion is used to provide story telling opportunities for students through the art of stop motion. Whether it be clay, Lego, figurines or paper cut outs, stop motion enables students to bring the art of storytelling to life through a highly engaging and adaptable platform. This app is used during writing when students are required to create a production from their writing. |
| **Examples of curriculum use:** | * Writing - Grade 3/4 stop motion movie making unit * Writing- 3-6 Creating a narrative movie * Art- time lapse creation journal | |
| [**https://apps.apple.com/au/app/stop-motion-studio/id441651297**](https://apps.apple.com/au/app/stop-motion-studio/id441651297) | | |
|  | Google Classroom Free | Google Classroom enhances student’s ability to submit electronically while giving them an adaptable work space that increases workflow and teacher student feedback and dialogue. NB: In trial phase |
| **Examples of curriculum use:** | * Delivery and receipt of assessment task * Delivery of lessons and learning intentions. * Topic discussions and student feedback * Teacher feedback | |
| [**https://apps.apple.com/au/app/google-classroom/id924620788**](https://apps.apple.com/au/app/google-classroom/id924620788) | | |
|  | SeeSaw  Free | SeeSaw is the main method of communication for teachers. It is used to update parents on classroom events and to communicate student learning. Teachers will also use this method to arrange individual meetings with parents. |
| **Examples of curriculum use:** | * Students communicate own learning across year levels directly to parents and family members. * Simple word processing and creation tools. | |
| [**https://apps.apple.com/au/app/seesaw-class/id930565184**](https://apps.apple.com/au/app/seesaw-class/id930565184) | | |
|  | ITunes U  Free | Teachers might use ITunes U to develop lessons, assign tasks and provide feedback in an online environment. NB: In trail phase |
| **Examples of curriculum use:** | * Students use simple creative tools to address tasks assigned by teachers. * Teachers use the app to create lessons and other apps for innovative student use. | |
| [**https://apps.apple.com/au/app/itunes-u/id490217893**](https://apps.apple.com/au/app/itunes-u/id490217893) | | |
|  | Pages  Free | Students access complex word processing skills to create complex documents that demonstrate learning across topics and subject areas. |
| **Examples of curriculum use:** | * Take notes for research purposes * Write letters * Create documents to demonstrate learning. | |
| [**https://apps.apple.com/au/app/pages/id361309726**](https://apps.apple.com/au/app/pages/id361309726) | | |
|  | Microsoft Word  Free | Like Pages, Microsoft Word is the preferred word processing app for iPads at our school. Students experience consistency across platforms using this app and are able to translate skills from desktops to iPads in the school environment. |
| **Examples of curriculum use:** | * Take notes for research purposes * Write letters * Create documents to demonstrate learning. | |
| [**https://apps.apple.com/au/app/microsoft-word/id586447913**](https://apps.apple.com/au/app/microsoft-word/id586447913) | | |
|  | Numbers Free | Numbers, Apple’s version of ‘Excel’ on the school’s desktop computers, allows students to create graphs, use data and analyse results of surveys as directed by teachers. Used across learning areas, this powerful tool also allows students to translate their skill across platforms. |
| **Examples of curriculum use:** | * Input data & perform calculations * Use formulas to create solutions to data problems * Create graphs to visually demonstrate data results | |
| [**https://apps.apple.com/au/app/numbers/id361304891**](https://apps.apple.com/au/app/numbers/id361304891) | | |
|  | Minecraft Education Edition  Free | The Department of Education’s preferred application on portable devices to instruct students in coding. In addition, students are able to use critical and creative thinking to develop solutions to digital problems. Can also be used across learning areas. |
| **Examples of curriculum use:** | * Learning coding as directed by teachers through Digital Technologies WA Curriculum * Use creativity to develop digital solutions to problems | |
| [**https://apps.apple.com/us/app/minecraft-education-edition/id1196524622**](https://apps.apple.com/us/app/minecraft-education-edition/id1196524622) | | |
|  | ChatterPix Kids  Free | More for our junior to middle school aged students, this application assists students with ideas about developing characters in stories. In addition, students are able to use creativity to develop storylines and dialogue, translating into essential Writing skills. |
| **Examples of curriculum use:** | * English – developing character and dialogue * Communicating learning through digital characters. | |
| [**https://apps.apple.com/au/app/chatterpix-kids/id734046126**](https://apps.apple.com/au/app/chatterpix-kids/id734046126) | | |
|  | Green Screen by Do Ink  Free | For students to use when creating videos. Generally used to report on learning, green screens allow students to record themselves using a backdrop from anywhere in the world simply by importing a picture. |
| **Examples of curriculum use:** | * Across learning areas, developing oral reports. * Retelling stories using different settings. | |
| [**https://apps.apple.com/au/app/green-screen-by-do-ink/id730091131**](https://apps.apple.com/au/app/green-screen-by-do-ink/id730091131) | | |
|  | Pxlr  Free | This app alters photos to enable students the ability to create solutions across learning areas to create digital texts. The app works across apps and platforms. |
| **Examples of curriculum use:** | * Photo editing using simple processing skills * Can enhance digital texts across learning areas | |
| [**https://apps.apple.com/us/app/pixlr-photo-collages-effect/id526783584**](https://apps.apple.com/us/app/pixlr-photo-collages-effect/id526783584) | | |
|  | Google Earth Free | Students are able to discover their local and extended world through aerial view. Used in subjects such as Geography and with teacher guidance, students are able to locate iconic places in the world and visually assess distances. |
| **Examples of curriculum use:** | * Discover places around the world * Assess distances between iconic places * Discover geographic features of the world | |
| [**https://apps.apple.com/au/app/google-earth/id293622097**](https://apps.apple.com/au/app/google-earth/id293622097) | | |
|  | PicCollage  Free | A photo-editing application that allow students to create digital text for different purposes. Students develop editing and creativity skills to enhance digital texts across learning areas. |
| **Examples of curriculum use:** | * Editing skills applied to enhance digital texts * Create characters, setting and narrative ideas in Writing * Report simple learning ideas across subjects areas | |
| [**https://apps.apple.com/us/app/piccollage-fun-layout-editor/id448639966**](https://apps.apple.com/us/app/piccollage-fun-layout-editor/id448639966) | | |
|  | PuppetPals 2  Free | Students learn about creating character, setting and plot when using this app. Visually engaging, PuppePals 2 uses cartoon-style animation to create simple stories, developing ideas and concepts in narrative writing. The is additional application across learning areas when reporting historical events. |
| **Examples of curriculum use:** | * Students learn how to create written texts across learning areas * Develop character, plot and dialogue * Demonstrate learning and understanding across learning areas | |
| [**https://apps.apple.com/au/app/puppet-pals-2/id589141096**](https://apps.apple.com/au/app/puppet-pals-2/id589141096) | | |
|  | Clips  Free | Video creation app similar to iMovie. Clips uses less structure and allows for more creativity in creating stories through video. Also includes editing functions including animation, pixilation and other filters to create. |
| **Examples of curriculum use:** | * Create video texts to demonstrate understanding * Develop skill in visual editing | |
| [**https://apps.apple.com/au/app/clips/id1212699939**](https://apps.apple.com/au/app/clips/id1212699939) | | |
|  | Padlet  Free | A productivity app allowing students to create any document. Including venn diagrams, storyboards, brainstorming docs and any other number of documents, the students are only limited by their own creativity! |
| **Examples of curriculum use:** | * Students use word ICT skills to develop documents under teacher supervision * Allows creative thinking to develop when creating digital solutions across learning areas. | |
| [**https://apps.apple.com/au/app/padlet/id834618886**](https://apps.apple.com/au/app/padlet/id834618886) | | |
|  | EPIC!  Free | Limited digital library containing ebooks, audiobooks, learning videos and quizzes for younger students. |
| **Examples of curriculum use:** | * Reading lessons * Across learning areas to learn concepts | |
| [**https://apps.apple.com/au/app/epic-kids-books-and-videos/id719219382**](https://apps.apple.com/au/app/epic-kids-books-and-videos/id719219382) | | |
|  | CodeSpark Academy  Free | Otherwise known by students as ‘The Foos’, this application assists teachers to teach coding skills to our students using a simple digital language. Used under supervision, students learn the skills associated with coding including sequencing, problem solving and creative thinking. |
| **Examples of curriculum use:** | * Digital Technologies curriculum – to teach coding * Across learning areas to demonstrate learning. Eg, a health outcome could be demonstrated using simple coding on this platform. | |
| [**https://apps.apple.com/us/app/codespark-academy-kids-coding/id923441570**](https://apps.apple.com/us/app/codespark-academy-kids-coding/id923441570) | | |
|  | Tynker  Free | Students learn simple through to complex coding skills through a sequence of engaging activities. Under teacher supervision, students learn the skills associated with coding including sequencing, interpreting data and problem solving |
| **Examples of curriculum use:** | * Digital Technologies curriculum – to teach coding | |
| [**https://apps.apple.com/au/app/tynker-coding-for-kids/id805869467**](https://apps.apple.com/au/app/tynker-coding-for-kids/id805869467) | | |
|  | Japanese-Hirogana  Free | As the title describes, this app assists students with their acquisition of Hirogana in the school’s languages sessions. Under teacher instruction, students will use the app on occasion to develop their understanding of the Japanese language |
| **Examples of curriculum use:** | * Languages learning area – to demonstrate Hirogana | |
| [**https://apps.apple.com/au/app/japanese-hiragana/id492215819**](https://apps.apple.com/au/app/japanese-hiragana/id492215819) | | |
|  | Scratch Jnr  Free | For younger students only, this app allows students (under teacher instruction) to learn and share coding skills in this interactive digital environment. |
| **Examples of curriculum use:** | * Digital Technologies curriculum – to teach coding * Across learning areas to demonstrate learning. Eg, a health outcome could be demonstrated using simple coding on this platform. | |
| [**https://apps.apple.com/au/app/scratchjr/id895485086**](https://apps.apple.com/au/app/scratchjr/id895485086) | | |
|  | PM eCollection  School Subscription | Using a school subscription, this service was purchased in preparation for at-home learning. It allows teachers to allocated appropriate texts to students at an instructional level through ebook access. Teachers will utilise this service on occasion at school for guided reading sessions |
| **Examples of curriculum use:** | * Reading – Guided reading in class and independent reading at home (if students are learning from home) | |
| [**https://apps.apple.com/au/app/pm-ecollection/id675521971**](https://apps.apple.com/au/app/pm-ecollection/id675521971) | | |
|  | ABC Me  Free | Videos on demand from the Australia Broadcasting Corporation, all for Primary School aged children. Under teacher instruction, students will be able to access videos for all learning areas and topics. |
| **Examples of curriculum use:** | * Access videos for learning across learning areas | |
| [**https://apps.apple.com/au/app/abc-me/id1131925585**](https://apps.apple.com/au/app/abc-me/id1131925585) | | |



Digital Technologies and ICT Capabilities

*Scope and Sequence*

*This document is devised from, and linked to:*

*ACARA General Capabilities – ICT; and*

*SCSA Digital Technologies linked to:*

* *Digital Implementation, Collaborating and Managing*
* *Digital Systems (hardware/software), Representation of Data and Digital Implementation*
* *Digital Systems and Collecting, Managing and Analysing Data*
* *Representation of Data, Investigating and Defining, Designing, Digital Implementation*
* *Digital Implementation, Digital Systems, Representation of Data, Collecting, managing and Analysing Data, Designing, Evaluating*



# Applying Social and Ethical Protocols and Practice

Students see themselves as creators as well as consumers of ICT

Students Develop an Understanding of:

1. Intellectual property
2. Digital/personal information security
3. Benefits/consequences of ICT for individuals, groups and communities

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| ***I = introduce skill*** | ***R = reinforce skill*** | ***U = use skill independently*** |

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|  | **K-P** | **1** | **2** | **3** | **4** | **5** | **6** |
| **1. Intellectual Property** | | | | | | | |
| Students recognize they own text, photos and videos they produce. |  |  |  |  |  |  |  |
| Students recognize others (in their class, on the internet) own text, photos and videos they produce |  |  |  |  |  |  |  |
| Students acknowledge why they use digital products created by someone else, and start to indicate the source. |  |  |  |  |  |  |  |
| Students recognize intellectual property and demonstrate basic forms of referencing. |  |  |  |  |  |  |  |
| **2. Information Security** | | | | | | | |
| Follow class rules with a focus on logging out of systems such as Seesaw, not sharing personal information online and Cyber Security. |  |  |  |  |  |  |  |
| Apply standard techniques to secure digital information including saving to own folder or device, logging on to server and email using a personal password |  |  |  |  |  |  |  |
| Explore digital security and how this affects society. Identify features of effective digital security. |  |  |  |  |  |  |  |
| Use effective digital security practices for example checking whether a friend can access information, checking whether someone else can find the weblink to their online posts, using non-predictable user names and passwords. |  |  |  |  |  |  |  |
| **3.** **Personal Security** | | | | | | | |
| Follow class rules to share information to a known audience (for example, Seesaw). |  |  |  |  |  |  |  |
| Communicate online (via Seesaw, class blog or email) with known audiences, following the school’s ERIC Values. |  |  |  |  |  |  |  |
| Develop and apply personal protocols to avoid common dangers when communicating with unknown audiences (for example, social media). |  |  |  |  |  |  |  |
| Identify the risks to identity, privacy and emotional safety when sharing information in online environments. Explore cultural differences when interacting online. |  |  |  |  |  |  |  |
| **4. Identify the impacts of ICT in society** | | | | | | | |
| Identify how students use ICT in multiple ways on multiple devices for example creating a typed document on Word or Notes. |  |  |  |  |  |  |  |
| Identify how ICT is used at home and school. |  |  |  |  |  |  |  |
| Identify the value of using ICT at home and school. |  |  |  |  |  |  |  |
| Explain the main uses of ICT at home, school and the community. Compare and contrast the potential positive and negative impacts of ICT. |  |  |  |  |  |  |  |

# Managing and Operating ICT

Students Develop an Understanding of:

1. Understanding ICT systems eg usb –storage, hard drive, input – keyboard & monitor
2. Managing digital data eg. saving/ exporting data in different formats, moving a file from one location to another, routinely backing up data.
3. Using ICT efficiently and ergonomically eg. use basic troubleshooting procedures to solve routine malfunctions eg. printer queues
4. Selecting appropriate hardware and software

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|  | **K-P** | **1** | **2** | **3** | **4** | **5** | **6** |
| **Select and use hardware and software** | | | | | | | |
| Demonstrate responsible transit of ipads. Use the camera function to scan QR codes and take photographs. Use simple apps such as Seesaw and Chatterpix to create, as directed. Ask for help as needed. |  |  |  |  |  |  |  |
| Use a range of appropriate devices and software to create as directed, including ipads AND computers/laptops. Attempt to problem solve before seeking help. |  |  |  |  |  |  |  |
| Independently choose and operate a range of software and devices to create. Research office ergonomics. Perform basic, taught, trouble-shooting when encountering a problem. |  |  |  |  |  |  |  |
| **Understand ICT systems** | | | | | | | |
| Identify and list common ICT systems including desktop computers, laptop/notebook computers, tablets and mobile phones. |  |  |  |  |  |  |  |
| Identify the main components of common ICT systems and their uses for example, mouse, keyboard, monitor, printer, and some software programs, such as word processing, drawing and paint software. |  |  |  |  |  |  |  |
| Identify and compare the uses of the main components of different ICT systems, for example comparing a touch screen function to a mouse. |  |  |  |  |  |  |  |
| * Identify, compare and classify basic ICT components for example understanding the uses of standard input, processing, output and storage components such as, input – keyboard, microphone; [process](http://www.australiancurriculum.edu.au/glossary/popup?a=F10AS&t=Process) – central processing unit; output –monitor, speakers, projector;   storage – cloud, USB, hard drive; understanding the use and role of system and application software. |  |  |  |  |  |  |  |
| **Managing Digital Data** | | | | | | | |
| Save and retrieve digital data with support, for example using the green tick function and QR code sign in function on Seesaw. |  |  |  |  |  |  |  |
| Manage and maintain digital data with guidance, for example saving a file under a name, or dragging and dropping a file. |  |  |  |  |  |  |  |
| Manage and maintain digital data using common methods for example bookmarking pages, creating folders and managing storage of data on multiple devices. |  |  |  |  |  |  |  |
| Manage and maintain data on different storage mediums, for example cloud storage systems, shared drives and hard drives. |  |  |  |  |  |  |  |

# Communicating with ICT

Students use ICT to communicate ideas and information with others appropriate with purpose, audience and technology.

Students share, exchange and collaborate to enhance learning by:

1. Sharing information in digital form.
2. Exchanging information through digital communication.
3. Collaborating and collectively contributing to a digital product.
4. Understanding and applying social protocols to receive, send and publish digital data.
5. Applying techniques or strategies to ensure security of information, to control access and protect files.

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|  | **K-P** | **1** | **2** | **3** | **4** | **5** | | **6** |
| **Collaborating, sharing and exchanging** | | | | | | | | |
| Use purposefully selected ICT tools safely to view information shared by trusted adults, for example viewing tasks/videos assigned by the teacher in Seesaw. |  |  |  |  |  | |  |  |
| Use purposefully selected ICT tools safely to share and exchange information with appropriate local audiences, for example creating a class blog where only class members can communicate with one another. |  |  |  |  |  | |  |  |
| Use purposefully selected ICT tools safely to share and exchange information with appropriate known audiences, for example posting items to the student’s individual Seesaw portfolio, and having it viewed by connected family members at home. |  |  |  |  |  | |  |  |
| Select and use appropriate ICT tools safely to share and exchange information and to safely collaborate with others, for example contributing to a wiki page, or creating a public blog. |  |  |  |  |  | |  |  |
| **Understand computer mediated communications** | | | | | | | | |
| Understand that messages are recorded, viewed or sent in computer mediated communications for others to receive, for example demonstrating an awareness that responses submitted on Seesaw will be viewed by the teacher. |  |  |  |  |  | |  |  |
| Understand that computer mediated communications may be received later by the receiver, for example understanding that connected Parents/Caregivers will be able to access Seesaw posts at a later date. |  |  |  |  |  | |  |  |
| Understand that computer mediated communications are directed to an audience for a purpose, for example understanding that a text message can be sent to one or more people. |  |  |  |  |  | |  |  |
| Understand that particular forms of computer mediated communications and tools are suited to synchronous or asynchronous and one-to-one or group communications, for example understanding differences in the characteristics, features and use of Skype compared with blogs or wikis. |  |  |  |  |  | |  |  |

**Creating with ICT**

Students use ICT to generate ideas, plans, processes and solutions to challenges and tasks. **These may relate to learning a concept, completing an activity or responding to a need. They may be self or teacher generated.**

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|  | | **K-P** | | **1** | | **2** | | **3** | | **4** | | **5** | | **6** |
| **Generating ideas, plans and processes** | | | | | | | | | | | | | | |
| Use ICT to follow or contribute to a simple plan for a solution, for example using multimedia (Seesaw) to create a short sequence of instructions, or contributing to a plan for a class digital production such as a whole class powerpoint, digital book or iMovie. |  | |  | |  | |  | |  | |  | |  | |
| Use ICT to prepare simple plans to find solutions or answers to questions for example drawing simple mind maps using conceptual mapping software (Popplet) and using drawing software to show steps in a sequence (Seesaw). |  | |  | |  | |  | |  | |  | |  | |
| Use ICT to generate ideas and plan solutions, for example using tables and photos in Word and labelled sketches in Seesaw to plan. |  | |  | |  | |  | |  | |  | |  | |
| Use ICT effectively to record ideas, represent thinking and plan solutions, for example using timeline software to plan processes, using concept mapping and brainstorming software to generate key ideas (Popplet) and using graphic and audio visual software to record ideas (Seesaw and iMovie). |  | |  | |  | |  | |  | |  | |  | |
| **Generating solutions to challenges and learning area tasks** | | | | | | | | | | | | | | |
| Use ICT as a creative tool to generate simple solutions, modifications or data representations for personal or school purposes, for example using appropriate software to enter text, images, audio and numbers (Seesaw), editing a class-created digital product that may be shared with parents (Powerpoint, iMovie, digital book) or representing a data set in a digital product (Seesaw, Scratch, Popplet) |  | |  | |  | |  | |  | |  | |  | |
| Experiment with ICT as a creative tool to generate simple solutions, modifications or data representations for particular audiences or purposes for example using the basic functions of selected software (Word, Powerpoint, Seesaw) to manipulate text, images, audio and numbers, representing data numerically or graphically through an ICT format; editing own work and that of others. |  | |  | |  | |  | |  | |  | |  | |
| Create and modify simple digital solutions, creative outputs or data representation/transformation for particular purposes for example editing text, images, audio and video for presentations and storytelling (digital books, Powerpoint, iMovie); representing data both numerically AND graphically through an ICT format; and applying set editing strategies. |  | |  | |  | |  | |  | |  | |  | |
| Independently or collaboratively create and modify digital solutions, creative outputs or data representation/transformation for particular audiences and purposes, for example; manipulating and combining images, text, video and sound for presentations, creating podcasts and applying purposeful editing and refining processes. |  | |  | |  | |  | |  | |  | |  | |

**Investigating with ICT**

Students use ICT to ***access*** data and information from a range of primary and secondary sources when investigating questions, topics or problems

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|  | **K-P** | | | **1** | | **2** | | **3** | | **4** | **5** | **6** |
| **Define and plan information searches** | | | | | | | | | | | | |
| Use ICT to identify where information is located, for example making choices using apps on a tablet computer. | |  |  | |  | |  | |  | |  |  |
| Use ICT to identify, record and classify textual and graphic information to show what is known and what needs to be investigated for example using colour coding and drawing software to show steps in a sequence (Seesaw, Scratch, Popplet) | |  |  | |  | |  | |  | |  |  |
| Use ICT to plan an information search or generation of information, recognizing some pattern within the information for example listing what information is required and suggesting where it may be located (using search engines to find appropriate websites) and recognizing some pattern within the information (analyzing how search engines present their information in search results). | |  |  | |  | |  | |  | |  |  |
| Use a range of ICT to identify and represent patterns in sets of information and to pose questions to guide searching for, or generating, further information for example using tables, charts and graphic organisers such as concept maps. | |  |  | |  | |  | |  | |  |  |
| **Locate, generate and access data and information** | | | | | | | | | | | | |
| Use icons to locate or generate required information, for example making appropriate choices from multiple apps on a tablet computer | |  |  | |  | |  | |  | |  |  |
| Locate information from a given set of digital sources for example locating information following hyperlinks (Webquest), copying and pasting text and images; experimenting in a simulation environment to test decisions (using a child friendly search engine such as Kidtopia to test searches) | |  |  | |  | |  | |  | |  |  |
| Locate, retrieve or generate information from a range of digital sources, for example locating information by typing in simple URLS, saving text and images, collecting data from a simulation environment (a child friendly search engine such as Kidtopia) | |  |  | |  | |  | |  | |  |  |
| Locate, retrieve or generate information using search engines and simple search functions and classify information in meaningful ways, for example searching for and locating files within the school directing, searching across the web or within sites, organizing in folders, tables or databases, using child friendly search engines to generate and organize information on real world problems. | |  |  | |  | |  | |  | |  |  |
| **Select and evaluate data and information** | | | | | | | | | | | | |
| Explain how located data or information was used, for example explaining how digital information was used in an activity. | |  |  | |  | |  | |  | |  |  |
| Explain the usefulness of located data or information, for example explaining how digital information answers a question. | |  |  | |  | |  | |  | |  |  |
| Explain why located data or information was selected for example, explain why a source of digital information was used or trusted in preference to another. | |  |  | |  | |  | |  | |  |  |
| Assess the suitability of data or information using a range of appropriate given criteria for example, selecting the most useful/reliable/relevant digital resource for a set of three or four alternatives | |  |  | |  | |  | |  | |  |  |