



### **USING ICTs in the CURRICULUM**

### NOW and into the FUTURE

August 22<sup>nd</sup> 2019

### RAINWORTH STATE SCHOOL

An Independent Public School

### **SCHOOL VISION**



At Rainworth, each individual achieves the best educational outcomes through a rich, diverse engaging curriculum, in a happy, safe and healthy community.

WHO WE ARE...

# LIVING reflects LEARNING

### SCHOOL VALUES

- a holistic approach to childhood development emotionally, intellectually, physically & socially;
- a focus on children reaching their full academic potential;
- a balanced curriculum focusing on clever, skilled, creative;
- a strong sense of community.

### Three Cross-curriculum **Priorities** Asia and Australia's Aboriginal and Torres Strait Islander Histories and Cultures engagement with Asia HUMANITIES & SOCIAL SCIENCES Intercultural Understanding Ethical Understanding TECHNOLOGIES Eight Learning Areas acara assess (amoun

# THE WHAT...

# Seven

General Capabilities





### DIGITAL TECHNOLOGIES

### Foundation (Prep) – 2



### Recognise and explore digital systems for a purpose.

- use a tablet to take a photograph of a grandparent and record an interview with them about life in the past;
- experiment with different ways of providing instructions to games software using a mouse, touch screen, keyboard and use different software to manipulate text, numbers, sound and images;
- instruct robotic toys to perform a function such as a dance movement;

### **DIGITAL TECHNOLOGIES**

Years 3-4



Collect, access and present different types of data using simple software to create information and solve problems.

- sort numerical and categorical data in ascending or descending order;
- automate simple arithmetic calculations using nearby cells and summing cell ranges in spreadsheet or database software;
- recognise that all types of data are stored in digital systems and may be represented in different ways such as files and folders with names and icons.

### Three Cross-curriculum Sustainability **Priorities** Asia and Australia's Aboriginal and Torres Strait Islander Histories and Cultures engagement with Asia Critical and Creative Thinking Personal and Social Capability HUMANITIES & SOCIAL SCIENCES Intercultural Understanding Ethical Understanding TECHNOLOGIES Eight Learning Areas acara senses senses

# THE WHAT...

Seven General Capabilities





### **ICT General Capabilities**

# RAINWORTH SCHOOL JOHNS REPLECTS LEARNING

### **DEVELOPMENT of SKILLS**

- 1. Applying social and ethical protocols and practices when using ICT
- 2. Investigating with ICT
- 3. Creating with ICT
- 4. Managing and operating ICT
- 5. Communicating with ICT

# **ICT General Capabilities**

#### **ENGLISH**



**Prep:** Understand concepts about print and screen, including how books, film and simple digital texts work. Construct text using software including word-processing programs.

**Year 1**: Recreate texts imaginatively using drawing, writing, performance and digital forms of communication. Construct texts that incorporate supporting images using software including word-processing programs.

**Year 2:** Construct texts featuring print, visual and audio elements using software, including word processing programs.

**Year 3:** Identify the features of online texts that enhance navigation. Elaborations: becoming familiar with the typical features of online texts: navigation bars and buttons, hyperlinks and sitemaps.

Plan, draft and publish imaginative, informative and persuasive texts. Elaborations: using print and digital resources to gather information about a topic.

**Year 4:** Identify features of online texts that enhance readability including text, navigation, links, graphics and layout. Elaborations: participating in online searches using navigation tools.

**Year 5:** Use a range of software including word processing programs with fluency to construct, edit and publish written text, and select, edit and place visual, print and audio elements. Elaborations: writing letters in print and by email.

# ICT General Capabilities MATHEMATICS



Year 2: Investigate the effect of onestep slides and flips with and without digital technologies ACMMG045

**Year 3:** Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies ACMNA057

**Year 4:** Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can represent many data value ACMSP096

**Year 5:** Apply the enlargement transformation to familiar two dimensional shapes and explore the properties of the resulting image compared with the original ACMMG115 —elaboration: using digital technologies to enlarge shapes

**Year 6:** Conduct chance experiments with both small and large numbers of trials using appropriate digital technologies ACMSP145



### What's the difference between ICT Capability and Digital Technologies?

#### Information Communication Technology (ICT) Capability

A general capability taught within all curriculum areas for students in years F-10.

Develops skills and understandings in managing and operating ICT to investigate, create and communicate.

Incorporates digital citizenship when considering the ethical and social impacts of using technologies.

is explicitly planned and taught in all subject areas.



Australian Curriculum off ACARA 2010 to ownerst unless otherwise indicated. Licensed under CCRV 4.0.

#### ICT supports students to be effective users of technology.



#### Digital Technologies

A new subject for F-10 (optional in 9-10) students with new and unique skills and content.

Develops knowledge, understandings and skills of the underlying concepts of information systems, data and computer science.

Encourages students to design and create digital solutions that solve problems taking their preferred futures into consideration.

Must be assessed and reported at least once every two years.

Digital Technologies build on and extend ICT, moving students from technology consumers to creators.



Australian Curriculum: @ ACARA 2010 to gresent, unless otherwise indicated. Licensed under CC BY 4.0.

#### Create solutions and learn Use ICT about Digital Technologies

Digital systems (networks)

Robotics and

automation

Codingand

programming

Computational

thinking

User

Interface

design

Storingand

transmitting

data (binary

numbers)

Presentation tools

Locate information

Digital publishing

Interpret timelines



Ownership and use

Online communication

Digital music /

multimedia

Mapping and

Managing files

and graphing

Analyse and visualise data



# Cyber safety

#### Pattern recognition

Algorithms



rogramming

Data collection

#### Examples of ICT in action

Use digital concept mapping tools to plan and select research tasks



present findings of an inquiry that includes text, images and video.

Use presentation

software to

Use video to analyse a sports to provide coaching tips



simulation or game to test predictions and collect data.

Use a computer

Use a search engine effectively as a research tool.



Use spreadsheet

functions to

create tables

record, sort,

calculate and

present data to

identify trends.

Use an online game that has a grid map system to learn about directions.



#### **Examples of Digital** Technologies in action

Create and code an image using black and white squares. Invite a classmate to decode and recreate the image





Compare a transport network and to explore ideas about pathways, reliability, protocols and security.

Create an interactive story with user-input using a familiar programming language.





Create your own simulation using a visual or text-based programming

Explore ways to securely transmit data through techniques of encryption and decryption.





Create network diagrams to identify relationships between different sources of data (egfriends on social media) and analyse this data.

Design your own maze and use an app to program a robot to go through it.





#### ICT skills in English

The table below highlights some examples, within the subject English that embed the use information Communication Technologies (ICT) skills.

acarammer @ Smithum

Prop Uncertains and screen, including how books, film and simple digital Uncertaint concepts acout grint and whost some resource or text acrees, including how different types organisation including page and Tolerary the resource of online toda: Tolerary resource of online toda that enhance revigation (CCSLA:1780) enhance readability including text, Uncertaine new texts very in purpose, structure and topic as well suggests of tools advitoris been because, and know come features of the care organized using page and office are organized using and office are organized using page are organized usi contigation, linking graphics and layout at the degree of formation and to be also ordinated in the roution and position and position and position and the degree of formation and positions and positions and positions and positions are positionally as a position and positional are positionally as a position and posi - the elaborations say: becoming familiar with the typical features of online tents, for econopie 





lediers, sorolling, selecting isons and dropdown menu	how books and digital texts are organized inducing page numbers, saids of comerce, headings, images to access dinital texts of scrolling to access dinital texts.	menu butona, drog down menuă, înka and îve Connections			ICT skills in Mathematics				acara	
					The table	below highlights son	ne examples, within the subject Mathem	atics that embed the use Information Communication	Fechnologies (ICT) skills.	
	-			Prep	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
authors who tell contex and share all all appellances thus may be similar or different to audient from experiences (see a context to audient from experiences (see a context to audient from ordine audient and Tomes Stratt televider audient and Tomes Stratt televider audient auch audient auch audient auch audient auch auch auch auch auch auch auch auch	Hackstar sect integrations, but of detailing, withing, performance and digital forms of communication of SELTHGBB - the elaborations say: resulting law, events in survival using coal language, and, cigital sectionologies and performance media sectionologies and performance media sectionologies and performance media information in seats they listen to, they are made to they listen to they are made and language features (SELTHGBB - the elaborations say: uning elements in books and some sect, for secting in the sect people, in writing and language features.	Discuss now expresses or binanciary in print, sound and limitings in refact the consess in which they were created didSLT 1987 — the elaborations say, recogniting earth permanent processing and themse in Disaming stories experienced through teats, films and online sources.  Toerrory asspects of timesent types or flarmy seas that enternally, and give reasons for personal patients, withing and using digital technologies to capture and communicate throuths characters and events.				Investigate the effect of onestag alides and fligs with and without digital technologies: ACMMG045	Regresent and solve problems involving multiplication using efficient mental and written stylegies and appropriate digital technologies ACMNA057	ACMNAD76	Solve problems involving multiplication of large numbers by one or two digit numbers using efficient mental, written strategies and appropriate digital technologies ACMINA100	Identify and describe properties of prime, composite, and triangular numbers ACMVA122—the elaboration asys- representing composite numbers as a product of their prime factors and using this form to simplify calculations by cancelling common primes.
							Collect data, organise into categories and onaste displays using lata, tables, picture graphs and aimple column graphs, with and without the use of digital technologies ACMSP089	Salve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies ACMYCACCO	Use efficient mental and written sheltegles and apply appropriate digital technologies to solve problems ACMNA291	Select and apply efficient mental and written atratagies and appropriate digital technologies to zolve problems involving all four operations with whole numbers ACMNA123
								Compare and describe two dimensional shapes that result from combining and splitting common shapes, with and without the use of digital technologies ACMMG088	Connect three-dimensional objects with their nets and other byo-dimensional regressentations ACMMGPII – the elaboration says: regresserting two- dimensional shapes such as gholographs, sketches and images created by digital technologies.	Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies ACMNA127
								Create symmetrical getierns, pictures and shapes with and without digital technologies ACMMG091	Describe translations, reflections and rotations of shapes. Identify and rotational symmetries: ACMMG114 — the elaborations say, identifying and describing the line and rotational symmetry of a range of two-dimensional shapes, by manually outing, folding and turning shapes and by using ciginal technologies.	Add and subtract decimals, with and without digital technologies, and use estimation and rounding to check the reasonableness of answers ACMNA125
								Compare angles and classify them as equal to, greater than, or less than, a right ACMWGGGP—the elaboration asyst creating angles and comparing them to a right angle using digital technologies.	Apply the enlargement transformation to familiar two dimensional shapes and explore the properties of the resulting image compared with the original ACM/VIG115 – the elaboration says: using digital technologies to enlarge shapes	Nulliply decimals by whole numbers and gerform divisions by non-zero whole numbers where the results are terminating decimals, with and without digital technologies. ACMNA129
Use interaction soles including flatering while others speak, using aggregates voice levels, probation and body leaguage, speamer and eye consect £050,147384 - the stationation says: Issaeing and responding to one and mathrodal sects including rhymes and goerns, sects read about and various types of cligical tests.	on use of appropriate rest: enuoture, annexos-level grammar, vood choles, spelling, purcusation and appropriate multimodal elements, for example illustrations and degrams doctor-researches incomprate supporting images using software indusing processing programs doctor-researches programs doctor-researches appropriate acts. These who elementaries say creating digital images and composing a story or information adding images to digital written communications such as entalls with platures of self, classimases or location.	language is used to present these features in different ways.  dCSLTYSH — the abbonstons say:  Innestigating borrightal exchae, found from online sources, four explain ,  physical features of the  landscape and identify and describe the common features of language used.	Use of build in begin t chawles consec					Construct suitable data daglays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can regressent many data value ACMSP098	Construct disglays, including column graphs, dot glots and tables, appropriate for type, with and without the use of digital technologies ACMSP119	Investigate and calculate percentage discounts of 10%, 25% and 50% on sale items, with and without digital technologies ACMMA132
			Place of the second sec							Solve problems involving the compertation of lengths and areas using appropriate units ACMMG137—the elaboration says: recognizing and investigating familiar objects using concrete materials and digital technologies.
										Investigate combinations of translations, reflections and notations, with and without the use of digital technologies ACMMG942
Union texts short texts to explore.										Investigate, with and without digital technologies, angles on a straight line, engles at a point and vertically opposite angles. Use results to find unknown angles ACMWG141
record and report bless and events using familiar words and beginning writing knowledge &CSLY1651 —the										Conduct chance experiments with both small and large numbers of trials using appropriate digital
-										technologies ACMSP145
										Interpret secondary data presented in digital media and elsewhere ACMSP148

### NAPLAN Online

#### Online Assessment:

- A whole- school approach supports students to develop their ICT skills, confidence and digital capability to undertake online assessments (this can also include ICAS Assessments) now and in the future.
- 'ICT use should be purposeful and implemented in the curriculum. To help achieve this, incorporate ICT skills into day-to-day activities and lessons...give students opportunities to be digital authors, online readers and ICT navigators.' (NAPLAN Online training material)

### NAPLAN Online

#### The skills needed for online assessment include:

- Being familiar with devices (laptops)
- Using earphones
- Operating trackpads, mice, touch screens, keyboards
- Navigating on screen
- Manipulating objects on screen e.g. protractor
- Reading digital texts
- Composing digital texts

#### ICT skills

NAPLAN Online requires students to confidently use a computer or device in at least seven ways. These interactions may change as new technologies become available.

- Locate and select an answer
- Type an answer
- Read the screen and navigate web pages
- Manipulate objects on screen
- Read and comprehend digital texts
- Plan and compose text using word processing
- Listen using a headset



### NAPLAN Online

### Unintended consequences:

#### Students:

- not familiarised with the devices won't be able to navigate and use effectively and quickly
- Won't be able to recognise if their device/ program is operating as it should-need to be able to report it
- With undeveloped ICT skills will have some of their cognitive load diverted to manage the ICTs rather than on their actual answers
- Students may be disadvantaged



### Overview

- Why technology?
- Benefits of the 1:1 program
- Ways of working
- Right tool for the right job







# Why technology?



# Benefits of the 1:1 Program

- General IT skill acquisition
  - Typing
  - File management
  - o Email

Student engagement

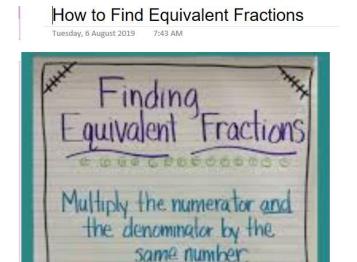


# Benefits of the 1:1 Program – Student Voice



# Benefits of the 1:1 Program

 A wider range of resources enabling independent and collaborative learning (OneNote, Microsoft Office suite, internet based learning tools)



#### Watch this video:

https://www.khanacademy.org/math/arith metic/fraction-arithmetic/arith-reviewvisualizing-equiv-frac/v/equivalentamount-of-pizza

Watch this video if you want more help: <a href="https://www.khanacademy.org/math/arithmetic-home/arith-review-fractions/visualizing-equiv-frac/v/equivalent-fractions">https://www.khanacademy.org/math/arithmetic-home/arith-review-fractions/visualizing-equiv-fractions</a>



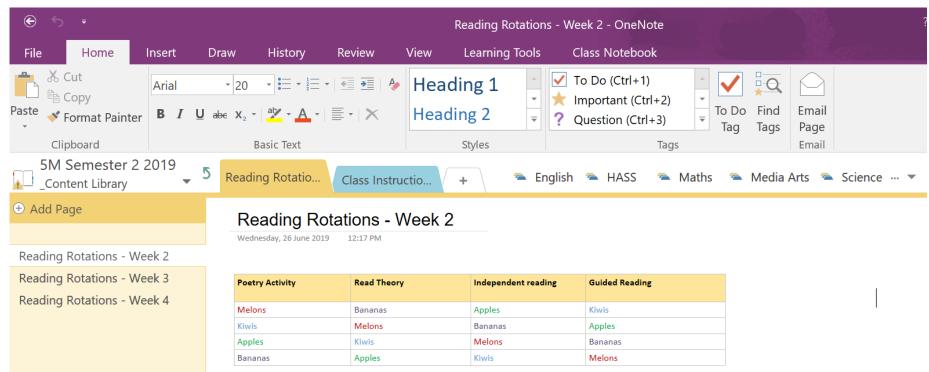
# Benefits of the 1:1 Program – Student Voice



# Ways of Working

### How does the 1:1 Program operate in the classroom?

- OneNote as the LMS (Learning Management System)



- Content library for lesson content
- Student section for student work
- Collaboration space for collaborative tasks

# Ways of Working – Student Voice

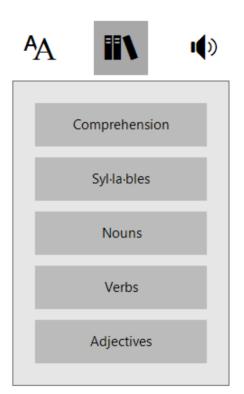


# Ways of Working - Learning tools

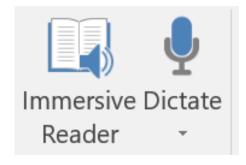
#### A Queenslander's Choice

5M Semester 2 2019 > \_Content Library > English > Poems

The Scotsman likes his heather bells,
The Englishman



AA



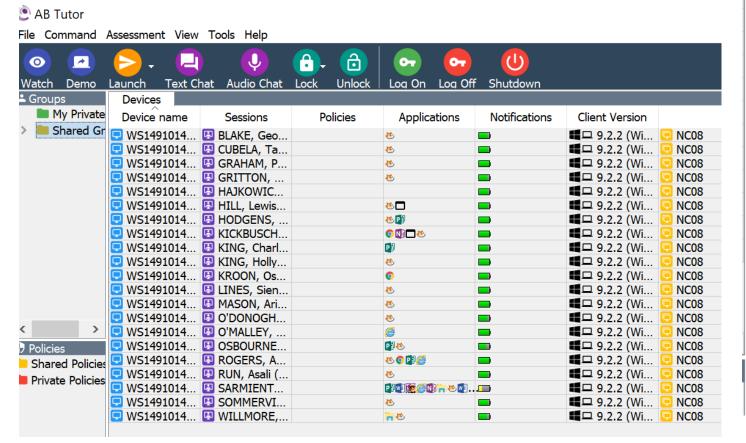


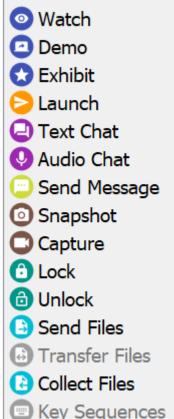


# Ways of Working

### How does the 1:1 Program operate in the classroom?

- AB Tutor





- Manage activity on laptops
- Project work onto board to give feedback/praise
- Send messages to students
- View whole class at once



### Parent Perspective – Home Use



# Parent Perspective – Learning



# Parent Perspective – Feedback and Collaboration



### Parent Perspective – Drawbacks



# Right tool for the right job

### Snapshot of a day in the 1:1 classroom:

Purposeful educational use of resources

- Maths mentals (textbook)
- Writing warm-up (whiteboards, choral response)
- English lesson (mix of laptop and bookwork)
- Maths warm-up (whiteboards, choral response)
- Maths lesson (mix of laptop, bookwork, groups)
- Science (hands on experiment, mix of bookwork and laptop)
- Literacy warm-up (whiteboards, choral response)
- HASS lesson (mix of laptop and bookwork)



### Right tool for the right job – Student Voice



### Where to next? Timeline

- Thursday 22 August (and Friday 23 August) families will receive two letters "1:1 Technology Options Summary Year 5 Laptop Program for 2020" and "1:1 Laptop Program for Year 5 in 2020 Timeline" (both in hard copy form and via email).
- A copy of this presentation will be available on our school website from Friday 23 August 2019.
- <u>Monday 2 September</u> families will receive a letter titled "1:1 Technology Expression of Interest Year 5 Laptop Program for 2020" (both in hard copy form and via email).
- Thursday 12 September 3:00 pm response slip (located on the letter titled 1:1 Technology Expression of Interest Year 5 Laptop Program for 2020) is required back via the Green Box.

#### Principal: Ms Richenda Wagener

School Motto: Living Reflects Learning



#### RAINWORTH STATE SCHOOL

185 Boundary Road, Rainworth Q 4065

ax: (07) 3514 9400

Email: info@rainworthss.eq.edu.au Web: www.rainworthss.eq.edu.au

23 August 2019

#### 1:1 Technology Options - Summary Year 5 Laptop Program for 2020

Rainworth State School continues in its commitment to the 2020 Australian Curriculum requirements, which include digital based capabilities.

The school consulted with the community in 2017 and 2018 about how it can best meet these requirements. The consultation process also considered what the school chould do to best assist our students to gain the technology skills that they will need for future life and how our students can stay safe in the digital world.

The school is aware that there are many different views about the use of technology in the classroom. The school has considered all views obtained during the community consultation process (including the views of teaching staff) and now propose the school's preferred option for moving forward, which includes an offer of a Microsoft Windows based laptop for Year 5 students as an "opt in" basis.

#### **Key Points:**

The following points are the device specifications and financials (based on the 2019 program)

- Device: HP ProBook 440 G5-123-Windows 10
- Specifications: CPU Processor: Intel Core i5-8250U. Hard Drive: 256GB Solid State Drive. Laptop Screen: 14" LED HD SVA AG flat (1366x768). Memory: 4GB (1x4GB) DDR4. Battery: 3 Cell 48 WHr Long Life. More detailed specifications are available upon request.
- <u>Software</u>: including but not limited to Microsoft Office Suite 2016, Google Chrome, Scratch (coding), WeDo (Robotics), ABTutor, Infinity Library, E-books, Symantec AntiVirus Protection.
- Warranty: 3 yr HP Next Business Day onsite and Accidental Damage Protection

NB – this is the 2019 device– this may change in 2020 dependant on the governmental bulk purchase availability.

#### Payment Agreement

#### Hire Agreement

- The school will purchase the laptop and then charge a hire fee per student (ex GST) across the two
  consecutive school years of use.
- The hire fee covers all costs associated with supporting the use of the school laptop.
- The school will retain ownership of the laptop.

Cost	Grade	Calendar Year		
\$350	4	2019 (end Term 4) non-refundable deposit		
\$200 approx.	5	2020 (Term 2)		
\$150 approx	6	2021 (Term 2)		
\$750 approx		Total cost		

#### Mission Statement

At Rainworth our vision is for each individual to achieve the best educational outcomes through a rich, diverse, engaging

### Where to next?

### If successful then there will be a Hire Agreement

- The school will purchase the laptop and then charge a hire fee per student (ex GST) across the two years of use.
- The hire fee covers all costs associated with supporting the use of the school laptop.
- The school will retain ownership of the laptop.

Cost	Grade	Calendar Year
\$350	4	2019 (Term 4) non-refundable deposit
\$200 approx.	5	2020 (Term 2)
\$150 approx.	6	2021 (Term 2)
\$750 approx.		Total cost approx.



# Questions

