ICT Skills Guide

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How to use this guide

Designed for teachers, this guide aims to highlight opportunities where student ICT skills could be developed within current teaching and learning programs. Teachers who are planning, teaching and assessing using the Australian Curriculum are already embedding the ICT skills students will use in online assessment. Capitalise on these opportunities to further develop relevant ICT skills without having to plan any additional learning programs or practice.

ICT skills in the Australian Curriculum

‘ICT capability supports and enhances student learning across all areas of the curriculum. Students develop and apply ICT knowledge, skills and appropriate social and ethical protocols and practices to investigate, create and communicate, as well as developing their ability to manage and operate ICT to meet their learning needs.’

Australian Curriculum, Assessment and Reporting Authority

We have an obligation to prepare children for the world that is here and the world that is coming: a future with technology at its core and with more opportunities and information than we have ever thought possible. The move to online assessment is a natural outcome of the increasing use of ICT in classrooms to enhance student learning.

The general capability of ICT is embedded in learning areas across the full spectrum of the Australian Curriculum.

NAPLAN Online tests students’ abilities in the areas of literacy and numeracy. It is important that students are confident and skilled in using ICT so they can demonstrate their literacy and numeracy knowledge, skills and understandings.

Align how you teach with how you assess learning so that students are familiar with using ICT throughout the learning process. A whole-school approach to the effective use of ICT within the curriculum will help teachers align curriculum, pedagogy and assessment.

Suggestions for how these skills can be developed within four of the learning areas of the Australian Curriculum have been illustrated as a guide. A quick reference linked to the Australian Curriculum is provided in the companion document, Australian Curriculum quick reference.

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.

1. Locate and select an answer
2. Type an answer
3. Read the screen and navigate web pages
4. Manipulate objects on screen
5. Read and comprehend digital texts
6. Plan and compose text using word processing
7. Listen using a headset
English
The learning area of English refers to many opportunities for the application of ICT skills in meaningful ways. For example, in the Language strand, when reading digital texts with students, teachers could demonstrate how signal structures help guide readers. Reading extended pieces of digital text, such as eBooks and online articles, provide experiences where students use the same level of concentration as printed texts. Provide opportunities for students to listen to audio recordings of digital texts, through headsets. Consider the impact of accents on students' comprehension. Record the class spelling list and ask students to spell words from the audio.

Teachers develop students' word processing skills when they focus on the literacy skill of writing. Look for ways to provide students with such word processing skills as copy, cut-and-paste and select-and-move-text. Model the use of subheadings as placeholders for ideas or for composing and drafting initial paragraphs or story structures. Create opportunities to write online, such as making diary entries and contributing to online discussions, and constructing, sharing and publishing information and imaginative texts.

Mathematics
In the Australian Curriculum learning area of Mathematics, there are numerous references to the use of digital technologies during student investigations, problem-solving and demonstration of understandings. ICT skills such as moving objects on a screen could be demonstrated when using applications and learning objects to investigate the properties of common shapes, or to create symmetrical patterns or pictures. The use of digital tools, such as an online calculator and protractor, could be incorporated into the development of number, patterns and algebra understandings, giving teachers a perfect opportunity to explicitly show how to effectively use digital tools. Provide opportunities for students to construct, interpret and explore graphs, tables and number sequences using digital technologies.

Science
The Science Inquiry Skills strand develops student ICT skills through the use of digital technologies to collect and record observations, measure, create representation of data, and communicate their ideas, explanations and processes using multimodal texts. Through these activities, develop students' word processing skills, including the skill of composing information texts such as reports, explanations and findings. Take advantage of the teachable moments and incidental learning that is created in science lessons to reinforce other ICT skills such as website navigation, interacting with digital learning objects, and reading and comprehending digital multimodal texts.

History
In History, students have plenty of opportunities to develop ICT skills in reading and writing digital text, navigating webpages and using headsets. These examples are embedded in the ways and means that students gather information and communicate learnings and ideas. When students locate, process and analyse historical information, they can engage with digital texts. They communicate their learnings and ideas in a number of ways including the use of word processing programs. To access and navigate a range of digital sources of information so they can critically analyse evidence, students require understandings of webpage navigation and access to a range of multimedia resources such recordings and audio files, which require use of headsets. The History curriculum refers to these ICT skills from Years 1 to 10.
Supporting resources

These digital teaching resources are age-appropriate and can be differentiated to suit learning needs and contexts. There are thousands of high-quality interactive digital resources available through the Learning Place and SCOOTLE that can be searched by Australian Curriculum content descriptions, year levels or topics.

The Queensland State School eBooks Digital Library is a collection of eBooks and audiobooks that can be downloaded to computers and compatible mobile devices or read online (state school staff and students).

Curriculum into the Classroom (C2C) digital resource libraries contain a wide range of interactive learning objects and materials.

- C2C science library
- C2C mathematics library
- C2C history library
- C2C spelling library
- C2C: students with disability (SWD) spelling

P-12 Literacy hub

Information and resources to support moving literacy forward from Prep to Year 12. It has starting points to engage with the P-10 Literacy continuum and resources to connect teachers to teaching ideas and demonstrations to improve literacy in the curriculum at all stages of schooling. ICT is explicitly embedded in aspects of reading texts, writing and concepts about print.

The Contemporary Practice Resource offers a wealth of practical teaching ideas and whole-school approaches for using ICT. Resource banks provide high quality resources, strategies and tips to support contemporary teaching practices and ICT skills.

Assessment platforms

Learning Place eLearn

State school teachers, students and affiliate members use eLearn to support teaching, learning and assessment. eLearn features Respondus, assessment tools, a gradebook and performance dashboard.

- Read more

IMPROVE

This assessment platform is available to all Australian schools. Use IMPROVE to assess and monitor student learning.

ICT skills resources

Mouse skills

- Crazy4Computers: tutorial
- Bubble: easy
- Bees and Honey: quite hard

Keyboarding skills

- Keyboarding Games: a selection
- Keyboarding Zoo: uses sound
- Typing Rocket: game
- TypingClub: tutorials

Teachers should always ensure that cloud based applications are suitable for student use. Some programs may display advertisements. Students should never enter personal details on cloud based applications.
My ICT goals

Student name:

How would you rate your ICT skills?
Copy the SAM stars that match your skill level. Type what you can do now and how you might improve.

- **Supported …** I need someone to help me do this. I’m learning.
- **Acquired …** I can do this by myself. I’ve got it!
- **Mastered …** I’m good at this and can do it quickly, easily and for different purposes. I could help others.

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<thead>
<tr>
<th>ICT skill</th>
<th>What I can do</th>
<th>My next steps</th>
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<tr>
<td>1. Locate and select an answer</td>
<td></td>
<td></td>
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<tr>
<td>2. Type an answer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Read the screen and navigate web pages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Manipulate objects on screen</td>
<td></td>
<td></td>
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<tr>
<td>5. Read and comprehend digital texts</td>
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<td></td>
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<tr>
<td>6. Plan and compose text using word processing</td>
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<td>7. Listen using a headset</td>
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</table>
### ICT General Capability: Investigating with ICT—Select and evaluate data and information

<table>
<thead>
<tr>
<th>ICT skill</th>
<th>Years P – 3 activity examples</th>
<th>Years 4 – 6 activity examples</th>
<th>Years 7 – 9 activity examples</th>
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</thead>
<tbody>
<tr>
<td>Locate and select an answer</td>
<td>Warm up with number fact applications&lt;br&gt;Students develop mathematical fluency by interacting with mobile applications (apps), focusing on number facts. <a href="#">Read more</a></td>
<td>Develop fluency in mathematics concepts&lt;br&gt;Students develop mathematical fluency by interacting with mobile applications (apps), focusing on a specific concept (fractions) or process during rotational group activities. <a href="#">Read more</a></td>
<td>Use online tests to differentiate learning&lt;br&gt;At the start of a unit, students complete pre-learning online tests to identify their current knowledge and understanding about a curriculum topic. Teachers use this diagnostic information to differentiate learning. <a href="#">Read more</a></td>
</tr>
<tr>
<td>Sequence images in a timeline movie&lt;br&gt;Year 3 History&lt;br&gt;Students sequence images of Queensland's built environments to create a visual timeline. Then, they convert the timeline into a movie. <a href="#">Read more</a></td>
<td></td>
<td></td>
<td>Develop a Learning Pathway&lt;br&gt;Develop a Learning Pathway for your students on a particular curriculum concept. Select and include digital resources that allow students to practice their ICT skills and digital literacy. <a href="#">About Learning Pathways</a></td>
</tr>
</tbody>
</table>

#### Examples of how NAPLAN Online might require this ICT skill in three strands: reading, conventions of language and numeracy

**Someone having trouble?**

These mouse games are free.

- **Crazy4Computers**: tutorial
- **Bubble**: easy
- **Bees and Honey**: quite hard

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### ICT skill: Type an answer

<table>
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<tr>
<th>Years P – 3 activity examples</th>
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</thead>
<tbody>
<tr>
<td>Interactive sizzling sentences</td>
<td>Use word processing to provide peer feedback</td>
<td>Create a digital marine food web</td>
</tr>
<tr>
<td>Students investigate and demonstrate the impact of language choices on sentences by experimenting with options in an interactive sentence-creation activity. This activity helps teachers monitor student learning about writing.</td>
<td>Students provide feedback to their peers on a written text, using the comments feature of Microsoft Word.</td>
<td>Students use a digital concept-mapping tool to create a marine food web and to depict trophic levels in an energy pyramid.</td>
</tr>
<tr>
<td>Evaluative language word wall</td>
<td>Use online survey tools to collect data</td>
<td>Peers edit and review texts</td>
</tr>
<tr>
<td>Students identify evaluative language and order words according to their level of forcefulness. Students justify their placement. This activity helps teachers monitor student learning about writing.</td>
<td>Students use online survey tools to collect data. Then, they collate their data in a table using Microsoft Word.</td>
<td>Students use Microsoft Word’s review and comment features to edit and review their peers’ written texts.</td>
</tr>
</tbody>
</table>

**Examples of how NAPLAN Online might use this ICT skill in four strands: reading, writing, conventions of language and numeracy**

Here’s a tip

Select curriculum activities that require students to type in text fields. Activity examples include using tables in word, brainstorming tools or Curriculum into the Classroom (C2C) Independent Learning Materials (ILM).

Do you know students will need to accurately enter a NAPLAN session code and up to 10-digit student ID?

Make sure students know how to:
- type punctuation marks
- use the enter key and space bar
- move between support material, questions and answers
- edit text digitally.

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</thead>
<tbody>
<tr>
<td><strong>3 Read the screen and navigate web pages</strong></td>
<td>Engage in interactive learning objects Students access learning objects in the Learning Place or Scootle to develop and apply their knowledge and understandings of curriculum content. Read more</td>
<td>Lesson starter: number facts Students use a learning object that focuses on multiplication number facts to reinforce and establish a context for learning. Read more</td>
<td>Targeted Learning Pathways Each student accesses a Learning Pathway created and customised by their teacher to suit their specific learning needs in measurement and geometry. Read more</td>
</tr>
<tr>
<td>Can students:</td>
<td>Use interactive learning objects to foster effective digital-literacy practice as students read screens for meaning, navigate through activities and respond interactively to questions. Browse by Australian Curriculum in the Learning Place or Scootle to find suitable learning objects and interactive digital resources.</td>
<td></td>
<td>edStudio: Interactive resources Use and adapt this edStudio's interactive resources, which help students develop knowledge and understandings across a range of learning areas. Read more</td>
</tr>
<tr>
<td>• use a mouse or their fingers (if on a device) to move around, zoom in and out to minimise and maximise screen content?</td>
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<tr>
<td>• use a scroll bar, and open and close objects?</td>
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<td></td>
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<tr>
<td>• use next and back arrows, buttons and icons?</td>
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<tr>
<td>• flag a question, read a progress summary and return to unanswered questions?</td>
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<tr>
<td>• read the screen and know what different icons mean (e.g. the timer, back and next buttons, flag and sound)?</td>
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</tbody>
</table>

**Examples of how NAPLAN Online might use this ICT skill in four strands: reading, writing, conventions of language and numeracy**

**Here’s a tip**
Use a projector or whiteboard and discuss a range of navigation items with students.

Ensure students can confidently navigate screens, and interpret progress messages and visual cues.

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## ICT skill: Manipulate objects on screen

### ICT General Capability: Investigating with ICT—Select and use hardware and software

**Explore three-dimensional objects**  
Students use SketchUp drawing software to create and view three-dimensional objects from different perspectives and build their own digital cities.  
*Read more*

**Engage in interactive learning through learning objects**  
Select learning objects that require students to manipulate and interact with objects to, for example, match numbers and words.  
*Read more*

**Explore digital maps and plans**  
Students use Google Maps to explore maps of familiar areas.  
*Read more*

**My Mathematics Tool Kit**  
Students identify and use online resources to learn mathematical concepts.  
*Read more*

**Warm up with number fact apps**  
Students develop mathematical fluency by interacting with mobile applications (apps), focusing on number facts.  
*Read more*

**Construct and investigate models of prisms and pyramids**  
Students use three-dimensional modelling software to create models of prisms and pyramids.  
*Read more*

**Astronomer digital timeline**  
Students research the contributions to science made by astronomers throughout history and communicate their findings in a voki, which they add to a digital timeline.  
*Read more*

**Draw and explain congruent triangles with a digital tool**  
Students use a digital drawing tool to construct a congruent triangle. Then, they record an accurate congruence statement to accompany their diagram.  
*Read more*

**Create a digital timeline**  
Students use an online timeline tool to create a timeline that represents and explains a sequence of important historical events.  
*Read more*

### Examples of how NAPLAN Online might use this ICT skill in four strands: reading, writing, conventions of language and numeracy

**Looking for tools?**  
These tools are great for curriculum activities.  

- **360° Protractor**
- **Hundred board and calculator**
- **Estimating addition (1)**
- **Function machine**

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<tbody>
<tr>
<td><strong>5 Read and comprehend digital texts</strong></td>
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<tr>
<td>ICT General Capability: Communicating with ICT—Collaborate, share and exchange</td>
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<tr>
<td>Digital running records</td>
<td>Students use an audio recorder to record and reflect on their reading of a digital or multimodal text.</td>
<td>Analyse poetry through blog discussions</td>
<td>Students use a blog to discuss a range of poems, focusing on elements such as language features, text structures, purpose and audience.</td>
</tr>
<tr>
<td>Buddy class storytelling through web conferencing</td>
<td>Students connect with a buddy class through web conferencing to collaboratively share stories and retells.</td>
<td>View and comprehend digital texts</td>
<td>Students explore a digital text to analyse how setting, dialogue, words and images establish time and place.</td>
</tr>
</tbody>
</table>

Here’s a tip
NAPLAN Online requires students to independently read digital texts.

- **How to teach reading**
- **NAPLAN minimum standards for reading**

Examples of how NAPLAN Online might use this ICT skill in three strands: conventions of language, numeracy and reading

To become an independent reader, ensure your students read digital texts through:
- modelled reading
- shared reading
- guided reading
- independent reading

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## ICT skill

### Plan and compose text using word processing

Can students:
- plan digitally using concept maps and lists, or brainstorming tools?
- type letters, numbers, characters and punctuation marks on a keyboard?
- use correct fingerling on the keyboard or device?
- select text and delete, copy or move words and phrases?
- type quickly enough so they don’t forget what they are thinking?
- draft stories digitally and improve them by proof reading and editing?
- type letters, numbers, characters and punctuation marks on a keyboard?
- use correct fingerling on the keyboard or device?
- select text and delete, copy or move words and phrases?
- type quickly enough so they don’t forget what they are thinking?
- draft stories digitally and improve them by proof reading and editing?
- type letters, numbers, characters and punctuation marks on a keyboard?
- use correct fingerling on the keyboard or device?
- select text and delete, copy or move words and phrases?
- type quickly enough so they don’t forget what they are thinking?
- draft stories digitally and improve them by proof reading and editing?

### ICT General Capability: Managing and operating ICT—Select and use hardware and software

#### Develop a character study with a digital concept map
Students use an online concept-mapping tool to develop a character study, identifying how particular words and word groups portray characters.
[Read more](#)

#### Digital journal entries
Students develop these ICT skills: drafting, editing and writing.
[Read more](#)

#### Imaginative multimodal narrative
Students use images and language features to create an imaginative digital multimodal narrative. This activity supports the C2C English Year 3 Unit 6 assessment task of creating a multimodal text.
[Read more](#)

#### Blog ideas for staying safe from heat
Students develop these ICT skills: drafting, editing and writing.
[Read more](#)

#### Multimodal soil erosion observations
Students conduct a mini field study observing and recording erosion in their local area.
[Read more](#)

#### Game design and feedback Wiki in a Virtual Classroom
Students use a Wiki to share their game design and provide feedback to their peers.
[Read more](#)

#### Digital Word Wall
Students create a word wall in an edStudio to represent a bank of words.
[Read more](#)

#### Develop viewpoints about characters
Students use an online concept-mapping tool to develop a character study of a character represented in a fantasy novel.
[Read more](#)

#### Explain the science of electrical hazards
Students collaborate in discussion forums to explain the science behind hazardous situations involving electricity and ideas for reducing the risk of harm in each.
[Read more](#)

#### Argue for and against federation in a discussion forum
Students use a discussion forum to role play a debate of the topic, ‘That the six colonies of Australia should unite as a federation’.
[Read more](#)

#### Formulate a school water management action plan
Students use digital tools to identify and promote options for reducing water use at school.
[Read more](#)

#### Analyse a literary text through blog discussions
Students use a blog to record their impressions, attitudes and opinions about events and characters in a text, and reflect on how the author influences the reader.
[Read more](#)

#### Online journal: Imaginative response to teen issues
Students use an online journal in a Virtual Classroom to write imaginative journal entries from a character’s point of view, in response to a teen issue.
[Read more](#)

#### Digital notebook – Heat and Eat investigation
Students use Microsoft OneNote to organise and document their investigation for the Heat and Eat assessment task.
[Read more](#)

#### Collaborate in a discussion forum to interpret ideas about representations in novels
Students use a discussion forum to discuss representations from an extract of a novel. They analyse other viewpoints and make constructive comments.
[Read more](#)

### Examples of how NAPLAN Online might use this ICT skill in two strands: conventions of language and writing

Refer to:
- How to teach writing
- C2C independent learning materials
- NAPLAN minimum standards for writing

Here’s a tip:
Encourage students to write for authentic online audiences, for example, online collaborative projects, blogging and eBooks.

QSA 2007. Water cycle
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<td><strong>Listen using a headset</strong></td>
<td>ICT General Capability: Communicating with ICT—Understand computer mediated communications</td>
<td>Create a voki to represent a historical perspective</td>
<td>Develop reading comprehension with audio books</td>
</tr>
<tr>
<td>Can students:</td>
<td></td>
<td>Students create a voki character to represent a person from goldfield times.</td>
<td>Students listen to and read a short story using an audio book and eBook.</td>
</tr>
<tr>
<td>• listen to a word via a headset and:</td>
<td></td>
<td><strong>Rehearse and record a speech with digital tools</strong></td>
<td>Read more</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students use audio recorders to practise presenting a speech and reflect on their spoken presentation skills.</td>
<td>Read more</td>
</tr>
<tr>
<td></td>
<td>o sound it out?</td>
<td><strong>Rehearse and deliver a presentation through podcasting</strong></td>
<td>Conduct a panel discussion using web conferencing</td>
</tr>
<tr>
<td></td>
<td>o picture it in their mind?</td>
<td>Students plan, rehearse and deliver a podcast presentation. Then, they listen to their peers’ podcasts and provide feedback.</td>
<td>Students use web conferencing to participate and interact in a panel discussion about language and visual features suitable for inclusion in a promotional brochure.</td>
</tr>
<tr>
<td></td>
<td>o type it correctly?</td>
<td></td>
<td>Read more</td>
</tr>
<tr>
<td></td>
<td>o check and edit if needed?</td>
<td></td>
<td>Read more</td>
</tr>
<tr>
<td>• open and close an audio item or stimulus from the toolbar?</td>
<td></td>
<td><strong>Develop reading comprehension with audio books</strong></td>
<td></td>
</tr>
<tr>
<td>• listen to audio without being distracted?</td>
<td></td>
<td>Students listen to and read a short story using an audio book and eBook.</td>
<td></td>
</tr>
<tr>
<td>• understand slightly different accents and intonations, and male and female voices?</td>
<td></td>
<td><strong>Rehearse and deliver a presentation through podcasting</strong></td>
<td>Read more</td>
</tr>
<tr>
<td>• adjust volume on device?</td>
<td></td>
<td>Students plan, rehearse and deliver a podcast presentation. Then, they listen to their peers’ podcasts and provide feedback.</td>
<td></td>
</tr>
</tbody>
</table>

**Examples of how NAPLAN Online might use this ICT skill in one strand: conventions of language (spelling)**

- **Here’s a tip**
  - Use web conferencing as a regular teaching environment.
  - iConnect: web conferencing teaching ideas
  - State Schools eBooks Digital Library (search for audio books)
  - C2C spelling library
  - Mobile apps using sound

- **Spelling machine** (sound on)
  - Practise opening audio files, listening and repeating or typing what is said.

- **Students can use a Voki to create audio files related to curriculum activities.**
  - www.voki.com

- **Ensure every student has a working headset.**