Years 3–4 band Digital Technologies
Curriculum and assessment plan

ACiQ | v9.0

Example

Level description	Context and cohort considerations (if applicable)
By the end of Year 4 students should have had the opportunity to broaden their computational thinking by creating simple digital solutions, individually and in groups, that involve defining problems, and designing and implementing solutions as visual programs. Students practise defining problems using design criteria given to them, and user stories developed by the class. Through practice, students improve the precision of their algorithms and implement them as visual programs. Students expand their understanding of data representation by exploring how and why the same data can be represented in different ways to meet different purposes. Through Digital Technologies and Mathematics (Statistics), students use digital systems to acquire and process data for comparison and interpretation purposes. Students progress in their systems thinking by considering the connections between digital systems and peripherals to meet specific purposes, such as using a headset to participate in an online class discussion. They explore how digital systems interact by transmitting data, such as using a class laptop to stream videos from an online news service. Students apply design thinking techniques to generate multiple ideas for the design of their solutions. They compare their ideas with other ideas, such as those of their classmates. They determine the success of their implemented solutions against given design criteria and co-created user stories. They also judge how well digital systems used by the public meet their needs, such as maps or transport apps to plan a trip. Through frequent practice when completing tasks and projects, students increase their confidence and fluency in using core features of common digital tools to create content individually, and when working in groups they apply agreed behaviours. Students secure their personal data by creating passwords that are hard to guess and begin to understand the risks associated with storing and sharing personal data online. They learn about the importance of protecting private data and consider the positive actions and behaviours they display when engaging with others online. In Digital Technologies, students should have frequent opportunities for authentic learning by making key connections with other learning areas.	Digital Technologies is timetabled for one lesson each week, for one semester in Year 3 and one semester in Year 4. It is facilitated by a classroom teacher in a regular classroom space. Students engage in a range of authentic learning opportunities and have access to digital devices. **Note:** Design and Technologies is also studied for one semester each year.

Unit 1 — Building a smart classroom	Unit 2 — Data games	Unit 3 — Protecting your data	Unit 4 — Data safety quest
Timing: Year 3, Term 1 **Duration:** 10 weeks	**Timing:** Year 3, Term 2 **Duration:** 10 weeks	**Timing:** Year 4, Term 1 **Duration:** 10 weeks	**Timing:** Year 4, Term 2 **Duration:** 10 weeks
In this unit, students explore and describe various digital systems and their peripherals (e.g. tablet with headphones, laptop with projector) and learn how to use them for different purposes. Through case studies, they investigate how different types of data are transmitted between digital systems, e.g. lunch can be ordered on a mobile device and received by the school canteen. Students evaluate how well existing digital systems meet their needs (e.g. to scan and borrow books from the library or to project content onto the class whiteboard) and co-create user stories. They learn how to use a digital tool with modelling software (e.g. a virtual design platform) to design simple environments. Students create a design for a classroom that includes digital systems that improve its function or structure. They explore how to create a screen recording as they tour their design and explain its features.	In this unit, students explore how digital devices can be used to create simple interactive games. Working in small groups, they design a game that involves sending data via a digital device (such as a programmable microcontroller), allowing them to explore data transmission and representation. Students co-create a user story for their interactive game using the format “As a user, I want to accomplish something so that I can address this need” and use the design thinking process to generate ideas. They discuss how their solutions satisfy the provided design criteria, e.g. the game includes user input, the game provides immediate feedback. Throughout this project students create algorithms that include branching and iteration, ensuring their game functions correctly. They apply these algorithms to build a functional game, which involves processing and representing data. Students reflect on their design and make improvements based on feedback.	In this unit, students explore the methods used to store personal data online. They investigate the risks involved with this storage and learn about steps they can take to protect their digital identity. Students learn how to identify personal data, and consider who owns and who can access personal data when it is stored online. They understand the risks associated with storing personal data online and learn about ways to protect their personal data. Students explore strategies for creating passwords that are easy to remember, but hard for others to guess. Collaboratively, they develop an episode of a podcast (audio recording) to inform others of their findings. They upload their audio recording to a shared school drive for the school community to listen to on demand.	In this unit, students learn block-based programming, including how to incorporate control structures and user input. They follow and describe algorithms that include sequencing, branching and loops (iteration). Students explore the structure of quiz games, viewing the programming of example games. They design a simple quiz game that incorporates branching, user input and iteration. Students implement their algorithms as a visual program to create an interactive quiz game. They create an online form seeking feedback on their game design and gather data from their peers. Students use this data to iterate their game design or content. They play the finished quiz games at a lunchtime event.

	Unit 1		Unit 2		Unit 3		Unit 4	
	Assessment — Smart classroom project	**Timing**	**Assessment — Game creator project**	**Timing**	**Assessment — Personal data investigation**	**Timing**	**Assessment — Quiz quest: data defence project**	**Timing**
Assessment	**Description:** Students plan and create a classroom design that includes a digital system to help students learn more effectively, e.g. an interactive learning wall or classroom weather station. They use a digital tool (e.g. virtual design platform) to represent their classroom design. **Technique:** Project **Mode:** Multimodal (spoken and visual) **Conditions:** • up to 1 minute screen recording • task will be completed over multiple lessons or broken into components	Term 1 Week 9	**Description:** Working in small groups, students use a digital device (e.g. programmable microcontroller) to design and create a game (e.g. rock/paper/scissors, guess the number game) that sends and processes data between devices. They construct annotated flowcharts to describe their games' algorithms, which include branching and iteration. **Technique:** Project **Mode:** Multimodal (written and practical) **Conditions:** • implemented digital solution (digital device game) • 1–2 A4 pages or equivalent digital media that may include annotated graphical representations • task will be completed over multiple lessons or broken into components	Term 2 Week 8	**Description:** Working in small groups, students investigate personal data and how it is stored, accessed and protected online. They use digital tools to plan and create a podcast recording to share their findings, highlighting ways to better protect personal data. Students securely access and use digital systems, collaborating to create and share their podcast recording. **Technique:** Investigation **Mode:** Spoken **Conditions:** • 1 minute per student (audio recording) • task will be completed over multiple lessons or broken into components	Term 1 Week 9	**Description:** Students create an interactive quiz using block-based programming, including user input. They use provided design criteria and co-created user stories to inform the game design. Students create an online form to gather feedback data about the quiz. They use a screen recording to present the feedback and describe how their solution meets the design criteria and how it has been informed by the co-created user stories. **Technique:** Project **Mode:** Multimodal (practical, visual and spoken) **Conditions:** • digital solution (online quiz) • up to 1 minute screen recording • task will be completed over multiple lessons or broken into components	Term 2 Week 8
Achievement standard	By the end of Year 4 students create simple digital solutions and use provided design criteria to check if solutions meet user needs. Students process and represent data for different purposes. They follow and describe simple algorithms involving branching and iteration and implement them as visual programs. Students securely access and use digital systems and their peripherals for a range of purposes, including transmitting data. They use the core features of common digital tools to plan, create, locate and share content, and to collaborate, following agreed behaviours. Students identify their personal data stored online and recognise the risks.		By the end of Year 4 students create simple digital solutions and use provided design criteria to check if solutions meet user needs. Students process and represent data for different purposes. They follow and describe simple algorithms involving branching and iteration and implement them as visual programs. Students securely access and use digital systems and their peripherals for a range of purposes, including transmitting data. They use the core features of common digital tools to plan, create, locate and share content, and to collaborate, following agreed behaviours. Students identify their personal data stored online and recognise the risks.		By the end of Year 4 students create simple digital solutions and use provided design criteria to check if solutions meet user needs. Students process and represent data for different purposes. They follow and describe simple algorithms involving branching and iteration and implement them as visual programs. Students securely access and use digital systems and their peripherals for a range of purposes, including transmitting data. They use the core features of common digital tools to plan, create, locate and share content, and to collaborate, following agreed behaviours. Students identify their personal data stored online and recognise the risks.		By the end of Year 4 students create simple digital solutions and use provided design criteria to check if solutions meet user needs. Students process and represent data for different purposes. They follow and describe simple algorithms involving branching and iteration and implement them as visual programs. Students securely access and use digital systems and their peripherals for a range of purposes, including transmitting data. They use the core features of common digital tools to plan, create, locate and share content, and to collaborate, following agreed behaviours. Students identify their personal data stored online and recognise the risks.	
Moderation	**Consensus:** Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.		**Calibration:** Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.		**Consensus:** Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.		**Calibration:** Refer to QCAA moderation advice on the QCAA website under the Assessment tab in the learning area.	

Content descriptions	Units				Content descriptions	Units			
Knowledge and understanding	**1**	**2**	**3**	**4**	**Processes and production skills**	**1**	**2**	**3**	**4**
Digital systems explore and describe a range of digital systems and their peripherals for a variety of purposes AC9TDI4K01	☑	☑	☑	☑	**Investigating and defining** define problems with given design criteria and by co-creating user stories AC9TDI4P01	☐	☐	☐	☑
explore transmitting different types of data between digital systems AC9TDI4K02	☐	☑	☐	☑	**Generating and designing** follow and describe algorithms involving sequencing, comparison operators (branching) and iteration AC9TDI4P02	☐	☑	☐	☑
Data representation recognise different types of data and explore how the same data can be represented differently depending on the purpose AC9TDI4K03	☐	☑	☐	☑	generate, communicate and compare designs AC9TDI4P03	☑	☐	☐	☑
					Producing and implementing implement simple algorithms as visual programs involving control structures and input AC9TDI4P04	☐	☑	☐	☑
					Evaluating discuss how existing and student solutions satisfy the design criteria and user stories AC9TDI4P05	☑	☐	☐	☐
					Collaborating and managing use the core features of common digital tools to create, locate and communicate content, following agreed conventions AC9TDI4P06	☑	☑	☑	☑
					use the core features of common digital tools to share content, plan tasks, and collaborate, following agreed behaviours, supported by trusted adults AC9TDI4P07	☐	☐	☑	☐
					Privacy and security access their school account using a memorised password and explain why it should be easy to remember, but hard for others to guess AC9TDI4P08	☐	☐	☑	☐
					identify what personal data is stored and shared in their online accounts and discuss any associated risks AC9TDI4P09	☐	☐	☑	☐

General capabilities	Units			
	1	2	3	4
Critical and creative thinking	☑	☑	☑	☑
Digital literacy	☑	☑	☑	☑
Ethical understanding	☐	☐	☐	☐
Intercultural understanding	☐	☐	☐	☐
Literacy	☐	☐	☐	☐
Numeracy	☐	☐	☐	☐
Personal and social capability	☐	☑	☑	☐

Cross-curriculum priorities	Units			
	1	2	3	4
Aboriginal and Torres Strait Islander histories and cultures	☐	☐	☐	☐
Asia and Australia's engagement with Asia	☐	☐	☐	☐
Sustainability	☐	☐	☐	☐