


Digital Technologies 9 & 10 (Stage 5)	Australian Curriculum Digital Technologies Outcomes 9–10											
<p> * Darker shading indicates a primary outcome</p>	Investigate how data is transmitted and secured in wired, wireless and mobile networks, and how the specifications affect performance (ACTDIK023) 	Investigate the role of hardware and software in managing, controlling and securing the movement of and access to data in networked digital systems (ACTDIK034) 	Analyse simple compression of data and how content data are separated from presentation (ACTDIK035) 	Develop techniques for acquiring, storing and validating quantitative and qualitative data from a range of sources, considering privacy and security requirements (ACTDIP036)  also ACTDIP025	Analyse and visualise data to create information and address complex problems, and model processes, entities and their relationships using structured data (ACTDIP037)  also ACTDIP026	Define and decompose real-world problems precisely, taking into account functional and non-functional requirements and including interviewing stakeholders to identify needs (ACTDIP038)  also ACTDIP027	Design the user experience of a digital system by evaluating alternative designs against criteria including functionality, usability, and aesthetics (ACTDIP039)  also ACTDIP028	Design algorithms represented diagrammatically and in structured English and validate algorithms and programs through tracing and test cases (ACTDIP040)  also ACTDIP029	Implement modular programs, applying selected algorithms and data structures including using an object-oriented programming language (ACTDIP041) 	Evaluate critically how student solutions and existing information systems and policies, take account of future risks and sustainability and provide opportunities for innovation and enterprise (ACTDIP042)  also ACTDIP031	Create interactive solutions for sharing ideas and information online, taking into account safety, social contexts and legal responsibilities (ACTDIP043) 	Plan and manage projects using an iterative and collaborative approach, identifying risks and considering safety and sustainability (ACTDIP044)  also ACTDIP032
	Part 1: Knowledge and understanding											
Understanding data compression												
Understanding encryption												
Understanding how computers work												
Understanding issues												
Understanding project management: Documentation and backups												
Understanding mobile devices and wireless networks												
Part 2: Projects												
Programming												
Project: Spaced out												
Project: Hailstone numbers												
Project: Programming an animated game												
Project: Programming an object-oriented game												
Project: The game of Nim												
Project: Choosing the best algorithm												
Modelling and simulation												
Project: Millionaire by 30?												
Project: Dance organiser												
Project: Conway's the Game of Life												
Digital design												
Project: A digital declaration of human rights												
Project: Create your own augmented reality product												
Guided project: Introducing HTML and CSS												
Data analysis and visualisation												
Project: Building a relation First Fleet database												
Project: Using SQL to query a database												
Project: Data analysis using pivot power!												
Project: Analysing and visualising big data												
Robotics												
Project: Designing and building an autonomous robot												
Project: PID line follower robot												

ACARA Copyright Notice

All material identified by  is material subject to copyright under the Copyright Act 1968 (Cth) and is owned by the Australian Curriculum, Assessment and Reporting Authority 2017.

For all Australian Curriculum material except laborations: This is an extract from the Australian Curriculum.

Elaborations: This may be a modified extract from the Australian Curriculum and may include the work of other authors.

Disclaimer: ACARA neither endorses nor verifies the accuracy of the information provided and accepts no responsibility for incomplete or inaccurate information.

In particular, ACARA does not endorse or verify that:

- The content descriptions are solely for a particular year and subject;
- All the content descriptions for that year and subject have been used; and
- The author's material aligns with the Australian Curriculum content descriptions for the relevant year and subject.

You can find the unaltered and most up to date version of this material at <http://www.australiancurriculum.edu.au>. This material is reproduced with the permission of ACARA.