This template can be used to assist schools to conduct a technology audit, based on your school’s Digital Technology curriculum needs.

The curriculum focus is for Years7-8 and organised under key concepts.

|  |  |  |
| --- | --- | --- |
| Curriculum focus:  | Technologies considerations  | Technology audit notes  |
| Digital systems |
| Relevant units in DT Hub scope and sequence: [Get connected](https://www.digitaltechnologieshub.edu.au/teachers/scope-and-sequence/7-8/digital-systems/get-connected)[Networks and performance](https://www.digitaltechnologieshub.edu.au/teachers/scope-and-sequence/7-8/digital-systems/network-and-performance)Students explore main components of digital systems connected in a network that control the movement of data. Students describe the use of wired, wireless and mobile networks. Students explain network performance and reliability.Students describe and explain ways data is sent and received between different digital systems. Students explain how cryptography is used in securing data for storage and transmission.  | Access to digital systems which may include: desktop computer, tablet devices, laptop, Chromebooks. Students need these systems to have:* internet connectivity
* connection to the school intranet to save and access files and access relevant software.

Provide access to digital systems with software that enable students to:* access online resources including video content that explain networks as curated by the teacher
* use a programming board such as BBC Micro:bit to demonstrate a practical application of networked devices. (Requires hardware: physical BBC Micro:bit)
 | What we haveWhat we needFuture considerations |
| Data representation, collection and interpretation |
| Relevant units in DT Hub scope and sequence: [Data and information](https://www.digitaltechnologieshub.edu.au/teachers/scope-and-sequence/7-8/data-representations/data-and-information)[Computers and binary](https://www.digitaltechnologieshub.edu.au/teachers/scope-and-sequence/7-8/data-representations/computers-and-binary)Students represent whole numbers in binary. Students explain how different data types (text, images, and audio) are represented using whole numbers.Students collect their own data using a relevant approach including survey tools. Students access data in digital format from a file or website such as an online database. Students use software to analyse, model and present the data. Students use the data to create information.  | Access to digital systems, school intranet and connectivity. Provide access to digital systems with software that enable students to:* search for information and access online data sources such as databases of information
* collect and record data including using an online survey tool/form eg Google forms or Survey monkey.
* Organise, analyse and present data using a spreadsheet. Software will depend on your digital devices: MS Excel for windows, Numbers for iOS, Apache OpenOffice as an open source alternative or Google sheets for a browser-based solution
* access online resources including video content that explain binary numbers, online tools that teach students about binary numbers and online data sources as curated by the teacher.
 | What we haveWhat we needFuture considerations |
| Define problems, Algorithms and Implementation  |
| Relevant units in DT Hub scope and sequence: [Creating an app or game](https://www.digitaltechnologieshub.edu.au/teachers/scope-and-sequence/7-8/creating-digital-solutions/creating-an-app-or-game)[Robotics and embedded systems](https://www.digitaltechnologieshub.edu.au/teachers/scope-and-sequence/7-8/creating-digital-solutions/robotics-and-embedded-systems)Students describe problems and ways to solve them. They consider the requirements and constraints. They break the problem into smaller more manageable parts (decomposition). Students describe and follow and trace check algorithms. They represent an algorithm in written form or as a flow chart. A paper prototype can be developed particularly for app design to step through the sequence. Students define expected outputs and check their algorithm. Algorithms contain branching and iteration. Students implement digital solutions by writing a program using a general purpose programming language. They include branching for decision making, user input and loops for repetition. Students include functions as their computer programs become more complex.  | Access to digital systems, school intranet and connectivity. Provide access to a relevant general purpose programming language, for example:* Python
* JavaScript
* C, C++

Schools may choose to subscribe to programming course. Provide examples of paper prototyping for example using relevant online resources. Robotics provides an opportunity for students to build a device that can be programmed to carry out some form of automated task. Select a robotic system that uses a text based programming language. Many robotic devices use a block-based interface (visual programming language) to control the device. For students at this level to fully meet the requirements for implementation (programming), programming should be text based. Electronic programming boards such as the Arduino, BBC Micro:bit or Raspberry Pi provide another programing option. Requires a digital system (laptop, desktop or tablet device with internet connection) and physical hardware. Each of these programming boards has its own programming development environment. These programming boards can be connected to sensors and collect data which is stored and used in the program. These boards and sensors open up the opportunity for integrating other areas of the curriculum. A turtle drawing program is another option that for programming. An example of this software is Pencil Code which is an online platform. Pencil code also has a music jamming section that enables students to build their own music program. Provide access to software to support students to design and create their own app that solves a particular design challenge or problem. Some solutions can be tested on a smartphone or tablet device. | What we haveWhat we needFuture considerations |
| Information systems and their users |
| Relevant unit in DT Hub scope and sequence: [Connected or distracted, informed or misinformed?](https://www.digitaltechnologieshub.edu.au/teachers/scope-and-sequence/7-8/interactions-and-impacts/collaborative-project)Students describe different systems that people interact with to communicate information. Students investigate how information systems are designed and operated. They explore and analyse alternative solutions. They can evaluate the information system looking at the impact the system has on people and the extent to which the solution is sustainable or opportunities for innovation. Students develop their own information system that solves a particular problem. Students consider user-interface design of digital systems thinking about the needs of the user. Students consider requirements to ensure a positive user experience.  | Access to digital systems, school intranet and connectivity. Provide access to:* Software that enables students to develop designs and prototypes
* online information system sources curated by the teacher
* app creation software such as MIT App inventor
* Augmented Reality software
* Virtual Reality (age appropriate technology)
* Artificial Intelligence tools and applications such as those in Google AI.
 | What we haveWhat we needFuture considerations |
| Plan, create and communicate ideas and information independently and with others |
| Relevant unit in DT Hub scope and sequence: [Digital citizen](https://www.digitaltechnologieshub.edu.au/teachers/scope-and-sequence/7-8/interactions-and-impacts/digital-citizenship)[Connected or distracted, informed or misinformed?](https://www.digitaltechnologieshub.edu.au/teachers/scope-and-sequence/7-8/interactions-and-impacts/collaborative-project)Students plan and manage an approach to develop a solution to a problem or task, taking into consideration group skills and experience. Students manage the project using relevant tools, strategies and approaches. Students collaborate and share their work in a dedicated safe online environment. Students follow agreed protocols (social and ethical) when interacting with others and technical protocols when managing information.  | Access to digital systems, school intranet and connectivity. Provide access to:* online sources curated by the teacher
* software that enables students to create ideas and information
* collaboration tools that enable text, audio and video communication to interact with others working on a common project
* a dedicated safe online environment that enables online collaboration.
 | What we haveWhat we needFuture considerations |