

Achievement Standard

Subject Reference Digital Technologies 1.50

Title Demonstrate understanding of the common components of basic digital infrastructures

Level 1 **Credits** 3 **Assessment** Internal

Subfield Technology

Domain Digital Technologies

Status Registered **Status date** 20 January 2011

Planned review date 31 December 2018 **Date version published** 20 November 2014

This achievement standard requires demonstrating understanding of the common individual components of basic digital infrastructures.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> Demonstrate understanding of the common components of basic digital infrastructures. 	<ul style="list-style-type: none"> Demonstrate in-depth understanding of the common components of basic digital infrastructures. 	<ul style="list-style-type: none"> Demonstrate comprehensive understanding of the common components of basic digital infrastructures.

Explanatory Notes

- 1 This achievement standard is derived from Level 6 of the Technology learning area in *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007; and is related to the material in the *Teaching and Learning Guide for Technology*, Ministry of Education at <http://seniorsecondary.tki.org.nz>.

Further information can be found at <http://www.technology.tki.org.nz/>.

Appropriate reference information is available in *Safety and Technology Education: A Guidance Manual for New Zealand Schools*, Ministry of Education at <http://technology.tki.org.nz/Curriculum-support/Safety-and-Technology-Education>, and the Health and Safety in Employment Act 1992.

- 2 *Demonstrate understanding of the common components of basic digital infrastructures* involves describing:
- and identifying the purpose of the components of basic digital infrastructures
 - the typical connections and data flow between components of a basic digital infrastructure

- key characteristics of components of a basic digital infrastructure that limit their interoperability
- a procedure or protocol for installing or replacing a physical component or a program.

Demonstrate in-depth understanding of the common components of basic digital infrastructures involves explaining:

- how the purpose of components determines the connections between components and the typical flow of data along them
- how the key characteristics of components limit their interoperability
- the importance of procedures and protocols when installing or replacing a component or a program.

Demonstrate comprehensive understanding of the common components of basic digital infrastructures involves discussing:

- the characteristics and limitations of the connections that carry data between components
- the key characteristics used to specify each kind of component in terms of interoperability, tradeoffs, efficiencies, cost, and context of use.

3 A basic digital infrastructure system consists of:

- Personal computer hardware, which includes but is not limited to:
 - case
 - power supply
 - motherboard
 - on-board components (eg video, USB ports and networking)
 - CPU
 - memory
 - extension cards (eg PCI Express)
 - storage devices (will include magnetic, optical and solid state drives and media).
- Associated peripherals, which include but are not limited to:
 - keyboard and mouse
 - CRT and LCD Monitors
 - printer
 - modem or router
 - at least one additional input device
 - at least one additional output device.
- System software, which includes but is not limited to:
 - operating system
 - device drivers
 - disk utilities
 - malware/virus checkers.

4 Characteristics of components are the technical specifications of components that govern how they interact with other components.

5 A procedure is a sequence of steps that can be followed to install or replace a component.

- 6 A protocol is a sequence of steps that must be followed to install or replace a component.
 - 7 Conditions of Assessment related to this achievement standard can be found at <http://ncea.tki.org.nz/Resources-for-Internally-Assessed-Achievement-Standards>.
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Quality Assurance

- 1 Providers and Industry Training Organisations must have been granted consent to assess by NZQA before they can register credits from assessment against achievement standards.
- 2 Organisations with consent to assess and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Consent and Moderation Requirements (CMR) reference

0233