

## 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

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

### Explanatory Notes

- 1 This achievement standard is derived from the Level 6 achievement objectives from 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, 2010 at <http://seniorsecondary.tki.org.nz>.

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

- 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://www.tki.org.nz/e/community/ncea/conditions-assessment.php>.

**Quality Assurance**

- 1 Providers and Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against achievement standards.
- 2 Accredited providers and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Accreditation and Moderation Action Plan (AMAP) reference

0233