

## Demonstrate knowledge of Monera, Protista and Fungi

**Level** 5

**Credits** 4

**Purpose** People credited with this unit standard are able to describe: the features of Monera; the habitats and the major ecological roles of Monera; the evidence for bacterial origin of organelles in eukaryotic cells; the features which distinguish the Protista groups; the habitats and major ecological roles of selected Protista; the structural and functional characteristics which distinguish the divisions of Fungi; and the ecological roles of Fungi.

**Subfield** Science

**Domain** Biology

**Status** Expiring

**Status date** 21 May 2010

**Date version published** 21 May 2010

**This unit standard is expiring. Assessment against the standard must take place before the expiry date set out below.**

**Expiry date** 31 December 2012

**Entry information** Open.

**Accreditation** Evaluation of documentation and visit by NZQA and industry.

**Standard setting body (SSB)** NZQA National Qualifications Services

**Accreditation and Moderation Action Plan (AMAP) reference** 0152

This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

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### Special notes

- 1 It is intended that in demonstrating knowledge for this unit standard the emphasis is placed on:
  - a evolutionary trends;
  - b the dynamic nature of biological classification systems.

- 2 It is intended that, except where there are widespread global implications, examples used in description of species will reflect their significance in New Zealand, in relation to, but not limited to: ecology, health, medicine, and food production.
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## **Elements and performance criteria**

### **Element 1**

Describe the features of Monera.

#### **Performance criteria**

- 1.1 The description compares the characteristics of selected Monera in terms of their structure.
- Range Archaeobacteria, Eubacteria.
- 1.2 The description compares the characteristics of selected Monera in terms of their function.
- Range may include, but is not limited to – nutrition, major energy producing pathway, locomotion, reproduction.

### **Element 2**

Describe the habitats and the major ecological roles of Monera.

#### **Performance criteria**

- 2.1 The description compares two selected Monera in terms of their major habitats.
- 2.2 The description compares the major ecological roles of selected Monera.
- Range includes, but is not limited to – bacteria in nutrient recycling, primary production and disease.

### **Element 3**

Describe the evidence for bacterial origin of organelles in eukaryotic cells.

#### **Performance criteria**

- 3.1 The description outlines theories for the bacterial origin of mitochondria and chloroplasts in eukaryotic cells.

#### **Element 4**

Describe the features which distinguish the Protista groups.

##### **Performance criteria**

- 4.1 The description compares the structural features of a named unicellular alga and a named multi cellular alga.
- 4.2 The description compares modes of locomotion in a flagellate protist, a ciliate protist and an amoeboid protist.
- 4.3 The description outlines two modes of nutrition in selected protists.
- 4.4 The description outlines the life cycle of a named parasite.
- 4.5 The description states one reason for each of the slime moulds and the water moulds to be classified as protists rather than as fungi.

#### **Element 5**

Describe the habitats and major ecological roles of selected Protista.

##### **Performance criteria**

- 5.1 The description compares two selected Protista in terms of their major habitats.
- 5.2 The description compares the major ecological roles of selected Protista.  
Range includes but is not limited to – primary production, disease.

#### **Element 6**

Describe the structural and functional characteristics which distinguish the divisions of Fungi.

##### **Performance criteria**

- 6.1 The description outlines the structure of typical representatives to illustrate the characteristics of each division.  
Range Zygomycota, Ascomycota, Basidiomycota.
- 6.2 The description outlines the life-cycle of one selected Fungus.
- 6.3 The description compares modes of nutrition of three named Fungi.  
Range saprobic, parasitic, symbiotic.

## Element 7

Describe the ecological roles of Fungi.

### Performance criteria

- 7.1 The description explains the ecological importance of Fungi as decomposers.
- 7.2 The description explains the importance of lichens as colonisers.
- 7.3 The description explains the role of mycorrhizae.
- 7.4 The description identifies one plant and one animal pathogen.

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### Please note

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.