

Achievement Standard

Subject Reference	Education for Sustainability 3.2		
Title	Investigate the interrelationship between humans and a biophysical environment in relation to a sustainable future		
Level	3	Credits	4
		Assessment	Internal
Subfield	Science		
Domain	Environmental Sustainability		
Status	Expiring	Status date	20 November 2014
This achievement standard is expiring. Assessment against the standard must take place before the expiry date set out below.			
Expiry date	31 December 2015	Date version published	20 November 2014

This achievement standard involves an investigation into the interrelationship between humans and a biophysical environment in relation to a sustainable future.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> Investigate the interrelationship between humans and a biophysical environment in relation to a sustainable future. 	<ul style="list-style-type: none"> Investigate and explain the interrelationship between humans and a biophysical environment in relation to a sustainable future. 	<ul style="list-style-type: none"> Critically investigate and explain the interrelationship between humans and a biophysical environment in relation to a sustainable future.

Explanatory Notes

- 1 This achievement standard is derived from the *Guidelines for Environmental Education in New Zealand Schools*, Learning Media, Ministry of Education, 1999.
- 2 This achievement standard is derived from Level 8 of *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007, including learning outcomes from the Science, Social Sciences, Health and Physical Education, and Technology learning areas achievement objectives.
- 3 *A sustainable future* requires the development of ways of thinking and acting to meet the needs of the present generation without compromising the ability of future generations to meet their own needs. Sustainability includes, but is not limited to:
 - maintenance of biodiversity, ecological processes and life support systems

- an economy relative to its ecological life support system
- a fair distribution of resources and opportunities
- looking beyond direct consequences of activities to explore attitudes, values and moral issues that create particular views on the use of natural resources
- personal and social responsibility.

4 *Investigate* requires students to carry out research and/or a practical inquiry to give an account or characteristics of:

- a biophysical environment
- the reciprocal nature of the interrelationship between people and the biophysical environment using aspects of sustainability.

Explain requires students to provide reasons as to how or why the interrelationships have developed.

Critically investigate requires students to investigate, explain and analyse the reciprocal nature of the interrelationships between humans and the biophysical environment using aspects of sustainability and make a judgement in relation to a sustainable future. It may involve justifying decisions, making judgments, considering implications, projecting future impacts, evaluating options, comparing and contrasting, analysing or suggesting alternatives.

5 *Interrelationship between humans and a biophysical environment* applies to the reciprocal nature of the interactions between humans and a biophysical environment and the implications for a sustainable future. This refers to all the aspects of sustainability – environmental, social, economic and cultural, and the interdependence between them. Māori concepts relating to these aspects will vary between hapū and between iwi. It is expected that the local Māori community will be consulted on how these concepts will be articulated. Interrelationships could be those that promote or disrupt the sustainability of an environment.

6 *A biophysical environment* relates to the symbiosis between the physical environment and the biological life forms within the environment. It includes all variables that comprise the earth's biosphere and can vary from microscopic to global in extent. The biophysical environment can be divided into two categories: the natural environment, and the built environment, with some overlap between the two. *Biophysical* must include ecological systems, and a selection from the geological, atmospheric, hydrological and climatic systems operating within that space and their interdependence. An *environment* refers to a definable area such as an urban community, estuary, national park, or farm or a larger area such as an island, country or planet earth.

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

0226