



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

Level 2, 2003

Science: Describe aspects of New Zealand's endemic life (90314)

National Statistics

Assessment Report

Assessment Schedule

Science: Describe aspects of New Zealand's endemic life (90314)**National Statistics**

Number of Results	Percentage achieved			
	Not Achieved	Achieved	Merit	Excellence
1,117	42.7%	47.5%	8.5%	1.3%

Assessment Report

Every candidate for a National Certificate of Educational Achievement examination paper is expected to:

- read the question and do what the question asks
- allow adequate time to complete answers
- be accurate: check and/or proofread
- use appropriate technical terms
- bring the correct equipment
- write and/or draw clearly
- use pen if work is to be eligible for reconsideration.

General Comments

Candidates generally achieved well, with many able to describe the evolution and key conditions necessary for the survival of New Zealand plants and animals. Many candidates limited their chances of gaining Achievement with Merit or Achievement with Excellence by re-writing introductory material or writing restrictive answers.

Many candidates failed to answer the plant question. Plants are specified, along with animals, in the expanded title and the first criterion. Plants are also mentioned in the explanatory notes.

Candidates failed to recognise geological factors (Question Two) and their effect on evolution. Geological factors are covered in Explanatory Note 3.

Many students thought that adaptive radiation was about global warming (Question Two). While adaptive radiation is not mentioned specifically in the explanatory notes, it is fundamental to evolution.

Assessment Schedule

Science: Describe aspects of New Zealand's endemic life (90314)

Evidence Statement

Question	Evidence contributing to Achievement	Evidence contributing to Achievement with Merit	Evidence contributing to Achievement with Excellence
	Describe the evolution of New Zealand plants and animals including the factors and processes involved.	Make reasoned links between the factors and the processes involved in the evolution of New Zealand plants and animals.	Make valid generalisations by applying the linked factors and processes to a wider group of New Zealand plants and animals.
	Holistic judgment A candidate can describe the evolution of the pūkeko.	Holistic judgment A candidate can explain the evolution of the pūkeko OR <i>Hebe</i> .	Holistic judgment A candidate can discuss the evolution of the pūkeko and <i>Hebe</i> .
ONE (a)	Long legs/wide thin toes/ waterproof feathers/wings.		
(b)(i)	Isolated population settles into new area.		
(b)(ii)	Subset genetic pool/different evolutionary pressures.	Subset genetic pool: different evolutionary pressures.	
(c)	Arrival of founder population/ selection for different environments/niche/reduction in flight/swamp living.	Arrival of founder population: selection for: different environments/niche/reduction in flight/swamp living.	Could be Excellence Arrival of founder population: selection for: different environments/niche: reduction in flight/swamp living.
(d)	Bone/DNA analysis/feather analysis.	DNA analysis: bone/feather analysis 2 required	
(e)	different environmental conditions/two different founder populations/different selection pressures/bottlenecks/genetic drift.	different environmental conditions/SI glacial/NI forested: Two different founder populations/different selection pressures/bottlenecks/genetic drift.	1. Two different founder populations: 2. different environmental conditions: SI glacial/NI forested: 3. different selection pressures ie bottlenecks/genetic drift.
TWO	Factor Mountain uplift/more land/ glacial periods/changing sea levels/volcanism.	Factor Mountain uplift/more land: glacial periods: changing sea levels/volcanism Plus Reason New environments/influence on hebes.	Factors Mountain uplift/more land: glacial periods: changing sea levels/volcanism Plus Reasons New environments: how influenced hebes, change in leaf size, etc.
	To gain Achievement, 3 of the above correct	To gain Achievement with Merit, 2 of the above correct	To gain Achievement with Excellence, 1 required

Question	Evidence contributing to Achievement	Evidence contributing to Achievement with Merit	Evidence contributing to Achievement with Excellence
	Describe the key conditions necessary for the survival of a New Zealand endemic plant or animal.	Explain key conditions necessary for the survival of a New Zealand endemic plant or animal, and discuss implications for survival.	Explain, in detail, a range of conditions necessary for the survival of a New Zealand endemic plant or animal, discuss implications and evaluate the chances for survival.
	Holistic judgment A student can describe the key conditions necessary for the survival of the takahē or how plants survive.	Holistic judgment A student can explain the key conditions necessary for the survival of the takahē and discuss the implications of the conservation of the takahē or a named plant.	Holistic judgment A student can discuss the key conditions necessary for the survival of the takahē and discuss the implications of and evaluate the success of the conservation of the takahē or a named plant.
THREE	Reduce food/covered with snow/freeze to death.		
(a)			
(b)	Birds learn takahē behaviour/ better survival.	Learn takahē behaviour/ breed sooner: better able to survive harsh conditions.	
(c)	Survival under threat/special areas needed/can only survive with man's intervention/may not be successful/ small gene pool.	Survival under threat: special areas needed: small gene pool/can only survive with man's intervention/may not be successful.	Survival under threat may die out: special areas needed: small gene pool: can only survive with man's intervention: may not be successful with reasons, eg harsh winters.
FOUR	Special areas/predator elimination/ selective propagation. Method OR relevant example only. Example = plant or organisational.	Special areas/predator elimination/selective propagation AND single relevant EXAMPLE . Example = plant or organisational.	Special areas: predator elimination: selective propagation AND relevant EXAMPLES . Example = plant or organisational.
	To gain Achievement, 2 of 4 correct	To gain Achievement with Merit, 1 correct	To gain Achievement with Excellence, 1 correct
	Overall sufficiency Part A + part B achievement	Part A + part B achievement	Part A + part B achievement

Organisational means DOC/Nursery/National Park/reserve, etc

Judgement Statement

Judgement statements (formerly referred to as sufficiency statements) help students understand how their overall results for each standard were arrived at.

Achievement	Achievement with Merit	Achievement with Excellence
<p><i>Describe the evolution of New Zealand plants and animals including the factors and processes involved.</i></p> <p>Achievement in a minimum of THREE different opportunities.</p>	<p><i>Make reasoned links between the factors and the processes involved in the evolution of New Zealand plants and animals.</i></p> <p>Achievement plus at least ONE at Merit level.</p>	<p><i>Make valid generalisations by applying the linked factors and processes to a wider group of New Zealand plants and animals.</i></p> <p>Merit plus at least ONE at Excellence level.</p>
<p><i>Describe the key conditions necessary for the survival of a New Zealand endemic plant or animal.</i></p> <p>Achievement in a minimum of TWO different opportunities.</p>	<p><i>Explain key conditions necessary for the survival of a New Zealand endemic plant or animal, and discuss implications for survival.</i></p> <p>Achievement plus at least ONE at Merit level.</p>	<p><i>Explain, in detail, a range of conditions necessary for the survival of a New Zealand endemic plant or animal, discuss implications and evaluate the chances for survival.</i></p> <p>Merit plus at least ONE at Excellence level.</p>