



The following report gives feedback to assist assessors with general issues and trends that have been identified during external moderation of the internally assessed standards in 2025. It also provides further insights from moderation material viewed throughout the year and outlines the Assessor Support available for Earth and Space Science. Please note this report does not introduce new criteria, change the requirements of the standard, or change what we expect from assessment.

Insights

91188: Examine an Earth and Space Science issue and the validity of the information communicated to the public

Performance overview:

To achieve the standard, students are required to select, process, and report on relevant Earth and Space Science information on an issue, comment on the validity of the information from key sources communicated to the public, and draw a conclusion on the issue.

Practices that need strengthening:

The focus of the standard is on how the information is presented in the media, rather than evaluating the science itself. Students who did this well focused on comparing the accuracy of the science information presented by comparing it to more valid and reliable sources.

91190: Investigate how organisms survive in an extreme environment

Performance overview:

To achieve the standard, students are required to select and process information to describe the conditions of an extreme environment and the adaptations that allow an organism to survive there.

Practices that need strengthening:

The reason why the environment requires special adaptations or modifications for survival is a key requirement of the standard. Students who did this well focused on the Earth or space aspects of the extreme environment, and related any adaptations or modifications to survival in that extreme environment.

91410: Carry out an independent practical Earth and Space Science investigation

Performance overview:

To achieve the standard, students are required to conduct a valid scientific investigation in an Earth and Space Science (ESS) context at level 8 of the New Zealand Curriculum. This investigation builds on 91187 by requiring students to make a detailed link between the investigation and the underlying ESS. Students need to give appropriate explanations of the ESS concepts at curriculum level 8. The chosen investigation needs to be selected and carried out by the student.

Assessment tasks that were not overly scaffolded provided opportunities for students to explain, justify, and evaluate their investigation without limiting their responses.

Practices that need strengthening:

The standard requires a valid range for key variables to enable the collection of valid data. Students who met this requirement selected a valid range for key variables suited to the purpose of the investigation. For example, students investigating the effect of decreased pH on seashells developed a method that included solutions with pH values reflecting current ocean pH levels and short- and mid-term projections due to climate change.

91411: Investigate a socio-scientific issue in an Earth and Space Science context

Performance overview:

To achieve the standard, students are required to select and process scientific information on a socio-scientific issue, explain the issue and the impact on individuals and society, and describe both a personal and a societal response to the issue.

Practices that need strengthening:

Students who met the standard clearly identified the issue and responses without confusing them, even when they overlapped. For example, building wind farms could be a response to the issue of climate change, or wind farms could be the issue itself, which would involve different responses.

91412: Investigate the evidence related to dating geological event(s)

Performance overview:

To achieve the standard, students are required to explain geological event(s) and explain a range of evidence related to dating the geological event(s).

Practices that need strengthening:

Students who met the standard selected appropriate methods to give the most accurate estimate of the event's date. For example, choosing carbon dating to date the last time the Alpine Fault moved because it is suitable for dating events up to 60,000+ years old (but less than 100,000 years old), rather than U/Pb dating which has a percentage error beyond the relevant timeframe.

Explaining how the cross-correlation of the evidence contributes to the dating of geological event(s) is a key requirement for Excellence. Students who did this well used cross-correlation between their two methods to give the final age of their chosen geological event.

91415: Investigate an aspect of astronomy

Performance overview:

To achieve the standard, students are required to select and process reliable information related to an astronomical aspect and explain the aspect.

The standard requires the key science relevant to the astronomical aspect to be explained at Merit level. These key science concepts need to be able to be explained at level 8 of the New Zealand Curriculum.

Practices that need strengthening:

Explaining the astronomical aspect is a key requirement for Achieved. Students who did this well clearly identified and explained what the aspect is, often in an introduction or in the first section.

Explaining the key science relevant to the astronomical aspect is required at Merit level. Students who did this well selected an astronomical aspect for which they were able to explain the relevant key science. For example, for the aspect “Reclassifying Pluto”, relevant science concepts might include the balance between gravity and inertia/velocity of astronomical bodies, hydrostatic equilibrium, and orbital dominance. For the aspect “Habitable zones”, relevant science concepts might include the role of liquid water, stellar energy and distance, the greenhouse effect, planetary mass and geology, and planetary protection.

To give feedback on this report click on [this link](#).

Assessor Support

NZQA offers free online support for teachers as assessors of NZC achievement standards. These include:

- Exemplars of student work for most standards.
- National Moderator Reports.
- Online learning modules (generic and subject-specific).
- Clarifications for some standards.
- Assessor Practice Tool for many standards.
- Webcasts.

Exemplars, National Moderator Reports, clarifications, and webcasts are hosted on the NZC Subject pages on the NZQA website.

[Subject Pages](#)

Online learning modules and the Assessor Practice Tool are hosted on Pūtake, NZQA’s learning management system. You can access these through the Education Sector Logon.

[Log in to Pūtake](#)

We also may provide a speaker to present at national conferences on requests from national subject associations. At the regional or local level, we may be able to provide online support.

Please contact assessorsupport@nzqa.govt.nz for more information or to lodge a request for support.