



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 2023. It also provides further insights from moderation material viewed throughout the year and outlines the Assessor Support available for Physics.

Insights

91521: Carry out a practical investigation to test a physics theory relating two variables in a non-linear relationship

Performance overview:

Evidence that met this standard included collecting data, determining uncertainties, using graphical analysis to form a conclusion and comparing the result with a physics theory.

Evidence that met the standard at higher levels described how variables were controlled and why, determined a gradient and stated the equation of the relationship or value of the physics quantity, with uncertainties. Further evidence included comparing the determined result with a physics theory, often a formula, and stating the limitations of the result.

Practices that need strengthening:

Discussing the limitations of the theory's applicability to the practical situation requires more than describing the limits of available equipment. Other influences on measurements could be considered, e.g. various frictions.

Selecting a physics theory with several other variables which need to be controlled gives students/ākonga better opportunity to achieve at higher levels.

91522: Demonstrate understanding of the application of physics to a selected context

Performance overview:

This standard requires students to relate the key physics ideas to the selected context.

Physics concepts from level 8 of the curriculum are required to meet this standard. Using the more familiar physics concepts from level 7 makes it more difficult to meet the standard.

Evidence that met the requirements of the standard had clear explanations of the physics in situations such as: energy around a roller coaster track, relating how Bohr's atomic model can be used when describing a stellar spectrum, or nuclear radiation use in medical imaging.

Practices that need strengthening:

This standard requires some research into a context that involves physics. There are many, many possible contexts. A common difficulty students/ākonga experience is focusing on the context, particularly the technical or engineering details, rather than on the Level 3 Physics ideas that apply.

Usually, a full understanding of how a context works is beyond Level 3 Physics. Students/ākonga who keep their focus on Level 3 Physics ideas often demonstrate suitable understanding.

Assessor Support:

Online

NZQA's learning management system (Pūtake) offers 150+ easy to access courses, materials and products. These are designed to support teachers, as assessors, to improve their assessment of NCEA standards.

Online, subject-specific or generic, bite-sized learning modules and short courses are now available to complement the traditional face-to-face workshops that NZQA offers. These online courses can be accessed using your Education Sector Logon.

Online Making Assessor Judgements workshops are also available throughout the year. These workshops are structured to guide teachers to improve their understanding of each grade level by examining several full samples of student work. The following standards are available for enrolment in 2024:

- 91521: Carry out a practical investigation to test a physics theory relating two variables in a non-linear relationship
- 91522: Demonstrate understanding of the application of physics to a selected context

Feedback from teachers for these workshops indicates that more than 74% of participants agreed or strongly agreed that the content in the module was beneficial:

“Although I was a bit skeptical that this was going to provide me with better understanding of the standard (and marking it), I found I've picked up more certainty about making judgements about the work my students might produce. I'm also more secure about guiding them through the selection of their topic and setting it up so that they are able to complete a successful investigation.”

Exemplars of student evidence for all standards at each level of achievement are available on the NZQA subject page for Physics.

NZQA will continue to provide generic modules and workshops designed to improve general assessment practice. The following modules and workshops will be available in 2024:

- Assessment Approaches, an online workshop exploring different methods of assessment
- Culturally Responsive Assessment
- Assessment Guidance – Reviewing Your Practice
- Tāku Reo, Tāku Mahi – My voice, My work, a guide to managing authenticity
- Why Less is More, a guide to reducing volumes of student evidence
- Integrated Assessment
- Modes of Assessment
- Alternative Assessment
- Acknowledging Sources

“This was great! I liked that I could choose from different scenarios, see how sources are used and the way the student answered the question.”

“Reassuring and very thorough. Easy to use/follow.”

We will also continue to offer the Transforming Assessment Praxis programme, an online workshop relevant to all subjects which helps assessors learn about re-contextualising

assessment resources and collecting evidence in different ways, in order to better meet the needs of students.

Check the NCEA subject pages on the NZQA website regularly, as more online modules, workshops and courses will be added throughout 2024.

Assessor Practice Tool

The Assessor Practice Tool (APT) will be used to support assessors with the new NCEA standards from 2024 onwards. The purpose of the APT is to allow assessors to practice making assessment judgements and immediately receive feedback on their judgements from a moderation panel. The APT will initially have material for some existing Level 3 standards, with moderated samples for the new Level 1 NCEA standard subjects being added as material becomes available. Material for the new Level 2 and Level 3 standards will be added over time, and all material for the old NCEA standards will be archived.

Material is currently available for:

- 91521: Carry out a practical investigation to test a physics theory relating two variables in a non-linear relationship
- 91522: Demonstrate understanding of the application of physics to a selected context

Workshops and Presentations

The Best Practice Workshops offered by Assessment and Moderation continue to be viewed by the sector as significantly contributing to improved assessor practice:

“I thought the workshop was very clear and helpful, there were a lot of varied examples of ākonga work discussed and opportunity for participants to discuss and ask questions.”

We offer several options of online workshops and presentations for events to support assessors with the assessment of internally assessed standards. These can be subject-specific, or general assessment support, and tailored to the audience. Virtual presentation slots, online workshops or webinars can be requested to provide targeted support to local, regional or national audiences.

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