

New Zealand Qualifications Framework Levels 1 – 3, 2011

Science

National Moderator's Report

National Moderator's Report for Science

General Guidance for Assessors

The purpose of external moderation is to provide reassurance that teacher judgements are at the national standard and are made on the basis of assessment materials that are fair and valid. All assessment materials are expected to:

- give the student the opportunity to meet the requirements of the standard
- include an assessment schedule that gives evidence of appropriate student responses and clear judgements at all levels.

To help to ensure best assessment practice teachers need to access the Subject Specific Resources for Science on the NZQA website: **www.nzqa.govt.nz/science**

The resources on this webpage include:

1. annotated student exemplars
2. clarification of issues with the standards
3. newsletters - current and archived editions
4. previous national moderator reports
5. a link to the TKI resources

General Overall Comment

Achievement standards:

Science, in 2011, has seen the introduction of 13 new internal achievement standards. Some ongoing interpretations of these standards have been published in science newsletters on the NZQA website. In 2012 a full Clarifications document will be produced for the new level 1 standards.

New level One standards.

In 2011 most teachers were using the latest versions of the tasks from the TKI website.

<http://www.tki.org.nz>

The science standards use the term “Investigate”. Investigate means the gathering of data by any valid scientific method: experiments, field trips, research projects and this is explained by explanatory note 2 for all the standards.

“Investigate Implications of” Standards:

These include 90941, 90942, 90943, 90945, 90946.

“Investigate implications of” has been fully explained in the newsletters published on the NZQA science page for 2011. www.nzqa.govt.nz/science

The physics and chemistry science standards require students to show *Implications* of the physics/chemistry knowledge they have been learning. 90941-90943 looks at how learned physics knowledge impacts on everyday life and 90945-90946 looks at how learned chemistry knowledge impacts on society.

In the chemistry science standards above the use of equations and scientific formulae form part of a good teaching programme and task but are not the critical aspect for the judgement against the standard. The critical focus for awarding the standard at each level must be

Implications as stated in the criteria e.g. errors in equations would not prevent a student being awarded the standard at any level.

The only standard where equations can be expected as part of the assessment judgement is 90947 – “Investigate selected chemical reactions” as formulae and equations help explain and make predictions for selected chemical reactions.

These physics/chemistry science standards are best covered by experiments, research or field trips.

“Investigate biological skills” standards
These include 90949, 90950, 90951.

“Investigate biological skills” has been fully explained in the [newsletters](#) published on the NZQA science page for 2011.

The biology science standards require students to show an application of the biology knowledge they have been learning. 90949 looks at life processes and environmental factors that affect them, 90950 looks at how biological ideas link micro-organisms to humans, and 90951 looks at how a biological event affects an ecosystem.

These biological science standards are best covered by experiments, research or field trips.

“Demonstrate understanding of” standards.
These include 90952, 90953, 90954.

Demonstrate understanding requires the students to show the knowledge behind the science related to the title of the standard. Three of the four Earth and Space science standards have in their title “Demonstrate Knowledge of ...” These can be assessed as research projects, field trips or tests.

90955 is the one Earth and Space science standard that requires students to investigate an earth science or astronomical event and is best assessed as a research project or field trip.

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| <p>The National Moderator reports will be replaced by newsletters and clarifications documents from 2012.</p> |
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