




20 May 2022



Tēnā koe 

Thank you for your email of 29 March 2022 to the Ministry of Education requesting the following information:

Copies of all documentation (including, but not limited to, reports, memoranda, letters and emails) concerning how the 'subject specific term' mauri, as it is defined in the Chemistry and Biology Glossary, came about/was decided on.

Your request has been considered under the Official Information Act 1982 (the Act).

As you may be aware, the Ministry of Education is currently working with schools, young people, families/whānau, communities and other key stakeholders to deliver seven changes aimed at strengthening NCEA.

One of the seven NCEA changes is 'Equal status for mātauranga Māori in NCEA'. This change is about ensuring that, where possible and appropriate, te ao Māori and mātauranga Māori are built into achievement standards for use across English and Māori-medium settings.

As part of delivering these seven NCEA changes the Ministry is doing a Review of Achievement Standards (RAS). The Level 1 Chemistry and Biology material published on the NCEA website, including the glossary, is currently going through the Ministry's RAS process. As such, it is in draft form and is at the stage of being piloted. This means it is being trialled by a small number of schools across the country. Feedback will be gathered from all of these pilot schools and other sources and will lead to potentially significant revisions to the currently published material prior to full implementation.

In response to your request, we have identified 10 documents in scope.

Please see **Appendix A: Document Table** which lists the documents identified and our decision on their release.

We are releasing one document in full and five in part, attached at **Appendix B**. Mobile numbers of Ministry staff have been withheld under section 9(2)(a) of the Act to protect the privacy of natural persons.

As required under section 9(1) of the Act, we have considered the public interest considerations favouring release of information. We have identified no public interest considerations which outweigh the need to withhold the above information at this time.

Four documents identified as in scope of your request are publicly available on our NCEA website:

- ['Chemistry And Biology - Subject Expert Group response to feedback on the Phase 1 materials'](#)
- ['Chemistry and Biology NCEA Level 1 Phase 1 Survey – Raw Feedback'](#)
- ['Chemistry and Biology Phase 2 Survey – Raw Feedback'](#).
- ['Review of Achievement Standards Level 1, Phase 2. Public Engagement Survey Report: Chemistry and Biology'](#)

I am therefore refusing this part of your request under section 18(d) of the Act, as the information requested is publicly available. All material considered for public release is processed in accordance with the provisions of the Act.

Please note, the Ministry now proactively publishes OIA responses on our website. As such, we may publish this response on our website after five working days. Your name and contact details will be removed.

Thank you again for your email. You have the right to ask an Ombudsman to review this decision. You can do this by writing to info@ombudsman.parliament.nz or Office of the Ombudsman, PO Box 10152, Wellington 6143.

Nāku noa, nā



Ellen MacGregor-Reid
Hautū | Deputy Secretary
Te Poutāhū | Curriculum Centre

Appendix A: Document table

Document Number	Description	Decision on release
1.	An account of the Ministry's Glossary Term Process	Release in Full
2.	Narrative account for the use of the term 'mauri' by the Lead Secondary Advisor for NCEA Level 1 Chemistry and Biology	Release in Part Some information withheld under section 9(2)(a) of the Act.
3.	Screenshots showing changing the definition of mauri for NCEA Level 1 Chemistry and Biology	Release in Part Some information withheld under section 9(2)(a) of the Act.
4.	Discussion of 'pillars of matauranga Māori' informing the Learning Matrix	Release in Part Some information withheld under section 9(2)(a) of the Act.
5.	Change Register which informs narrative account	Release in Part Some information withheld under section 9(2)(a) of the Act.
6.	Discussion of mauri usage in 1.1 & 1.2	Release in Part Some information withheld under section 9(2)(a) of the Act.
7.	Chemistry And Biology - Subject Expert Group response to feedback on the Phase 1 materials	Refuse under section 18(d) of the Act.
8.	Chemistry and Biology NCEA Level 1 Phase 1 Survey – Raw Feedback	Refuse under section 18(d) of the Act.
9.	Chemistry and Biology Phase 2 Survey – Raw Feedback	Refuse under section 18(d) of the Act.
10.	Review of Achievement Standards Level 1, Phase 2 Public Engagement Survey Report: Chemistry and Biology	Refuse under section 18(d) of the Act.

Document One

Introduction: An account of Glossary Terms Process

As part of the Review of Achievement Standards (RAS) process for each NCEA subject, the Ministry of Education commissions a Subject Expert Group (SEG) comprising teachers from the sector, tertiary experts, and industry experts, including (where possible) at least one māngai Māori.

Over the course of several months, SEGs meet with a Lead Secondary Advisor (LSA) and Technical Writer (TW) from the Ministry to develop the products that will form the new NCEA materials, including the Achievement Standards themselves, as well as a Learning Matrix (LM), Course Outlines (CO) and other products published on <https://ncea.education.govt.nz/>

Change 2 of [the NCEA Change Programme](#) is recognising mana ōrite mō tē mātauranga Māori. This involves interweaving mātauranga Māori (MM) into the curriculum, across all subjects. The Ministry of Education has a team of Māori experts known as Ākonga Māori, (ĀM) who offer advice. We also have Critical Perspectives (CP) panels, including an external Māori Panel, who advise and review materials at key stages of development.

One of the responsibilities of the writing team – (Lead Subject Advisor (LSA) and TW), is to create a glossary for each subject at each level. This includes terms specific to the subject, technical terms and terms in te reo Māori and Pacific languages. The writing team define te reo Māori words, or kupu Māori, that we have used in the Teaching Learning and Assessment Guide (TLAG), and the LM.

Our technical writing team either draft an initial definition of the term in question based on discussions at SEG Hui, and then bring the suggestions back to the SEG for feedback, or will approach the SEG directly for a definition.

For all kupu Māori, terms must also be approved by our ākonga Māori (ĀM) team, a Ministry of Education team made up of Māori experts. Ākonga Māori review suggested definitions and then either approve them or suggest rewording.

The Level 1 Chemistry and Biology (ChemBio or CB) material published on the NCEA website, including the glossary, went through the process outlined above and is currently being piloted. This means it is being trialled by a small number of schools across the country. Feedback will be gathered from all of these pilot schools and other sources and will lead to potentially significant revisions to the currently published material. For Achievement Standards (AS) themselves, they remain in draft form until registered on NZQA's Directory of Achievement Standards (DAS). Level 1 Chemistry and Biology is planned for full implementation in 2024.

Document Two

Narrative account

A narrative account for the use of the term 'mauri' by the LSA for NCEA Level 1 Chemistry and Biology:

- *The SEG agreed at the outset to the mātauranga Māori framework as it exists on the NCEA website.*
- *SEG unanimously agreed that mauri was part of the mātauranga Māori framework for Level 1 Chemistry and Biology. No one person made any decisions on the use of mauri.*
- *Next steps were to apply mauri to the products. To do so, the SEG and writing teams were informed by:*
 - *ākonga Māori team*
 - *Readings from SEG members*
 - *Mātauranga Māori Expert Review members.*
- *The technical writer, 9(2)(a) (former MoE employee) sought definitions from 9(2)(a) in ākonga Māori, and worked extensively with her and 9(2)(a) (former technical writer) on defining the kupu Māori for the glossary.*
- *9(2)(a), a Chembio SEG member was the key resource person for the Chembio SEG on mātauranga.*
- *This SEG member, with support from 9(2)(a) the NZQA (New Zealand Qualifications Authority) National Assessment Moderator (NAM) and other SEG members shared their views and defined mauri for other SEG members on multiple occasions.*
- *Quality Review for definitions came from the ākonga Māori team and they ratified all work, such as use of kupu, mātauranga and the definitions used.*
- *To effect Change two, SEGs have been asked to include mātauranga Māori - mauri is mātauranga Māori in pūtaiao and in Chemistry.*

Released under the Official Information Act 1982

Document Three

Home | Revisions - TLAG - NZC - Chem

newzealandministryofeducationgathercontent.com/items/12129552/revlions?tabId=e3b94269-be06-497e-9f5a-5109c1f9e8f9×tamp=1624515...

AS 2.1 - Science - G... | NCEA | DIA Lifecycle | OIAs | Cat

TLAG
Jun 24, 2021 6:15 PM

Guidelines | Learning | Teaching | Assessment | Glossary

Kupu Māori

Taiao - all aspects of the environment, including land, water, climate and living things

Whakapapa - a line of connection

Mauri - specific natural character, **the balance of health and wellbeing**

Keitiakitanga - responsibilities of guardianship

Subject-specific Kupu Māori only.

Added by undefined

24th June 2021

6:31 PM
CONTRIBUTORS STATUS
Quality Review...

6:15 PM
CONTRIBUTORS STATUS
Quality Review...

5:44 PM
CONTRIBUTORS STATUS
Quality Review...

3:24 PM
CONTRIBUTORS STATUS
Quality Review...

Home | Revisions - TLAG - NZC - Chem | Comment History - TLAG - NZC

newzealandministryofeducationgathercontent.com/items/12129552/comment-history

AS 2.1 - Science - G... | NCEA | DIA Lifecycle | OIAs | Cat

mauri 2/26

TLAG
Containing History

9(2)(a)
28th June 2021
as with above comment with no commonly known or used term.

9(2)
September 2021
resolved

Kupu Māori Taiao

Resolved

9(2)(a)
28th June 2021
Not common linguistics, needs examples to further unpack what is meant in science contexts.

9(2)
September 2021
resolved

25th June 2021

Home | Revisions: TLAG - NZC - Chem | Comment History - TLAG - NZC

newzealandministryofeducationgathercontent.com/item/12129552/comment-history

AS 2.1 - Science - G... | NCEA | OIA Lifecycle | OIAs | Cat

mauri 1/0/1

TLAG
Comment History

Removed user
25th June 2021

Not being questioned on kaitiakitanga, have to understand that value and link the impact of the **mauri** of the taiao

Unpacking 1.4
presence and an essence

Resolved

Removed user
25th June 2021

This doesn't reflect the definition of **mauri** in the SEG library glossary.

Unpacking 1.4
They will develop understanding of the **mauri** of materials, recognising that all matter has an **presence and an essence**.

Resolved

11:07 am 31/03/2022

Home | Revisions: TLAG - NZC - Chem | Comment History - TLAG - NZC

newzealandministryofeducationgathercontent.com/item/12129552/comment-history

AS 2.1 - Science - G... | NCEA | OIA Lifecycle | OIAs | Cat

mauri 18/26

TLAG
Comment History

Resolved

Removed user
7th June 2021

mauri is present in all matter, an understanding allows ākonga to see that all particles have a presence, for examples atoms in a solid (or molecule) - components of a polymer, what the **mauri** of each particle brings to the whole is important to a way of understanding what changes do in the taiao. Matter is made of small particles, each has a **mauri** life force, when matter is broken into smaller particles, each particle remains own **mauri** can affect change in the taiao - link to conservation of matter, e.g. burning doesn't make particles go away, dissolving doesn't make particles go away.

Big Ideas and Significant Learning
This...

Resolved

PC 9
7th June 2021

Whakapapa not only links living things to their origins it also highlights relationships between living things, similarities and differences are important. Mutation and genetic change are important understandings that ākonga will recognise as integral to the survival of living things in balanced taiao.

11:11 am 31/03/2022

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Home | Revisions - TLAG - NZC - Chem | Comment History - TLAG - NZC

newzealandministryofeducationgathercontent.com/item/12129552/comment-history

AS 2.1 - Science - G... | NCEA | OIA Lifecycle | OIA | Cat

mauri 14/26

TLAG

Comment History

24th June 2021

9 - mauri isn't in the SL for this standard.

Removed user
25th June 2021
Deleted

Unpacking 1.4

hey will develop understanding of the mauri of materials - recognizing that all matter has a presence and an essence that can not be washed away, dissolved away or simply burned to then 'disappear'. Rather, it remains in the taiao.

Resolved

PC Pru Casey
17th June 2021
Mauri unpacked

Unpacking 1.3

whakapapa

11:09 am 31/03/2022

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Home | Revisions - TLAG - NZC - Chem

newzealandministryofeducation.gathercontent.com/items/12129552/revisions?tabId=e3b94269-be06-497e-9f5a-5109c1f9e8f9×tamp=1623373...

AS 2.1 - Science - G... | NCEA | OIA Lifecycle | OIAs | Cat

TLAG
Jun 11, 2021 11:11 PM

Guidelines | Learning | Teaching | Assessment | Glossary

Kupu Māori

Taino - all aspects of the environment, including land, water, climate and living things

Whakapapa - a line of connection
Added by Pru Casey

Mauri - specific natural character

Kaitiakitanga - responsibilities of guardianship

Subject-specific kupu Maori only.

11th June 2021

1:37 PM **STATUS UPDATE**

1:33 PM
CONTRIBUTORS: PC | STATUS: Phase 2 Draft

1:11 PM
CONTRIBUTORS: PC | STATUS: Phase 2 Draft

12:54 PM
CONTRIBUTORS: PC | STATUS: Phase 2 Draft

11:50 AM
CONTRIBUTORS: PC | STATUS: Phase 2 Draft

Home | Revisions - TLAG - NZC - Chem | Comment History - TLAG - NZC

newzealandministryofeducation.gathercontent.com/items/12129552/comment-history

AS 2.1 - Science - G... | NCEA | OIA Lifecycle | OIAs | Cat

TLAG
Comment History

Removed user
27th October 2021
@prucasev I've removed word mauri

Kupu Māori
Mauri

Resolved

9(2)(a)
1st August 2021
Examples required to provide context on what this may look like during the teaching and/or learning.

9(2)
11th June 2021
Resolved

Unpacking... This Achievement Standard requires

16°C | 1:25 pm | 31/03/2022

Released under the Official Information Act 1982

Document Four

Out of scope

9(2)(a) resigned from the SEG to fulfil a full time position in the MoE as a welcomed LAL. Two replacements were subsequently sought to support critical perspectives in Pacific and mātauranga Māori. We onboarded 9(2)(a) from Hillcrest High School and Sujata Rajagopal from Taita College.

Chem and Bio garnered a wonderful array of feedback from the sector, with 155 responses plus valued feedback from a superb focus group of subject experts. Eleven themes were identified from sector, panel and focus group feedback - this allowed plenty of guidance for the start of the Phase two F2F and was very focusing for the SEG as they entered this productive phase of the RAS journey.

Of note is that this subject does not have a name. This detracts from the desire to have achieved a coherent proposed course. The SEG have not engaged in this issue and of concern is their continued reference to course design as "business as usual", i.e. taking a Px, ESS, Bio and Chem standard to create a Science course for their L1 classes.

Worth commenting on was the perception from the sector that this course as an 'environmental science' course. It is hoped that increased focus on rarangahia of MM values will point to the interconnected values that this course will bring to science learning using multiple ways of knowing. The sector focused on the multiple references to kaitiakitanga and further work on integration and incorporation of MM values has resulted in the SEG providing a more balanced set of products.

Learning Matrix

In order to gain mentorship with regards to inclusion of mātauranga Māori, assistance was sought initially from 9(2)(a) who referred to Western Science and MM in Science and ways that these could be incorporated into the LM. 9(2)(a) was a wonderful advisor and urged the SEG into debate as to what key MM ideas were central to teaching and learning in Biology and Chemistry - four concepts were selected by the SEG early on; whakapapa, mauri, taiao and kaitiakitanga and these were woven through the LM and included in all four AS - with a particular focus for each AS. The process of choosing appropriate concepts from the start - allowed the SEG to use this as a driver for learning opportunities as well as assessment activities. Pacific values were the hardest concepts for the SEG to weave into the LM. A major change from Phase One to phase Two was the naming standards and removal of all references to Western Science. By weaving mātauranga Māori ways of knowing and engaging in Science across all products, this removed any necessity to use this language from

all aspects of SEG work. It also meant that all kupu that could use an English word confidently as a replacement were removed from all products. The result is the current authenticity of the MM values across the board. This foundational work was pivotal to the success of the SEG products and the mātauranga Māori values throughout the SEG work. The key learning here was that there was a missed opportunity to take the same approach for Pacific values, which are conspicuous by their paucity in the LM and AS matrices. This learning will be taken forward as we engage in Tranche Two and L2 SEG work. Likely it is worth sharing this concept with other LSAs.

Out of scope

Released under the Official Information Act 1982

Out of scope

Released under the Official Information Act 1982

Document Five

Date	Issues	Detail
Out of scope		
6-Jul	BI4 > to consider mauri as properties of forces and particles etc... is a way to use the story of mauri to explain the occurrences in this scientific space	AM feedback
19-Jul	More En for AS 1.1 e.g. explain mauri of taiao, as no microorganism stands alone rather it exists within a taiao	

Released under the Official Information Act 1982

include in revised Course outlines and TLAG before QR2

Missed opportunity to include a purākau in course outline / TLAG that references mauri and relates this to Chem and in force between particles in Chem and Physics

Released under the Official Information Act 1982

11	Chem Bio (9(2)(a))	mauri	1.1 & 1.2	3 & 4	In this standard, mauri refers to the health and life-sustaining capacity of the taiao, on biological, physical, and chemical levels.
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Released under the Official Information Act 1982