

Summary comments on the "New Zealand Curriculum, 2025 Draft - Science, years 0-10", available at <https://newzealandcurriculum.tahurangi.education.govt.nz/5637290855.p#FileDownloads>

April 24, 2026

During the public comment process on the 2025 Draft Science Curriculum, we have noticed a major campaign by parts of the educational establishment to delay or demolish the current (2023-2026) government's efforts to finish the Curriculum refresh.¹ Many of these are collected at the Aotearoa Educators Collective (<https://aecnz.substack.com/>), which has included commentators as notable as Rosemary Hipkins.² Hipkins participated as keynote speaker in a March 24, 2026 meeting that led to the open letter reported on by the *New Zealand Herald* on April 23, 2026.³ The letter is available at AECNZ.⁴

The summary of criticisms offered in the open letter, and in many other posts and podcasts by AECNZ, boil down to:

1. The refreshed curriculum has too much content, too much detail, and the pace of change is too high.
2. The refreshed curriculum reflects a narrow ideology, rather than "the expectations of the sector" (including students, teachers, education experts, families, etc.)
3. The refreshed curriculum represents "a profound narrowing of curriculum scope". This seems to refer to the current government's policy of a "knowledge-rich curriculum," with more emphasis on core knowledge and skills, and less on identity and the cultural/political objectives favoured in the previous government's curriculum efforts
4. The refreshed curriculum does not honour or "give effect" to te Tiriti o Waitangi.

We believe we can demonstrate that the critique offered by AECNZ and allies is at variance with actual facts of recent curriculum refresh efforts.

To examine these claims, we downloaded proposed science curricula for Years 0-10 produced by recent NZ administrations, as well as major science standards efforts from Australia and the USA. These included:

¹ And, separately, replace the NCEA system (Years 11-13/ages 15-18, i.e. finishing qualifications in secondary school); we leave NCEA aside here, except where striking deviations from good practice in science education occurred under the previous government.

² Longtime Chief Researcher, now Emeritus Chief Researcher, Rangahau Mātauranga o Aotearoa | New Zealand Council for Educational Research (NZCER). Incidentally, she is also the mother of Chris Hipkins, former Labour Education Minister (2017-2023), then Prime Minister (2023), now Labour Leader and candidate for future Prime Minister in the 2026 election.

³ "Education leaders unite against curriculum shake-up, urge delay." *NZ Herald*, April 23, 2026. <https://www.nzherald.co.nz/nz/auckland/education-leaders-unite-against-curriculum-shake-up-urge-delay/OBHQ46OPCNDNRI2EJZSZETBUVA/>

⁴ "AEC joins the curriculum pushback," March 25, 2026. <https://aecnz.substack.com/p/aec-joins-the-curriculum-pushback> . Hipkins' AECNZ post linking to this open letter is "Reflecting on teachers' experiences of curriculum-making," March 31, 2026. <https://aecnz.substack.com/p/reflecting-on-teachers-experiences>

1. **"Te Mātaiaho - DRAFT FOR TESTING."** A March 2023 overview of the refreshed NZ curriculum, much of which was still being drafted at the time. This document has little Science-specific content, but we include it alongside the 2023 "fast-testing draft" of NZ's science standards for completeness. Under the 2020-2023 Labour government, the Ministry of Education put very heavy emphasis on mātauranga Māori (indigenous knowledge) in science education, and on making science education serve Labour's societal objectives.
2. **Mātaiaho learning areas FAST-TESTING DRAFT for Science.** This was a MoE draft that was circulated internally, but was leaked widely in June 2023 and received widespread criticism from science educators, for example in RNZ,⁵ *Stuff*,⁶ and the *New Zealand Herald*.⁷ We excluded the sections on Technology & The Arts from the analysis.
3. **The New Zealand Curriculum, Science Years 0–10, October 2025**, which is the subject of the Ministry of Education's 2026 Consultation. We merged PDFs for all years to create an omnibus document for analysis.
4. **The Australian National Curriculum of 2022.** This curriculum serves as a model for state curricula, but may not be identical.
5. **The US Next Generation Science Standards of 2017.** These science standards are produced by a collaboration of 26 U.S. states, most but not all of them "blue" states (blue states typically vote majority Democrat in elections). Additional participants were the U.S. National Science Teachers Association, the American Association for the Advancement of Science (AAAS, which publishes *Science*), and the U.S. National Research Council.
 - a. Note: We excluded the High School (HS) portion of these standards from our analysis (USA high school corresponds to Years 10-13). This could possibly create a dissimilarity when comparing science standards to NZ/Australia, as often US "Year 10" (freshman year of high school) students would be taking at least one major science class (typically biology). However, there is no way to subdivide the NGSS HS standards by year.

We compared the standards based on some basic criteria to get a quantitative measure of some overall issues:

- Total word count, to measure length.
- Word counts on key terms to describe major priorities for science standards during the 2020-2023 Labour government, such as indigenous knowledge and climate change.

⁵ John Gerritsen (2023). Teachers shocked at leaked draft of science curriculum - 'Where's the physics and chemistry?' *Radio New Zealand (RNZ)*. July 5, 2023. <https://www.rnz.co.nz/news/national/493178/teachers-shocked-at-leaked-draft-of-science-curriculum-where-s-th-e-physics-and-chemistry>

⁶ William Terite (2023). "Teachers stunned after new science curriculum has no physics, biology or chemistry." *Stuff.co.nz*, July 4, 2023. <https://www.stuff.co.nz/nz-news/350475096/teachers-stunned-after-new-science-curriculum-has-no-physics-biol-ogy-or-chemistry>

⁷ Amy Wiggins (2023). "Fears proposed science curriculum will turn out 'ill informed students'." *New Zealand Herald*, July 5, 2023. <https://www.nzherald.co.nz/nz/fears-proposed-science-curriculum-will-turn-out-ill-informed-students/LWUHI37M-SNEBFAZVRHG7OAPT3I/>

- Word counts on some basic science terms necessary for any informed discussion of climate change and climate change mitigation.
- Word counts on other basic science terms foundational to physics, biology, or chemistry.

The table is available below.

Standards document	Word count	Source	Counts of key words/phrases																	
			mātauranga Māori	"Indigenous knowledge systems" / "perspectives" / "science"	"First Nations"	"First Nations Australians' knowledges" / "science"	climate	radiation	carbon	dioxide	atom	gene(s)	genetic	phylogenetic	DNA	evolution	revolution	orbit	gravity	planet
Te Mātaiaho - DRAFT FOR TESTING March 2023 (overview document, no Science-specific content as it was still being drafted)	16360	https://www.mgc.school.nz/wp-content/uploads/2023/05/Te-Mataiaho-Draft-NZ-Curriculum-March-2023.pdf	21	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3 (all "planetary values")
Te Mātaiaho: The Refreshed New Zealand Curriculum Mātaiaho learning areas FAST-TESTING DRAFTS Science (Technology & The Arts excluded)	5355	This document is watermarked "DRAFT-CONFIDENTIAL" but was leaked widely in June 2023, and the subject of many media reports.	41	2	0	0	8	0	2	0	0	0	2	0	0	0	0	0	0	1 ("Planetary values")
New Zealand Curriculum, 2025 Draft - Science, years 0-10	49617	https://newzealandcurriculum.tairāwhiti.govt.nz/5637290855.p#FileDownloads	3	6	0	0	18	16	97	40	67	24	46	0	20	21	3 (where a scientist "revolutionised" understanding)	36	18	40
Australia Science Curriculum Content v9.0 (2022) - Science content, year F-10	40528	https://www.australiancurriculum.edu.au/curriculum-information/understand-this-learning-area/science	0	0	127	14	25	6	24	4	43	7	13	0	10	12	5	1	7	17
USA Next Generation Science Standards (2017), All topics excluding HS (high school, years 10-13)	46980	https://www.nextgenscience.org/search-standards ("Download Topic Arrangements")	0	0	0	0	37	10	7	5	39	11	20	0	0	8	0	8	7	10

Discussion

On the claim that the NZ 2025 draft science standards have too much content, too much detail, and the pace of change is too high: from the Table, it can be seen that the NZ 2025 standards are in fact similar in length to the model standards from Australia and the USA (40-50,000 words). Reading the individual summaries of various science topics, the amount of detail for a particularly introductory subject is similar across the three sets of standards.

It is important to remember that sciences like biology, chemistry, and physics have a substantial body of core concepts and theory which are absolutely necessary to becoming conversant in these disciplines. Only a portion of this can be successfully taught before secondary school/high school, but the early years should at least build strong familiarity with basics (such as planets, orbits, and gravity in physics; atoms and molecules in chemistry; and genetic inheritance and evolution in biology).

When the June 2023 Fast-Testing Draft of the Science Standards is compared to the others, it is revealed to be only about one-tenth the length of the others (~5000 words). This tends to support criticisms made at the time that the then-government's proposed science curriculum was unworkable and was missing most of the actual science necessary for a functional science curriculum.

Addressing the claim that the pace of change is too high: the content of the 2025 NZ draft standards is largely standard basic introductory science content, already familiar to qualified science teachers, and well-covered in readily-available textbooks. Some version of this basic content will be taught by capable science teachers regardless of whether the Ministry of Education's official curriculum calls for it. The utility of having a curriculum for introductory science is twofold. First, to ensure that some age-appropriate science content is introduced before ages where science-specific teachers and courses are available. Second, to give confidence to teachers with less science preparation and/or time to ensure that key basics necessary for later science courses are covered.

On the claim that the refreshed curriculum reflects a narrow ideology, rather than "the expectations of the sector" (including students, teachers, education experts, families, etc.):

Calling basic science knowledge "ideological" is a peculiar use of the term. Basic science knowledge consists of some of the best-evidenced, most widely applicable claims in all human experience. Anyone using a computer to read this document, for example, is relying on the basic principles of physics and chemistry discovered in the last few hundred years. These principles are true (or at least extremely good predictive approximations) whether or not a particular group believes them, and whether or not a particular ideology views them as fact or opinion.

Basic science knowledge is so solid that it may actually be used as an "ideology detector." If some group or philosophy tries to undermine basic science knowledge, either by saying it is false, saying it is a matter of opinion, or taking the relativist position that it is only true within a certain "world view," you can be sure that it is some ideology that is providing confidence instead of empirical evidence.

The place where ideology can be seen, in spades, is in the productions of postmodernist relativist academics and educators, which sadly seem to include much of AECNZ as well as many of writers behind the 2023 NZ science standards fast draft, and much of the NCEA reform effort of 2020-2023. For scientists, the popularity of postmodernism in 2020s New Zealand is puzzling. Postmodern relativism was debunked in the so-called "Science Wars" of the 1990s (see for example Gross & Levitt, 1993, *Higher Superstition: The Academic Left and Its Quarrels with Science*, and the 1996 Sokal Hoax and subsequent works by physicist Alan Sokal, himself a leftist). But the lessons of that episode appear to have missed much of NZ's education intelligentsia.

Everyone is of course entitled to their ideology. However, for policymakers, the risk is that a relatively small group of highly committed activists become more committed to their ideology than to basic science, and then misrepresent themselves as "the sector" and use the curriculum process to distort and dilute the teaching of basic introductory science, in the service of political and ideological goals.

On the claim that the refreshed science curriculum represents "a profound narrowing of curriculum scope." This claim can be tested by comparing the amount of attention given to various key topics between the 2023 fast draft science standards, the 2025 draft, and the Australian and USA model standards. Referring to the Table, we can see that the 2023 standards gave extraordinary attention to indigenous knowledge (41 mentions of mātauranga Māori), and a few politically salient applied science topics such as climate change (8 mentions), while almost completely ignoring numerous science topics that are foundational but apparently not interesting to the 2023 writers

(planets, orbits, gravity, atoms, evolution, etc.). The 2025 NZ draft standards cover these basic topics well, similar to the Australian and USA model standards.

It appears that it is the 2023 fast draft science standards that were overly narrow in scope and aimed primarily at pushing a few priorities of the then-government, and had almost no focus on putting forward a practical and thorough introductory basic science curriculum.

On the claim that the refreshed curriculum does not honour or "give effect" to te Tiriti o Waitangi

Covering basic science well does not, of course, mean that indigenous knowledge is ignored. Inclusion of indigenous knowledge in science education can be reasonable and sustainable in contexts where it is genuinely relevant, pedagogically useful, or helps provide local context or societal relevance. The Australian model standards seem to do this well, without straying into implausible supernatural claims or reality-avoiding postmodernist philosophy. The NZ 2025 draft science standards, for their part, also include Mātauranga Māori in a reasonable and proportionate way, as well some discussion of indigenous knowledge of other cultures.

It is worth reviewing how indigenous knowledge requirements in education standards, pushed very heavily by the previous government from 2020-2023, and justified with reference to te Tiriti o Waitangi, rapidly led to conflict with science teachers. It is also worth reflecting whether the previous governments' actions *actually* advanced te Tiriti objectives, or instead backfired because of the rigid, ideological, and unscientific way they were imposed.

As a general principle, it is very important that indigenous knowledge statements used in science education not conflict with extremely well-evidenced basic science claims, such as natural laws. Failure on this point re-creates something similar to the creationism battles that roiled the USA for many decades, and can easily damage the credibility of promoters of indigenous knowledge, and especially teachers and governmental institutions that are required to push as true claims that are at variance with readily available empirical evidence.

Unfortunately, something like this has already been seen in NZ, when the previous government's draft NCEA Level 1 Chemistry and Biology standards included, in its discussion of atoms and chemical bonding, the stunning requirement, "recognise that mauri is present in all matter which exists as particles held together by attractive forces", with a glossary that defined mauri as "[t]he vital essence, life force of everything." Science teachers in 2021 objected en masse to the Ministry of Education incorporating the long-debunked concept of vitalism in chemistry, but the teachers were initially overruled with the statement that including mauri was a requirement of the MoE policy of "Mana ōrite: equal status for mātauranga Māori."⁸

⁸ Matzke, Nicholas J. (2024). Vitalism in New Zealand science education. *Science*, 385(6705): 152. https://pandasthumb.org/archives/2024/07/vitalism-NZ-science_education2.html

Protests continued throughout 2022 - on the vitalism issue, but also on the many other impracticalities caused by the Ministry pushing its "equal status" requirement from the top down, but without any real idea of how this could possibly work in topics such as science. Finally in late 2022 the whole NCEA rollout was paused and reformulated with a milder interpretation of "Mana ōrite", and with the supernatural material stripped out of the chemistry curriculum – but only after millions of dollars had been spent on staff time, video series, and teacher PLD sessions trying to get teachers to make the original policy work. The government changed in the 2023 election and its current decision is that the entire NCEA system will be replaced.

It should also be pointed out that all of this occurred during a huge increase in staffing at the Ministry of Education during the 2020-2023 government. Apparently there were 200 staff working specifically on the curriculum refresh who were laid off or reassigned in 2024 when the new government went a different direction.⁹

It is far from clear that this history was the optimal one, whether one's primary goal is high-quality science education, honouring te Tiriti, or saving taxpayer money. It is also far from clear that these goals need to be seen as either/or.

In order to make more stable progress in the future, critics of the 2025 draft science standards, such as AECNZ and supporters, who also seem to be the group that were the thought leaders and supporters of the 2020-2023 efforts, should be asked to explain the following. How did the trainwrecks of the 2023 draft science standards, and the 2021 NCEA Level 1 Chemistry/Biology curriculum, occur? And particularly, how did they occur in a time of high staffing and high resourcing? Why are you so sure that more of that approach would be an improvement on the NZ 2025 draft science standards, which at least successfully cover the scientific basics, like the model science curricula of other comparable countries?

The views expressed herein represent the personal scholarly & academic views of the authors, not necessarily their employers or other organisations to which they belong.

Signed,

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⁹ RNZ (2024). Ministry of Education plans to cut 565 roles. *Radio New Zealand*, April 17, 2024. <https://www.rnz.co.nz/news/national/514542/ministry-of-education-plans-to-cut-565-roles>