



Determining the Final Subject List for NCEA Level 1 – Technical Report

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Overview

Executive Summary

This paper is a Technical Report determining the final Subject List for NCEA Level 1 as part of the NCEA Change Package and the Review of Achievement Standards (RAS). This Technical Report summarises the analysis reports conducted on the public engagement on the overall Provisional Subject List, and the additional Science Options public engagement, along with other forms of engagement with Subject Associations, Peak Bodies, and other informal submissions via email to various Ministry addresses. This report provides the rationale behind the decisions made on Final Subject List for NCEA Level 1, including the changes to the initial Provisional Subject List for NCEA Level 1 initially proposed.

Recommendations

Recommendations contained in the covering Memo

Implications for the RAS Project

Scope – <i>whether the scope will stay the same, be enlarged, or reduced.</i>	No impact on scope.
Impact – <i>on resourcing, financials, and timeframes.</i>	No impact on resourcing, finance or timeframes.
Quality – <i>impact on quality of products.</i>	No impact on quality of products.
Risks	If the Subject List is not confirmed by the Minister in the current configuration, there will be impact on scope, resourcing and financials.

Introduction

1. One of the agreed Cabinet decisions of the NCEA Change Package was to **retain NCEA Level 1 as an optional level for schools who wish to continue to use this qualification**. The NCEA Review found that NCEA Level 1:
 - is the highest exit qualification for around 10% of students
 - is a key motivator for many students in year 11
 - provides many students with structured and credentialed opportunities to develop the disciplinary knowledge to prepare for advanced learning in Level 2 and beyond.
2. Instead of removing NCEA Level 1, Cabinet agreed to refocus it on fewer, larger standards within more coherent courses. It was emphasised that the fewer number of standards should “encourage students to focus on breadth as they work towards NCEA Level 1.” In this vision of a broader, more

foundational NCEA Level 1 students would balance a focus on “exploration within a broad range of Learning Areas or Wāhanga Ako, while retaining some specialised standards per subject to credential foundational disciplinary learning” with increasing specialisation at Levels 2 and 3 [SWC-19-MIN-0045]. This in-principle decision was subsequently confirmed by Cabinet [SWC-20-MIN-0001]. The Ministry’s process for delivering the changes is through its RAS.

3. For the purposes of this paper, the term ‘subject’ is used to refer to bodies of learning credentialed through NCEA achievement standards with their own assessment matrix. Courses are how bodies of learning are delivered by schools and usually align with a subject or a group of subjects. This paper uses the term ‘discipline’ where it is necessary to make a distinction between a subject in NCEA and the broader body of learning it belongs to, for example when discussing the basis for a subject in the New Zealand Curriculum (NZC).
 - Part 1 of this report will outline the seven criteria being used to provide advice on the subjects at Level one.
 - Part 2 will apply the process to each learning area to make a recommendation of what the subject list for NCEA Level 1 to be developed during the RAS should look like.
4. The analysis in this paper predominantly draws upon the following sources:
 - The analysis of the feedback received through the Provisional Subject List Public Engagement process conducted from 20 February through 20 July, including responses through the online questionnaire and short- and long-form submissions received via email
 - Usage data on subjects provided by the New Zealand Qualifications Authority (NZQA)
 - Self-reported subject enrolment data collected from schools by the Ministry of Education
 - The report ‘NCEA Review: Findings from the public engagement on the future of NCEA’ prepared by the New Zealand Council for Education Research in December 2018
 - Meetings with Subject Expert Groups (SEGs) and submissions received from Subject Associations and Peak Bodies
 - The analysis of the feedback received through the Public Engagement on Additional Options for Science at NCEA Level 1 conducted from 25 June through 10 August, including responses through the online questionnaire and short- and long-form submissions received via email
 - Meetings with SEGs, Subject Association leads (as hosted by NZASE) and submissions received from Subject Associations and Peak Bodies specifically in regards to Science.
5. We are also taking this opportunity to confirm the core subject list for Te Marautanga o Aotearoa. This does not propose material changes to either the provisional subject list or the status quo; seven of the nine Wāhanga Ako of Te Marautanga o Aotearoa will have matrices developed, as is currently the case.
6. Māori Performing Arts will also be available to kura Māori but has been developed derived from The New Zealand Curriculum to address current inequities in English-medium settings, and to ensure accessibility to ākonga Māori in all settings. Māori Performing Arts has been reviewed and products have been developed as a priority, reflecting the current lack of Achievement Standard support for the subject, and is currently in preparation for trialling in 2021.
7. There is potential opportunity for the development of further areas. We are continuing to explore with kaiako Māori, experts in mātauranga Māori and peak bodies whether development in further subjects is needed at NCEA Level 1. If so, we will progress development of these subjects alongside any other

new subjects which might be developed for NCEA Level 1. This includes consideration of the status of Hangarau Matihiko as a separate Level 1 subject.

Part 1: The criteria for determining subjects at NCEA Level 1

8. To support decision making over subjects or groups of subjects, the following criteria were developed. These were applied through a holistic assessment with the Ministry assessments recorded in this report. The criteria are:
- How the subject fits with the policy vision of a broader, foundational NCEA Level 1 with increasing specialisation from Level 2 with fewer, larger standards within more coherent courses.
 - All foundational learning, disciplinary knowledge, big ideas and essence of each Learning Area or Wāhanga Ako derived from The NZC and TMOA are available through a subject at NCEA Level 1, without unnecessary repetition to ensure a broad foundational Level 1.
 - How best to structure that body of knowledge to support pathways to further specialised learning at NCEA Level 2 and 3.
 - The extent to which subjects interact with each other to create coherent courses in NCEA settings and support a breadth of learning for individual students.
 - The extent to which there is demand for a subject from the sector and students, and the capability of the sector to support the subject.
 - The Crown's commitments to Te Tiriti o Waitangi are upheld and the subject supports opportunities for Māori learners to succeed as Māori.
 - The provisional subject list upholds NCEA's credibility as a qualification.
9. The application of these criteria looks different across subjects and Learning Areas as it factors in the individual nature of the relevant disciplines. This includes features such as teacher capability, the subject's disciplinary skills and knowledge, tertiary pathways and expectations, and year 9 and 10 school offerings in schools.
10. Analysis is done first at the Learning Area level, then on groups and individual subjects as appropriate. Some subjects have connections to a number of Learning Areas in practice or have overlaps in disciplinary knowledge with subjects from other Learning Areas. Where this is the case, these subjects are considered in the context of the other subjects as well as their Learning Area.

Criterion 1: How the subject fits with the policy vision of a broader, foundational NCEA Level 1 with increasing specialisation from Level 2.

11. This criterion focuses on Change 4 *Have fewer larger standards*, Change 6 *Show clearer pathways to further education and employment* and Change 7 *Keep NCEA Level 1 as an optional level* agreed by Cabinet. Change 7 includes the intention to refocus NCEA so that Level 1 supports a broad, foundational education, while Levels 2 and 3 promote more specialisation.
12. These changes were intended to respond to feedback through the NCEA Review about the negative effects of early specialisation and streaming of young people, particularly on Māori and Pacific learners, and how this can restrict their pathways. Our consistent 20 credit approach per subject with 50% internal and 50% external assessment will support this.
13. Recent school leavers and university submitters to the NCEA Review also noted that early specialisation had implications for the pathways of young people as it reduced the exposure to the

breadth of the curriculum for young people studying towards NCEA Level 1. This can reduce the options for young people at NCEA Level 2 and 3 and consequently post-school pathways.

14. The trade-off of a broader qualification is that some deeper disciplinary knowledge in some subjects may be lost if they are merged with other subjects or delayed until later levels, making it more difficult for students to succeed as they continue with related subjects at higher levels of NCEA. To mitigate this, decisions on subject choices available at Level 1 should consider the impact on student pathways through NCEA.
15. Applying this criterion means developing coherent subjects which encourage programmes of learning for individual students, providing them with the key skills, knowledge, and competencies they need to succeed, particularly in continued NCEA study. This in practice means serious consideration needed to be given to a more condensed list of subjects available at NCEA Level 1 (e.g. the Provisional Subject List, and the recommendations in this report). However, this is balanced against ensuring that every subject offered within NCEA at all levels has a coherent pathway and that important foundational learning at Level 1 is available.
16. Through the engagement, feedback was provided which disagreed with this criterion altogether, with some also disagreeing with how it is being applied to consider reducing the number of subjects. Many respondents sought an increase in the number of subjects, arguing that offering more options enables breadth.
17. This criterion was the vision for NCEA agreed by Cabinet. With regards its application, “broad” as agreed by Cabinet is used as the alternative to specialisation. It is not about offering a broad range of subjects, but instead about having subjects which support learners to engage in broad, foundational study.
18. Maintaining or increasing the number of subjects is not recommended because it would continue to enable the overly specialised and incoherent programmes which many students currently engage in at Level 1. A condensed list of subjects containing broad valuable learning from each Learning Area will ensure students have every opportunity to engage in the learning they need to continue, and ensure the education system more actively discourages them from cutting off their pathways.

Criterion 2: All foundational learning derived from the National Curriculum at Level 6 is available

19. All achievement standard subjects offered as part of NCEA must be derived or aligned to the National Curriculum. Most subjects will be a subset of a Learning Area at a given curriculum level, while a few will cover an entire learning area (such as English) or draw from multiple learning areas explicitly or implicitly (such as Media Studies or Agribusiness).
20. The Provisional Subject List engagement focused on a number of significant changes to subjects derived from the NZC. Through the engagement, significant changes to the Level 1 subject list for TMoA were not proposed. However, final decisions on the supports to be developed for TMoA is to be confirmed through a separate report in early 2021. As with subjects derived from the NZC, this does not preclude the development of further subjects as part of the Ministry’s New Subjects development process. On this basis, the National Curriculum analysis in this paper will focus primarily on the NZC as that is the relevant document for the subject decisions being made.
21. For the NZC, all Learning Areas are compulsory up to Level 5. At Level 6, which is where NCEA Level 1 sits, there are no compulsory Learning Areas. This in practice results in a sharp change in the programmes of learning for many students at Year 11. This is particularly important for students whose understanding is not yet at Level 5 of the Curriculum in some Learning Areas; oftentimes these students do not have many more opportunities to gain the foundational learning at Level 5 as their NCEA Level 1 courses do not provide those opportunities. In making NCEA Level 1 a broader, more

foundational qualification this transition is smoothed to increase the opportunities for students to gain the foundational knowledge up to level 6 of the NZC.

22. The alignment process, implemented between 2011 and 2013, was aimed to align the then achievement standards with the Achievement Objectives of the NZC. The alignment process also converted a large number of unit standards to achievement standards. Although this process means that we know that the current offering of subjects have some alignment to the NZC, it also led to the current structure of NCEA, with variable numbers of standards within some subject matrices. This came at the cost of coherence and led to the creation of courses from Level 1 which contain little significant learning derived from the National Curriculum.
23. Applying this criterion means that when considering the subjects which should exist at NCEA Level 1, they are the subjects which are able to reflect the significant learning from within the National Curriculum, particularly within the Learning Area in which it is placed. This criterion works in conjunction with Criterion 1, meaning subjects should generally be broad and foundational in their reflection of a Learning Area.

Criterion 3: Supporting pathways

24. In delivering on change 6, NCEA should support clearer pathways for students to further education and training, and the labour market. To support this, subjects need to align to internal pathways through NCEA and give students opportunities to develop necessary disciplinary knowledge to progress to the next level.
25. Disciplinary knowledge or skills required for a pathway can be challenging to determine, particularly as the achievement standards at NCEA Levels 2 and 3 will also be entirely redeveloped through the RAS. While it is useful to work backwards from formal or informal pre-requisites for tertiary education, further training or the world of work, these do not apply for most university courses. Specialised subjects can support students to succeed at university generally, but few professional degree programmes such as medicine and engineering have specific expectations of prior learning at secondary school level.
26. NCEA Level 1 subjects do not need to directly progress into specific tertiary or employment pathways, but do need to support students to have the skills, knowledge, and competencies to engage in the full range of study at Level 2 and above (both curriculum and industry-derived). Where a subject does not prepare students for the next step of specific pathways (e.g. further study in related subjects), or is not necessary for success in the next stage, then questions should be raised as to whether that subject is necessary at that level. This concern is more important at NCEA Level 1 where a broader foundational qualification is desired; if important disciplinary knowledge can easily be and often is picked up at NCEA Level 2 then offering that subject at Level 1 is a lower priority.
27. However, there still needs to be a clear pathway for students who may want to pick up a subject at Level 2. Some Level 2 subjects build on Level 1 conceptual understandings of content and contexts which need to be present at Level 1 in some form. This could be done by offering the subject at NCEA Level 1 or otherwise supporting the required learning in that school, or consolidating the significant learning into a single broader subject, or incorporating contexts from Level 2 or 3 subjects into exemplars for Level 1 subjects which prepare students for those subjects if deemed essential. For example, currently Agribusiness only exists at Level 2 and 3; students can be prepared for Level 2 Agribusiness through the use of agricultural contexts in commerce subjects or commercial contexts in Agricultural and Horticultural Science.
28. Usage data on current NCEA subjects can show patterns which reveal the relative importance of different levels of NCEA in a subject's pathway. For example, if a subject has lower usage at Level 1 compared to Level 2 or Level 3, or has a significant number of new students at Level 2 and 3 then that may be evidence that schools currently do not consider the Level 1 matrix as necessary for students'

pathway in the subject. NZQA has produced usage data which shows the relationship between two or more subjects which can reveal which subjects have significant overlap in students. This does need to be interpreted with some caution, as schooling practice and the achievement standards currently in use heavily influence student subject choice.

29. Some level of specialisation is still required to support students' transition to further education and training. This is most appropriate at Level 2 and 3 where pathways for students become more concrete and clear and students are making more deliberate and informed choices about their future. By Level 3, a student is likely making a conscious decision to remain at school to follow a particular pathway; increased specialisation is not only appropriate but is likely desirable - for students with a particular pathway in mind. However, broad generalist subjects should still exist for students wishing to pursue broad pathways such as a non-specific university degree.
30. Supporting pathways also means ensuring that subjects can lead to University study where relevant. This means that University Entrance is also a policy concern at Levels 2 and 3. University Entrance is set by NZQA in consultation with each university and Universities New Zealand and was outside the scope of the NCEA Review. Under the current model of University Entrance students need to obtain credits from discrete NCEA Level 3 subjects which means schools are more likely to offer courses built upon standard subject matrices. We will need to support NZQA and Universities New Zealand to consider whether University Entrance changes are required during the RAS.
31. Where subjects are particularly necessary for further study in related areas (e.g. specific languages), then this criterion supports their availability at Level 1, even if they are somewhat specialised.

Criterion 4: Ensuring coherency and pathways in local curricula

32. A valuable component of NCEA is the flexibility it provides schools and teachers to develop courses which reflect their local curricula and the needs of their students and communities. The subjects available in NCEA Level 1 need to continue to support this while recognising that the structure of the new standards and the subjects available must encourage coherent course construction (para 12 above refers). One of the key messages that we heard during the NCEA Review was that many felt that there was a need to increase the level of coherency in NCEA. Reasons given included concerns that some schools constructed courses which maximised internal assessment and pass rates at the expense of coherent disciplinary teaching and learning or picking and choosing standards to create courses with little thought as to how the course supported students overall. These courses disproportionately impacted upon Māori and Pacific learners.
33. To understand the probability that an additional subject may increase the risk of incoherent courses we can consider current practices in NCEA within existing school course structures. In particular we can examine where schools offer courses which are variations of the same subject in order to stream students or courses which draw from multiple subject matrices. This can identify how schools are likely to react to any changes to NCEA subject offerings and the potential for unintended consequences.
34. Consistent with the Provisional Subject List, the recommended Final Subject List contains fewer subjects than is currently available at NCEA Level 1. Some schools may wish to continue to offer some subjects which are currently available and may still do so through creating new cross-curricular courses at Level 1 which have the potential to be incoherent (using the flexibility provided by NCEA). This creates a trade-off between retaining a subject to support local curriculum design – ensuring it has a coherent matrix, at the expense of the goal of a broad, foundational NCEA Level 1, especially if the subject is narrow in scope with regards to its curriculum base. In this case it may be appropriate to consider how schools can be supported to create coherent cross-curricular courses through supporting resources which use similar contexts across multiple subjects. We will monitor this through the implementation phase of the RAS, with the next review best placed to address this (it is a current system setting to review all standards regularly).

35. Although current school practices should be considered when determining subjects for NCEA, the Ministry has not regarded them as justification, particularly where the aims of the NCEA Review sought to encourage changing those practices. School practices are relevant, however, and do likely influence the implementation of any changes. We will monitor school practice closely, including during school trials and full implementation.

Criterion 5: Demand and Sector Capability

36. For subjects to be effectively delivered, there needs to be a workforce that can deliver them and can create, mark and moderate assessments both internally and externally. This is most pertinent for learning areas where there is significant change to how subjects are structured. Where subjects are proposed to be merged or reorganised at Level 1, it is important to ensure that the current workforce can deliver the subjects, particularly where subjects may draw from multiple learning areas. Concerns with the workforce's capability to deliver a proposed subject can be mitigated through ensuring sufficient support to the workforce such as resources and PLD, as well as working with teacher training providers to ensure that initial and returning teacher training supports teachers to use the new standards and subjects. We will pick this up in subsequent advice.
37. It may also be a relevant concern that merging or reorganising subjects may lead to subjects which some schools believe they will not be able to deliver. For example, if specialist equipment (such as practical science equipment or music technology equipment) is often used in one subject, schools which do not offer that specific subject currently may not believe they will be able to offer the merged subject. This is likely most relevant in Visual Arts and Technology subjects, but no significant feedback arose through PSL engagement.
38. Where subjects such as Latin and Pacific Languages have low student numbers, steadily declining student numbers, or are limited to a certain region (e.g. Auckland or Otago) or type of school (e.g. large urban or small rural) – this causes some concern about the sustainability of the subject. Demand and sector capability are not point-in-time assessments, as this criterion includes looking at certainty over the medium-term.

Criterion 6: Te Tiriti o Waitangi and Mana ōrite mō te mātauranga Māori

39. This aligns with Change 2 - Mana ōrite mō te mātauranga Māori. The implementation of this change will involve the creation of new mātauranga Māori subjects in *New Zealand Curriculum* settings, consistent with the Crown's responsibilities in Te Tiriti o Waitangi. The addition of a new subject, Māori Performing Arts, is currently under development as part of the RAS.
40. Along with the subjects themselves, through the RAS we will be seeking to meet this criterion through the development of achievement standards and materials for all subjects which reflect mātauranga Māori as appropriate. For example, the standards and materials for NZC-derived subjects will be trialled in a range of schools, including those with high Māori enrolments to ensure they meet the needs of our communities, particularly ākonga Māori and those for the Wāhanga Ako will be trialled in kura Māori. In terms of the RAS product development process, each NZC achievement standard will have at least one assessment activity available that is readily and easily accessible to ākonga Māori; and all products and supports will have an appropriate level of te reo Māori and be applicable to a range of critical perspectives.
41. This Review will include all the achievement standards derived from both TMOA and the NZC, so will present opportunities to consider and strengthen Te Reo Māori, as well as all the Wāhanga Ako. However, This report does not cover Te Marautanga o Aotearoa Subject List at Level 1, which will be included in a separate report.
42. Considering the Crown's responsibilities in Te Tiriti in determining the provisional subject list means ensuring that subjects which are particularly important to Māori are available through NCEA. This is

not just in terms of cultural value, but also in terms of the practical outcomes for ākonga Māori in English-medium settings. For examples, Māori uptake of a subject should be considered particularly in a subject with high uptake by Māori. Local school practices relating to subjects which disproportionately impact Māori should also be considered.

43. Questions to consider under this criterion include whether a particular change to the NCEA subject list might reduce a subject's ability to be used successfully by ākonga Māori or whether a change may unintentionally affect a prospective mātauranga Māori subject.
44. There are no changes assessed as impacting negatively on Criterion 6.

Criterion 7: Credibility

45. The credibility of a subject and the qualification as a whole should be considered in determining the Level 1 subject list. A credible subject list and qualification requires various interests to be carefully balanced. This includes the interests of direct stakeholders in the NCEA such as schools, teachers and students, but also indirect stakeholders such as employers and universities, the general public, and New Zealand's international reputation. This includes consideration of the broad public interest in NCEA. Similarly, there may be national interests in subjects which support learning which is particularly important to New Zealand (whether that is the language of a key international trading partner or learning which supports capability-building in an area of skills-shortage).
46. We can consider how overseas jurisdictions structure subjects as a sense check as to whether certain configurations of subjects may be credible in New Zealand. However, there are a number of caveats given the overall differences between jurisdictions. For example, education systems in more densely populated countries benefit from economies of scale in schools which do not exist in New Zealand allowing for a wider variety of specialist subjects. NCEA's flexibility and modular nature also creates challenges which are not present in many other jurisdictions.
47. When applied to NCEA Level 1 subjects, the public interest and perception of credibility is important, but the direct link to tertiary study is less so. Given the predominant purpose of NCEA, Level 1 is to support learners to transition into further study at Levels 2 and 3 (while recognising that foundational learning is also critical for employment and life in general), the Level 1 subjects need to lead to study at Levels 2 and 3 which enable the appropriate pathways with fewer dead ends. As long as tertiary pathways are supported by Level 2 and 3 subjects, which are in turn supported through broad, foundational Level 1 subjects (or more specialised where necessary), this criterion does not require every subject which can be studied at tertiary to be supported as a subject at NCEA Level 1.

Part 2: Provisional Subject List and Commentary on Learning Areas

48. We recommend the following subjects derived from the NZC at NCEA Level 1 (noting that Te Reo Māori has been placed outside of Learning Languages to reflect equity with English as per its status under the Treaty of Waitangi). Refer to Appendix A.
49. The Wāhanga Ako in TMOA that are currently under development (no changes proposed in the Provisional Subject List public engagement). A separate process will be undertaken to confirm any necessary changes or new additions.
50. Detailed commentary on the thinking behind the list for the NZC subjects is outlined below.

English

51. The English Learning Area currently has one subject at Level 1, English. In the Provisional Subject List we recommended maintaining a single subject and we continue with that recommendation. The

subject was included in our Trial & Pilots initiative and has had products developed during 2019 and 2020. Feedback has been positive. The new subject offerings will be piloted in 2021.

52. Feedback has been received about incorporating Media Studies into English however, as there is some alignment, particularly as it relates to visual literacy. This has been considered. We do not propose formally merging the subjects at the risk of limiting coherence, but recognise that visual literacy will likely be an important aspect of English and some new English standards may be used by schools to form Media Studies or equivalent courses.
53. Some jurisdictions treat English literature and English communications skills separately. Many local curricula in New Zealand schools mirror this through streaming and the creation of multiple parallel English courses with about 30-40% of students taking English courses which draw heavily from internally assessed Achievement Standards and Unit Standards. These practices often lead to less coherent course structures and a lack of participation in external assessments. Reorganising the English Learning Area as two subjects likely would perpetuate these practices unless mitigated through blunt mechanisms such as exclusions between standards.

The Arts

54. Currently there are five subjects in the Arts Learning Area: Visual Art, Art History, Music, Drama and Dance. We recommend the current structure with Art History removed and the introduction of Māori Performing Arts. Visual Arts was included in our Trial & Pilots initiative and has had products developed during 2019 and 2020. Feedback has been positive, and it will be piloted in 2021.
55. The remaining four subjects to be maintained align with the four disciplines in the NZC. Although all four Arts subjects are focussed around the same four interrelated strands, the disciplines are distinct in terms of the disciplinary knowledge and foundational knowledge in each subject. Much of the Learning Area focuses on acquiring technical skills within the discipline which need to be acquired before progressing to the next level. A reorganisation of the Learning Area would have been likely to reduce the ability for students to progress through the pathways associated with the Arts Learning Area, so was not recommended.
56. There was some feedback seeking a consolidation of some subjects in this Learning Area. Our analysis concluded that these are sufficiently distinct disciplines and that it is unlikely that a single matrix could support Music, Dance, and/or Drama effectively, particularly given the existing structures within schools and capability of teachers.
57. We plan to work with the SEGs in a collaborative and iterative process to seek as much alignment as possible in the RAS, to ensure that all the subjects meaningfully reflect the broad, foundational learning within the Arts Learning Area.
58. Māori Performing Arts is not easily assessed through the other four Arts subjects due to the nature of the subject, and the Ministry and NZQA have received significant requests for its inclusion as a subject for a number of years. Given the nature of the subject, and the alternative being unit standards (rather than broader achievement standards), it is appropriate to include this subject at NCEA Level 1. As a new subject, the process for confirming MPA was distinct from the PSL. As the Ministry was firmly committed to supporting it, its inclusion on the Provisional Subject List was appropriate.
59. This subject is the only wholly new subject included in the recommended subjects for NCEA Level 1. As such, it is an opportunity to test our approach for supporting new subjects. Once the process is fine-tuned, further subjects can be considered during the RAS.

Art History

60. Feedback on Art History confirmed it draws on a range of Learning Areas. However, while it also covers a range of disciplines, the Ministry position remains that it is not foundational in nature, as completing it at Level 1 would be unlikely to guarantee that a student has a firm grounding in the Arts or in Social Sciences (a learning area which Art History strongly relates to). Furthermore, the majority of students pick up the subject at NCEA Levels 2 or 3, and many schools do not offer it at NCEA Level 1. While feedback showed that those that use Art History value it, we continue to recommend its removal at NCEA level 1. It would, however, need to remain at Levels 2 and 3 as a specialised subject.

Health and Physical Education

61. Currently the Health and Physical Education Learning Area contains three subjects: Health, Physical Education and Home Economics. We recommend a consolidation down to two subjects; Physical Education, and Health Education (with Food and Nutrition Curriculum content included - the name and exact scope of the subject will be confirmed as the Ministry works with the relevant SEGs).
62. In the Provisional Subject List, we proposed a consolidation of Health and Physical Education, with Home Economics being consolidated with Food Technology. We recognised that a consolidation was required within the Learning Area and sought to achieve it through a merger of Health and Physical Education, with Home Economics separately forming Food Science along with Food Technology.
63. This consolidation was proposed as Health and Physical Education are highly related subjects at Level 1. Based on self-reported data by schools to the Ministry of Education, about half of year 9 and 10 students do combined Health and Physical Education classes. A significant minority of students took both subjects at year 11. Both subjects have strong focuses on wellbeing frameworks, personal growth and development, and societal attitudes.
64. The Provisional Subject list recommended the consolidation of Home Economics and Food Technology into a new subject called Food Science. Strong feedback received through the engagement demonstrated that Home Economics and Food Technology are distinctly different as disciplines, particularly noting that they rightfully belong in different Learning Areas (with Home Economics having a greater focus on nutrition and wellbeing, and Food Technology being a technology design-led discipline). While a significant number of courses are currently offered which appear to utilise a combination of standards, a combination subject would likely focus on the mutual aspects (e.g. food preparation and packaging) at the expense of the curriculum underpinnings of each discipline. Food technology specifically will be discussed in the Technology section.
65. Recognising that consolidation within the Learning Area was still important, but with the addition back of Home Economics, we reconsidered how best to structure the learning to provide the most coherent subjects.
66. In proposing the Health and Physical Education consolidation, it was noted that students with a particular interest in the study of health but without interest in the physical aspects of Physical Education may be dissuaded from choosing the subject and vice versa to a lesser degree. This can be an even bigger impact for disabled students and students with learning support needs. This may disadvantage the pathways of individual students.
67. We also noted an issue with workforce capabilities. Although many Physical Education and Health teachers tend to share similar backgrounds, that is not necessarily true of all teachers, particularly those with a stronger interest in the social science elements of health studies, or those who also teach Home Economics.

68. Feedback through the engagement on the Provisional Subject List reinforced to us the significance of these concerns. Particularly if Home Economics was also incorporated alongside the other two subjects, we have concerns that the proposed Level 1 subject of Health and Physical Education has a risk of:
- Being developed in an incoherent way as the SEGs might struggle to identify the significant learning and appropriate learning to assess, or
 - Not being fit for purpose or capturing the significant foundational learning, which could result in students who value the learning in one of the disciplines not taking not subject.
69. Alongside these differences between Health and Physical Education, we noted that there are some strong links between Home Economics and Health Education which would make it appropriate for consolidation. Specifically, feedback was received highlighting the strong links between Home Economics and Health Education, given their mutual focus on wellbeing. For these reasons, we recommend that Health and Home Economics are consolidated into a single subject while Physical Education remains a distinct subject.
70. Home Economics has a large focus on practical cooking and food preparation currently. While these are valuable skills for young people, they are not foundational learning derived from the National Curriculum. These could still be done in practice in schools, but the subject at Level 1 should focus more on wellbeing via the food and nutrition aspects which is an important part of the Learning Area. Wellbeing is at the core of both Health and Home Economics disciplines, so there is natural alignment there, and the differences in typical students are not stark as with Physical Education, so is unlikely to have the same implementation risks in schools. Some teachers may struggle if they do not have a background in both, but as it is unlikely to be as heavily focused on practical cooking skills as it is currently and there are also many who currently teach both, we consider it viable for the current workforce.
71. This recommended consolidation means that Physical Education would remain as a subject at NCEA Level 1. Analysis conducted by the Ministry showed a large number of students from at-risk backgrounds, particularly at-risk Māori and Pacific boys, were overly represented in achievement standards derived from the Health and Physical Education Learning Area. Given this subject usage, it is critically important that the subjects (Physical Education in particular) are developed through the RAS in a coherent way, which supports foundational learning and supports a wide range of pathways. Of particular note will be the intended development of external assessment for Physical Education – which may be a challenge for the SEG and teachers, as external assessment has not historically been used for this subject.

Learning languages

72. Currently the Learning Languages learning area has 12 subjects which can be divided into three categories: official languages, international languages, and Latin. We recommend the retention of all subjects except Latin.

Official Languages within Learning Languages

73. This group covers three subjects: Te Reo Māori, New Zealand Sign Language, and Cook Islands Māori. These subjects must be retained as official languages of New Zealand and the Cook Islands.
74. Recognising Te Reo Māori as taonga as well as an official language of Aotearoa, we have included it alongside English outside of the generic Learning Languages structure on the Level 1 subject list.

International Languages

75. This group includes French, German, Japanese, Korean, Tongan, Mandarin (Chinese), Samoan and Spanish. These languages are offered for a variety of reasons including being major heritage languages of New Zealand's immigrant communities or the languages of major trading partners. The factors which led to the development of these languages remain in place, noting the benefit to the credibility of NCEA (by supporting our national interests and specific communities within New Zealand), so we believe these languages should be maintained.

New subjects

76. Bahasa Indonesia is a language which currently has achievement standards, but is not otherwise supported as a subject by the Ministry or NZQA. There has never been significant use of these standards, and there have been no students assessed against them for a number of years. Due to lack of usage, we did not recognise Bahasa Indonesia as a subject currently offered, and do not recommend including it in the subject list to be developed for NCEA Level 1. We will work with the relevant community groups through our developing 'new subjects' process to determine if and how it should be supported in NCEA. If it is determined that it should have achievement standards, these will likely be developed from NCEA Level 1 (on a separate timeline).
77. Further Pacific languages are likely to go through this process and could potentially be added in the medium-term. We also received feedback suggesting further language subjects are added including Arabic and Hindi. These two languages are in a similar position and would similarly be eligible for consideration as potential new subjects.

Latin

78. In the Provisional Subject List we proposed the removal of Latin at NCEA Level 1 and provided a clear signal that it would similarly not be included at Levels 2 and 3.

Feedback on the removal of Latin

79. Significant feedback was received on the removal of Latin from NCEA, as the respondents were aware that this likely meant a total removal of Latin as an achievement standards subject at all three levels. Approximately 1,300 respondents (of over 3,600) mentioned Latin. Of these, many mention Latin in a single phrase (eg 'don't remove latin') without providing reasons or explanations – making it difficult to distinguish if there were specific reasons for keeping Latin (that we could then weigh in the context of the NCEA changes and the criteria we developed to guide the subject list selections) or if people's negativity was motivated by the sense of loss associated with its removal.
80. Feedback came from a wide range of sources including (from those identifiable) 52 from New Zealand teachers, 29 from tertiary lecturers, and 38 from tertiary (predominantly teachers, tertiary staff, and Classical and Latin associations). 139 identified responses were provided by current or former students of Latin, with 28 from parents of students.

Feedback received

81. The feedback received focused largely on the foundational nature of Latin as a subject. Many respondents shared the view that it is a foundational language – supporting study in a range of other disciplines and languages including English. Many respondents also focused on the importance of Latin as a foundation of New Zealand's (and the world's) cultures and a critical aspect of history.
82. A significant focus of the feedback was on the value to specific pathways including politics, law, medicine, and valuable skills such as critical thinking, logic, vocabulary acquisition, and analysis. The majority of feedback from former students of the subject focused on their tertiary academic study rather than other careers. Respondents felt that Latin was a valuable option for students, and their choice would be limited by a removal of Latin.

83. 13 responses supported the removal of Latin, while there were a few other suggestions provided, including consolidating the subject with others such as Classical Studies and Art History. Of the 1,300 responses mentioning Latin, 542 also mentioned Classical Studies, Art History, or both.

Recommendations

84. Much of the rationale given for supporting Latin had limited relevance. In particular, much of the international focus centred on the value of Latin for indigenous students and members of disadvantaged communities. While there are some international students studying Latin, there are very few Māori and Pacific students taking the subject at NCEA level, likely due to the specific schools and communities which value and offer Latin.
85. With regards support for pathways and the credibility of NCEA, the feedback received suggested that Latin provides critical learning experiences for students and support them across a range of careers. We have not identified evidence that supports this (apart from anecdotal feedback). Likewise, a number of members of international tertiary organisations suggested that Latin helps students when engaging internationally and helps them with applications to institutions. Our own enquiries identified no situations where Latin was a pre-requisite for study opportunities for students locally or internationally and found no evidence of widespread preferences from tertiary institutions for students who had been awarded Latin credits.
86. It was also raised that exchange students (particularly those from certain European countries) choose schools that offer Latin to continue their existing studies. While this may impact upon the choices of specific students we do not consider that it would cause any significant change to New Zealand's attractiveness as a destination for students. International students (including those from Germany, Italy, and Austria) already study at a wide range of New Zealand schools, including those which do not offer Latin. Where they want to continue Latin study and the school does not offer it, they could continue via extramural study if available and required.
87. The Ministry remains concerned about the number of students engaging in Latin study. Only a very small number of schools offer NCEA Latin, and these are found disproportionately in major cities. At Level 1, around 100 students on average enter 14 or more Latin credits. However, less than half of these students continue Latin through to Level 3.
88. In response, we heard that the numbers are relatively steady and decreased in the past due to the removal of Latin from Te Kura (The Correspondence School). While this may explain some historical decrease, there does not seem to be a pathway to the subject growing significantly and it is unlikely that the subject would be added back by Te Kura. Responses also pointed to the students studying Latin outside of NCEA to show that the numbers are larger, but there is no evidence that these students are transitioning to NCEA Latin, so does not justify its continuation. Latin is available internationally through the Cambridge International qualifications at IGCSE level (equivalent to NCEA Level 1, i.e. it is not available at levels equivalent to NCEA L2 or L3).
89. Finally, feedback suggested that the teaching of Latin supports the Crown's obligations under the Treaty of Waitangi. We were not convinced by the notion that the Crown has a specific treaty obligation to offer support for the background and history of 'western' culture. There was also an argument provided that Latin provides background into culture and language more generally, which can support students to engage with te ao Māori. While examples were provided, it is not clear that Latin as offered in schools supports effective and nuanced comparisons and engagement with te ao Māori. We remain strongly committed to improving NCEA for Māori students, and the inclusion of Latin would not be significant in that regard.
90. Overall, the feedback was carefully considered. Given the limited NCEA cohort size and concerns about the lack of ability to increase uptake, on balance the Ministry's view has not substantially changed. However, we note the the public interest and the concentrated impact on affected

stakeholders. Our recommendation is to advise the Minister to remove Latin at all NCEA Levels either now as part of the RAS (Latin achievement standards and supporting materials will not be developed) or at the next regular review point. While the cost of developing Latin is hard to justify it could be managed within the scope of the RAS.

Mathematics and Statistics

91. The Mathematics and Statistics Learning Area has one subject at Level 1, Mathematics and Statistics. We recommended making no changes in the Provisional Subject list. This position remains the same following the public engagement.
92. Similar to English, Mathematics and Statistics at NCEA Level 1 is often deemed compulsory learning within local school curricula to ensure students meet the NCEA numeracy requirement.
93. Currently, Mathematics and Statistics splits into two subjects (formally at Level 3) with the introduction of Mathematics with Calculus which focuses on algebra, calculus and trigonometry, while Mathematics and Statistics focuses on statistics and probability. Given the increasing importance of statistics as part of numeracy, there is some justification to split Mathematics and Statistics into two subjects earlier. Similar to English, splitting Mathematics at Level 1 may perpetuate some streaming practices currently allowed through the current Mathematics matrix. More coherent courses may be able to be supported through supporting an Applied Mathematics subject with externals and standards exclusions to be used for students following a more vocational pathway. However, supporting such a subject would require further support for the subject at higher levels as the applied subject has the potential to have issues with supporting pathways to higher levels within Mathematics and Statistics. A more coherent approach at Level 1 is to be through supporting the creation of more applied contexts and resources to support the teaching of Level 1 Mathematics and Statistics to all ability groups.
94. Two mathematics subjects at Level 1 may also encourage some students with strengths in Mathematics to pursue a narrower programme of learning rather than a broad foundational education at Level 1. Furthermore, a subject of Mathematics and Statistics, which a significant majority of students are still likely to engage in at Level 1, provides vital skills to engage in a wide range of learning at higher levels, which would be lessened if the subjects were split. This matter can be reconsidered in our next regular review.

Social Sciences

95. Currently there are 10 subjects in the Social Sciences: Social Studies, History, Geography, Economics, Business Studies, Accounting, Classical Studies, Religious Studies, Media Studies and Psychology.
96. As was proposed in the Provisional Subject List, we continue to recommend reorganising the learning area as five subjects at Level 1, Social Studies, History, Geography, Commerce, and Religious Studies.
97. The five recommended subjects follow the four strands of the Social Science Learning Area with Religious Studies. This structure for the learning area supports the vision of a broader foundational NCEA Level 1 by removing subjects with significant levels of specialisation and developing them solely at NCEA Levels 2 and 3.
98. It is important to note that Classical Studies, Media Studies and Psychology are subjects described as social science disciplines schools can possibly offer in the NZC. Our position remains that continuing support for these as bespoke subjects at NCEA Level 1 would not align with the vision of a broader NCEA Level 1.

Commerce

99. A single Commerce subject that encompasses Economics, Accounting and Business Studies was proposed in the Provisional Subject List to support stronger foundational knowledge in commerce-type subjects as well as support the vision for a broader NCEA Level 1. All three subjects are unique in terms of the focus of their disciplines but at Level 1 we assess these multiple offerings are too narrow. Combined Commerce courses which draw from both Business Studies and Economics exist currently at year 11 in a handful of schools, and as elective subjects in year 9 and 10 in others.
100. Feedback reinforced the fact that the three disciplines are different, we noted in particular that Accounting has little overlap with the others. Some respondents who disagreed with our draft proposal suggested that there could be better alignment between Business Studies and Economics without Accounting.
101. The sector shared concerns about supporting pathways into the specific disciplines, particularly noting that currently NCEA Level 1 Commerce subjects pathway into study at NCEA Level 3 for many students.
102. While the Ministry continues to support consolidation within Commerce at NCEA Level 1, and a focus on foundational learning, it became clear following feedback that a combination of all three has high potential to be incoherent, and may not support pathways into the subjects at higher levels. The feedback about Accounting reinforced that the subject requires significant emphasis on financial statements along with accounting principles. While challenging, we believe it will be viable to create a subject drawn from Economics and Business Studies which supports pathways into further study while being a coherent subject in its own right. We have further explored with the relevant SEGs whether Accounting could fit within Commerce.
103. On balance, the Ministry recommends Commerce be included on the subject list, comprising of Economics and Business Studies; and that in respect to Accounting that the Commerce SEG is requested to consider the extent that Accounting should be included within the subject (there are places available on the Commerce SEG to include Accounting representatives). If not, Accounting will not be developed at Level 1, but will become available as a specialised subject offered at NCEA Levels 2 and 3.

Religious studies

104. We recommend no changes to Religious Studies. From the perspective of the vision of a broad foundational Level 1, Religious Studies is relatively specialised. However, Religious Studies is usually compulsory at every year level in religious schools due to its importance to each school's special character (a legal requirement that was carried over into the Education and Training Act 2020). This means that removing or merging Religious Studies within a different subject would require a different process as it impacts on designated character schools. The subject also allows their students to engage in assessed curriculum-derived learning, which we believe is important to support their ongoing pathways.
105. Religious Studies was developed through the Trial & Pilots initiative in 2019 and 2020, and public feedback on the draft products has been encouraging.

Media Studies and Psychology

106. The Provisional Subject List suggested the removal of Media Studies at NCEA Level 1. While Media Studies has significant student numbers, and provides a range of valuable learning, our position remains that Media Studies is too specialised to be offered at NCEA level 1.
107. Feedback on its removal from Level 1 suggested that Media Studies serves a range of purposes within schools. It can be an engaging subject which supports students attaining literacy (including an

important focus on visual literacy) – often for students who may not take English for a variety of reasons, as well as a Social Science in its own right.

108. We consider that English at Level 1 (as with all subjects) needs to be developed to be accessible to the widest range of students possible. It will also contain opportunities for the learning and assessment of Visual Literacy. Likewise, the social sciences being developed will cover many of the same broad skills and competencies found in the Media Studies and Psychology subjects, which will allow for the teaching and learning of foundational skills relevant to Media Studies and Psychology within other subjects, and supporting a pathway into those subjects at Level 12.
109. We have considered requesting that the Social Studies SEG consider developing some supports for Media Studies and Psychology as part of Social Studies (contexts). However, after further consideration this is no longer recommended. Schools may continue to offer some Media Studies courses (following Media Studies removal at Level 1) - through a combination of English, Social Studies, and unit standards, if teachers consider the course would be beneficial for their students. Psychology would become available as a specialised subject at Levels 2 and 3 (no longer explicit context that is required to be covered in Social Studies).

Classical Studies

110. Classical Studies is in the Social Studies Learning Area, with learning drawn from a range of disciplines. While many respondents argued that it is foundational in nature, it is more specialised, and does not have the same key curriculum grounding as other proposed subjects such as History, Social Studies and Geography. Furthermore, the majority of students pick up the subject at NCEA Levels 2 or 3, and many schools do not offer it at NCEA Level 1. While feedback showed that those that many who teach and learn Classical Studies value it, we continue to recommend its removal at NCEA level 1 as it is overly specialised to meet Cabinet's vision for the qualification. It was suggested that Classical Studies be made a context for History, but we received mixed feedback on this. Similar to Psychology, recommend Classical Studies become available as a specialised subject at Levels 2 and 3 (no longer explicit context that is required to be covered in History).

Technology

111. Currently the Technology Learning Area has a large number of standards (41), including 13 generic Technology standards, 7 Construction and Mechanical Technologies standards, 7 Design and Visual Communication (DVC) standards and 3 Processing Technologies standards. There are also 11 standards in the recently developed Digital Technologies subject.
112. In the Provisional Subject List, we proposed to consolidate Technology into 4 subjects: Digital Technologies, Design and Visual Communication, Materials Technology, and Food Science.
113. We now recommend two changes to our original proposal: the removal of Food Science and a change from Materials Technology to Materials and Processing Technology. This would result in three subjects within the Technology Learning Area, not four.
114. Condensing Technology to a single subject matrix such as a generic Technology subject would support the direction of a broader NCEA but would not be advisable due to the importance of supporting the acquisition of technical skills which are important for Technology pathways. Furthermore, the recent rollout of the Digital Technology standards has revealed that Digital Technology teachers have a preference for using specific Digital Technology standards where practicable (rather than generic standards).
115. Feedback received through the engagement highlighted the value teachers see in the generic matrix currently and having the ability to design a course which suits learners' needs and skills, but also that overly supporting specific disciplines undermine the foundational nature of NCEA Level 1 and inhibit

new or flexible course design. We consider the recommended approach balances that by offering a matrix which can be utilised for a wide range of courses but ensures the key curriculum aspects are present in those courses.

Materials and Processing Technology

116. A combined Materials Technology subject was proposed in the provisional subject list due to the current overlap in processes and techniques across the wide variety of Technology subjects at Level 1. While there are clear disciplinary distinctions between the subjects and significant skills which are not necessarily transferrable, the widespread use of the generic technology standards currently highlights the similarities of the subjects and the potential for a shared single subject, which focuses on the important foundational learning which underpins all the specific disciplines.
117. Alongside Materials Technology, in the provisional subject list we recommended the establishment of a subject called Food Science to consolidate Food Technology and Home Economics. This would also potentially have contained some content drawn from Social Science and the Sciences Learning Areas. Food Technology is currently a common course at NCEA Level 1, but does not have bespoke standards. While the Processing Technology Standards were designed with Food Technology in mind, there is limited and inconsistent use of the three standards at NCEA Level 1.
118. Our assessment of the feedback received about the Food Science proposal has been covered above in the Health and Physical Education section, but there was also feedback specific to Food Technology. Based on the conversations with the sector and the responses, Food Technology is predominantly a design-led subject which utilises the generic technology standards, also drawing on Hospitality unit standards, Home Economics, Science, and Processing Technology standards.
119. While it was clear that the sector values the ability to offer a Food Technology course, there is likely not enough consistency in practice between Food Technology courses for a bespoke subject matrix at NCEA Level 1. The development of a specific subject of Food Technology would also be overly specialised, and be the recognition of a subject which is currently not supported by a complete bespoke matrix of achievement standards.
120. As the generic technology standards currently form a key basis for Food Technology courses, and further alignment within Technology is important, for the Final Subject List we recommend that Processing Technology be incorporated into the Materials Technology subject to form Materials and Processing Technology – a relatively generic matrix which supports a range of specific technology courses.
121. This subject would be able to be offered as a general subject or as a specific course depending on the needs of the students. Through the RAS, we expect to create specific materials to support different courses using those standards. We will take advice from the Subjects Expert Groups before making decisions on the extent that specific courses are individually supported.
122. Students will be able to be assessed against the standards in this subject once. While feedback showed that some teachers and students value the ability for a student to study multiple achievement standard subjects (such as Woodworking, Textiles, and Food Technology) simultaneously, the vision for NCEA Level 1 is for foundational learning where students are encouraged to engage in broad learning from across the National Curriculum. This enables students to engage in a deliberately broad subject – but one which can recognise their skills and competencies in a specific discipline. It also ensures that students do not over-specialise into Technology subjects at NCEA Level 1, at the expense of the other Learning Areas. There is similarly a devaluing of the worth of an individual student's NCEA where it comprises of credits from duplicate achievement standards (albeit they may have been delivered through rich and different local curricula and contexts).

123. While we considered incorporating Design and Visual Communications as another course supported using the Materials and Processing Technology subject, we concluded that it remained best supported as a separate subject due to the more specialised technical skills required which may need to be assessed (coding and technical drawing for example) more directly. We consider it an equivalent to other courses (such as Textiles Technology) but, due to the historic use of specialist standards, concluded that there would be a greater risk that it either is not able to be effectively assessed through the mutual matrix, or that in attempting to design the standards to meet DVCs needs along with the wide range of other disciplines it renders the subject incoherent for use by other courses.

Science

124. In July 2019, Level 1 Science was selected as a trial subject for the Trial and Pilot phase of the RAS as the Science curriculum significantly differs in construction from other subjects involved in this phase at NCEA Level 1. The Ministry was eager to explore the feasibility of developing a generic Level 1 matrix for Science (rather than the specialist science subjects at Level 1).
125. There are currently 5 subjects at Level 1 NCEA within the Science Learning Area. These are Physics, Biology, Chemistry, Agricultural and Horticultural Science, and Science, with a total of 41 standards and 157 credits available. The current Science subject at Level 1 contains standards specifically drawn from the four strands of Chemistry, Physics, Biology and Earth and Space Science.
126. Over 2019, a draft Level 1 Science matrix and assessment resources were developed by the Science SEG. The SEG developed four standards reflecting the Nature of Science (NOS) to capture and assess the most significant learning in Science in line with Cabinet expectations. The phase 1 draft Science products were shared with the sector from December 2019 to 2 March 2020 for feedback.
127. Following Cabinet's confirmation of changes in February 2020, the Provisional Subject List was released for public engagement. In the Provisional Subject List we recommended a single general Science subject to be developed at NCEA Level 1.
128. Draft Science products received a significant amount of public feedback, with many negative about the Ministry's overall approach specifically in relation to Science. This focused around themes concerning the perceived lack of traditional Science content, lack of examinations, high literacy demands, increased teacher and student workload, ensuring authenticity, lack of preparation for Levels 2 and 3 Science subjects, a need for clarification of terms and phrases, and challenges catering for transient students and ensuring continuity.
129. In particular regard to Science in the Provisional Subject List engagement process, the feedback covered similar themes to that on the draft Science products. Further themes included varying opinions on the broad curriculum, student choice, local curriculum design, consistency of number of subjects compared to other learning areas, and the lack of information communicated.
130. Due to the feedback received through multiple feedback processes, particularly in response to the draft products for the Level 1 Science as part of the Trial and Pilot process, we released two further options for public feedback alongside the original proposal. The options developed were: Option A, Option B and Option C respectively.
131. Option A essentially represented the continuation of the approach from the Provisional Subject List - a single general Science subject at Level 1 (with four standards focusing on NOS).
132. Option B retained the general Science subject (called General Science to distinguish it from the other subjects in Option B), with two further specialist science subjects, with an example provided of Physical Science (encompassing Physics and Chemistry with two standards for each) and Natural Science (encompassing Biology and Earth and Space Science with two standards for each).

133. Option C was presented as the General Science subject, along with a further four specialist science subjects: Physics, Biology, Earth and Space Science, and Chemistry, each with four standards.
134. The intention of presenting these three options was to determine the best final mix for Science, considering the original proposal was not looking as strong as we had hoped, while maintaining Cabinet's vision for NCEA Level 1 (as referred to in paragraph 2).
135. In total 965 responses were received through the public engagement process. 691 were supportive of Option C, 185 supportive of Option B, and 83 supportive of Option A. Group responses were received on behalf of some schools, along with submissions from interested groups – being Tokona te Raki – Māori Futures Collective, CSTA (Canterbury Science Teachers Association), and NZIP (New Zealand Institute of Physics).
136. The majority of feedback was received from teachers, with small numbers from tertiary representatives, industry representatives, students and parents. Only half of the responses included the data of who was submitting a response, however we presumed that the makeup of the half of responses without this data is generally of a similar profile.
137. We were unable to quantify exactly how many unique responses on behalf of groups and individuals were submitted due to duplicated responses. Therefore, quantitatively we can only count a submission as a submission, with little ability to understand how many individuals, or groups this may represent. Where it was clear that a submission was made on behalf of a group, this was factored into consideration in the qualitative analysis.
138. We received feedback in favour of Option A from some respondents who were enthusiastic about the strong focus on NOS. We consider that many in the teaching workforce would have been capable to deliver the originally proposed science approach, with sufficient flexibility to encompass foundational learning for all the specialised science subjects, however this proved to be a minority and there were stronger negative sentiments expressed overall.
139. Much of the feedback for Option A aligned with that received for the Trial and Pilot Science Products and for Science under the Provisional Subject List for Level 1, with concern for students' pathways and the lack of breadth of specialist knowledge being taught to support students into Level 2 and 3 assessment, flexibility in assessment, implementation, and student choice.
140. There was significant feedback that Option A would not support pathways to further specialised learning at Levels 2 and 3. This feedback maintained that Option A did not provide adequate assessment for specialist knowledge to ensure that students are able to continue into further study in the Sciences.
141. Sector feedback on Option A indicated that there could be potential issues with the implementation of a single General Science subject, with teachers with specialist knowledge lacking the capability to cover all contextual strands of the Science Learning Area effectively, again impacting students' learning.
142. Feedback on Option B included some positive comments and a small amount of negative comments but it was largely ignored in favour of providing feedback on Options A and C.
143. Feedback on Option B was positive compared to Option A. Although the strongest preference was for each specialist Science strand to have its own subject to ensure greater support for specialist Science strand pathways, Option B was seen to enable contextual learning while maintaining pathways into various Science subjects at Level 2 and 3 and not blocking pathways of other learning areas by over-saturating students timetables with science subjects.

144. Feedback on Option B indicated that the teaching workforce would prefer a 'mix and match' approach to how each standard assessed each contextual strand with each standard assessing only one contextual strand, over three coherent subjects developed which built links between the paired contextual strands in each assessment.
145. Based on the volume of responses received, Option C was the preferred option, with feedback indicating demand from the sector and students for more specialised Science subjects at Level 1 to support students' pathways into further Science specialties at Levels 2 and 3.
146. Option C is closest in subject offerings to the status quo in Science subjects at Level 1 and this was the most common rationale for selecting this option over Options A and B. Many in the Science teaching profession are evidently most comfortable with the current offerings of Science subjects at Level 1 and are reluctant to change.
147. Option C was also preferred due to the desire for flexibility in course design and the ability to teach and assess specific strand content as is the current status quo.

Recommendations

148. Developing two further Science Subjects at Level 1 to supplement the General Science subject is our recommended approach to reconciling the vigorous sector feedback against a single subject and the criteria for determining a Level 1 NCEA subject. It is important to remember that public engagement on the general Science subject products indicated they would work (all three Options maintain a general Science subject), so the question to be answered was what the balance of specialist subjects at Level 1 should be – with Options A and B deliberately representing the extremes.
149. Following analysis of feedback, Physics and Earth and Space Science, and Biology and Chemistry were perceived to be the better fits together. This is based on how other combinations may be perceived academically, and natural overlap in terms of content.
150. Adopting Option B would maintain a degree of contextualisation at Level 1 that mitigates sector concerns about lack of flexibility and specialisation. Supporting these pathways is likely to be viewed by some as maintaining the credibility of NCEA as a qualification.
151. Under Option B teachers could develop courses assessed using any of the achievement standards from the three Science subject matrices. This flexibility mitigates the concerns from teachers and allows the diverse needs and interests of learners to be met in Level 1 NCEA Science as well as preparing them for further specialisation at Levels 2 and 3 – and is justified within the policy objectives described in paragraph 2.
152. Option B provides more consistency and encourages connections across Science contextual strands, as well as relating to the Nature of Science. In this way, Option B will enable broad, foundational learning that enables students' pathways within the Science Learning Area at NCEA levels 2 and 3.
153. The current status quo of Science subjects and standards, although providing the most flexibility for teachers to meet the needs of their students into continued Science specialisation in Levels 2 and 3, does not offer a broad, foundational learning of the Science learning area overall. It also tends to reduce pathways into other Learning Areas for students who study multiple science subjects at Level 1. This is particularly common in larger schools, while for smaller schools, offering the various strands of Science as they are now is not possible due to the lack of specialist Science teachers in the school's workforce. Although the most preferred option based on the feedback received, Option C carries the greatest risk of inconsistency with the 7 criteria used to determine subjects at NCEA Level 1. If the feedback had indicated that Option B was also not going to be workable (feedback on Option B did not indicate that) then it is possible that Option C would (only then) have represented a more promising compromise in terms of the guiding policy objectives in paragraph 2. We expected feedback on Option A would be negative.

154. Responses in support of Option C often reflected a different understanding of the 7 criteria, namely that offering more contextual strands of science at Level 1 is broad and foundational. In the NCEA Review and RAS, broadness refers to a student's entitlement to engage in the most significant learning across the learning areas in the curriculum to ensure their pathways remain open at Level 1. Having many Achievement Standards offered in the Science Learning Area in the Ministry's view is not the aim of broad, foundational learning at Level 1.
155. On balance and for the reasons discussed above, taking into consideration the considerable feedback across multiple public engagement process, Option B is recommended as we assess it will provide appropriate Science standards and assessment with sufficient flexibility, and it is a better approach than Option A based on a manageable level of change for the current teaching workforce.
156. The challenge with Option B is forming coherent subjects which contain multiple Science strands, recognising that teachers are likely to also develop bespoke courses from across the three matrices. Ensuring coherence between the three subject matrices within the Science Learning Area will be important to support teachers and students in their teaching and learning under such circumstances.

Proactively Released

Appendix

Learning Area	Current Subject List	Provisional Subject List	Final Subject List
English	English	English	English
Te Reo Māori	Te Reo Māori	Te Reo Māori	Te Reo Māori
The Arts	Dance	Dance	Dance
	Drama	Drama	Drama
	Music	Music	Music
	Visual Arts	Visual Arts	Visual Arts
	--	Māori Performing Arts	Māori Performing Arts
Science	Science	Science	Science
	Biology		Physics, Earth and Space Science
	Chemistry		Chemistry and Biology
	Physics		
	Agricultural and Horticultural Science	Agricultural and Horticultural Science	Agricultural and Horticultural Science
Social Sciences	History	History	History
	Classical Studies		
	Geography	Geography	Geography
	Religious Studies	Religious Studies	Religious Studies
	Social Studies	Social Studies	Social Studies
	Psychology		
	Media Studies		
	Economics	Commerce	Commerce*
	Business Studies		
	Accounting		
Technology	Digital Technologies	Digital Technologies	Digital Technologies
	Design and Visual Communication	Design and Visual Communication	Design and Visual Communication
	Construction and Materials Technology	Materials Technology	Materials and Processing Technology [^]
	Processing Technology		
	Technology Generic	Food Science ^{^^}	
Learning Languages	Cook Island Māori	Cook Island Māori	Cook Island Māori
	New Zealand Sign Language	New Zealand Sign Language	New Zealand Sign Language
	French	French	French
	German	German	German
	Japanese	Japanese	Japanese
	Korean	Korean	Korean
	Tongan	Tongan	Tongan
	Mandarin	Mandarin	Mandarin
	Samoan	Samoan	Samoan
	Spanish	Spanish	Spanish
	Latin	--	--
	Health and Physical Education	Physical Education	Health and Physical Education
Health		Health Education [^] (with Home Economics)	
Home Economics		Food Science ^{^^}	
Mathematics and Statistics	Mathematics and Statistics	Mathematics and Statistics	Mathematics and Statistics

* The Commerce SEG will determine the extent to which it is appropriate to include Accounting within the subject. If not then Accounting will not be supported at Level 1 but will be supported at Levels 2 and 3.

[^] This is a working title, to be confirmed during the Subject Expert Group engagement process.

^{^^} Food science was proposed to bridge the Technology and Health and Physical Education Learning Areas.



We **shape** an **education** system that delivers
equitable and **excellent outcomes**

He mea **tārai** e mātou te **mātauranga**
kia **rangatira** ai, kia **mana taurite** ai ōna **huanga**