

Chemistry and Biology

SUBJECT EXPERT GROUP RESPONSE TO FEEDBACK ON THE PHASE 2 MATERIALS

The Chemistry and Biology Subject Expert Group (SEG) would like to thank people who took time to review the Chemistry and Biology materials. We received 76 responses to the online survey.

The feedback has been collated into main themes and the SEG has responded to each theme. All feedback has been considered – those suggestions which are more discrete, or are more detailed or technical, are in the process of being actioned.

Theme One

A call for Ministry supported PLD for implementing mātauranga Māori appropriately into teaching, learning and assessment

Response

Details around the PLD support the Ministry will provide can be found [here](#).

Each school and kura holds the responsibility for upskilling its teachers in incorporating mātauranga Māori appropriately throughout their programmes, and teachers will also be upskilling individually. Many schools, kura and Kāhui Ako will have already incorporated this into their goals and planning.

Theme Two

Further clarification of mātauranga Māori concepts required

Response

Mātauranga Māori concepts have been incorporated in the subject content, reflecting the requirement for mana ōrite mō te mātauranga Māori in the NCEA Change Package. The SEG will review materials to ensure that the use of these concepts is clear and appropriate. The glossary will also be reviewed and the explanatory notes within the standards better utilised to support the interpretation of these concepts when used within a standard.

The SEG notes that the Course Outlines and Assessment Activities include links to resources that support upskilling around these concepts.

Theme Three

Progression to Level 2 and Level 3 NCEA is currently unclear

Response

NCEA Level 2 and Level 3 Achievement Standards are yet to be developed. Work on Level 2 and Level 3 NCEA is planned according to the [RAS timeline](#). This future work will be informed by and aligned with the new Level 1 subject content, to ensure appropriate progression for students.

Theme Four

Further detail on assessment including External Assessment Specifications, exemplars of student work, and marking schedules

Response

The Ministry and NZQA will be working together to develop External Assessment Specifications in the lead up to the Standards being listed for use by the pilot schools. Samples of assessment items for externals will be provided to pilot schools prior to the running of the external assessment. After the assessment is completed by pilot schools, the samples and the assessment itself will be published on the NCEA.education website.

Exemplars of student work and more detailed marking schedules will be developed as part of the piloting process and will be made available at the end of the pilot year.

Theme Five

Specific content missing from the Achievement Standards

Response

Multiple suggestions were made of specific content to include in the Achievement Standards. For example, it was suggested that the Chemistry Achievement Standards should assess knowledge of chemical formulae, equations, and a greater range of reactions. Punnet squares and cell biology were pointed out as missing from the Biology Achievement Standards.

By design, this consolidated foundational subject does not seek to comprehensively assess all biology and chemistry content. The chosen subject content is considered by the SEG to be the most significant 'not-to-be-missed' learning at Level 6 of the New Zealand Curriculum, and the knowledge assessed by the Achievement Standards can only ever be a sampling of the teaching and learning that has taken place.

Beyond the pilot year, schools and kura may develop and deliver courses incorporating different content and contexts, for example to build a more comprehensive biology course if desired. They may assess that learning using Science Achievement Standards for assessment where specific Chemistry and Biology standards are not a good fit for their learners.

Theme Six

Curriculum level for the chemistry content in Achievement Standard 1.4

Response

The SEG considers this Achievement Standard to be at the appropriate level of the New Zealand Curriculum. The unpacking of the standards and explanatory notes will be reviewed to further clarify the content intended to be assessed.