



Briefing Note: Supplementary expert advice to inform the refresh of the mathematics and statistics learning area of *The New Zealand Curriculum*.

To:	Hon Jan Tinetti, Associate Minister of Education		
Date:	29 September 2021	Priority:	Low
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Drafter:	Esa Samani	DDI:	9(2)(a) [REDACTED]
Key Contact:	Pauline Cleaver	DDI:	9(2)(a) [REDACTED]
Messaging seen by Communications team:	No	Round Robin:	No

Purpose of Briefing

The purpose of this paper is for you to:

- **Note** that the Ministry has received supplementary advice on mathematics skills and knowledge to inform the maths strategy and refresh of the mathematics and statistics learning area of The New Zealand Curriculum (NZC).
- **Note** we have provided you with the RSTA Media Release and confirmed that the release date has been moved out to 3rd October.
- **Agree** that this briefing will be proactively released.

☒ Agree

☐ Disagree


Pauline Cleaver
Associate Deputy Secretary
Early Learning and Student Achievement

28/09/2021



Hon Jan Tinetti
Associate Minister of Education

03/09/2021

Summary

1. The Royal Society Mathematics Expert Advisory Panel was convened in January 2021 and asked to provide independent advice on the development of mathematics knowledge and skills in relation to *The New Zealand Curriculum* (NZC) [METIS 1271858 refers].
2. The Ministry received a draft report from the Royal Society Te Apārangi (RSTA) in May 2021 and the final report on 15th September ahead of the public release date, now confirmed for 3rd October.
3. While the RSTA draft report provided useful information there were some critical aspects that were not covered in sufficient depth to inform the next steps of the maths strategy and curriculum refresh.
4. In August the Ministry engaged a small group of maths experts to provide supplementary information.
5. We received the final supplementary report on 17 September 2021, and it clearly provides advice on the mathematics and statistics skills and knowledge learners need to know by when.

Background

6. While the RSTA draft report provided useful information there were critical aspects that were not covered in sufficient depth to inform the next steps of the maths strategy and curriculum refresh.
7. Consequently a small group of mathematics experts were asked to provide supplementary information on the following aspects:
 - i. the specific mathematics skills and knowledge learners need to know and by when, and the important cross-disciplinary links, particularly when taking into consideration the rapid changes and growth in computer science/ ICT
8. The advice will be used to underpin the scoping of the refresh of the Mathematics and Statistics learning area of the curriculum and to inform the Maths strategy work.

Supplementary Report

9. The supplementary report is specific about the mathematics and statistics that we want ākonga to learn and by when as they progress through Years 1-13. In presenting clear curriculum direction and specificity, the report provides information about mathematical content at a fine-grained level of detail. It highlights what is important for progress and future learning, and important pedagogical considerations.
10. The supplementary report provides clear direction about what is important learning at each stage.

11. The report makes recommendations for the Ministry to consider about a bicultural approach to mathematics and statistics curriculum, as well as the following recommendations relating to pedagogy:
- ii. A clear national statement is needed about maths pedagogies consistent with Tātaiako and Tapasā and current thinking about culturally sustaining pedagogy
 - iii. Effective pedagogy guidance to be included in the refresh work
 - iv. Cross-disciplinary links should only be used when the curriculum emphasis and integrity of the discipline is maintained
 - v. Equitable access to powerful technologies
 - vi. Benefit of physical models of maths ideas for young children.
12. Note that Fiona Ell, one of the three academics working on this supplementary advice was also a member of the RSTA writing group. The other two writers peer reviewed the RSTA report.
13. RSTA have indicated that the public release date for their paper is now confirmed for 3rd October. They have also indicated that at 9am on this day Jack Tame from Q+A will host a panel interview with Gaven Martin (chair of advisory group) and Fiona Ell (member of advisory group).
14. We have prepared Q&As for your use (Annex 4).

Annexes

- Annex 1: Report to the Ministry of Education: Mathematics and statistics skills and knowledge learners need to know by when, important cross-disciplinary links, and considerations in light of rapid changes and growth in computer science/ICT. Authors: Fiona Ell (Auckland University), Robin Averill (Victoria University) & Jane McChesney (Canterbury University).
- Annex 2: Royal Society Te Apārangi media release statement in relation to the RSTA independent paper in preparation for public release on 3 October 2021.
- Annex 3: Reactive Q&A sheet for Ministry use which have been provided to you previously [METIS 1271858 refers].
- Annex 4: Q&As for Minister use