



**Briefing Note: Curriculum Insights & Progress Study  
Foundational Areas 2023 Reading & Maths  
Results Report**

<b>To:</b>	Hon Erica Stanford, Minister of Education		
<b>Date:</b>	16 August 2024	<b>Priority:</b>	Medium
<b>Security Level:</b>	In-Confidence	<b>METIS No:</b>	1333735
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<b>Seen by the Communications Team:</b>	No	<b>Round Robin:</b>	No

**Purpose of Briefing**

The purpose of this paper is to provide you with the Curriculum Insights & Progress Study Foundational Areas: Mathematics and Reading 2023 Results report which will be published online.

**Summary**

1. The Curriculum Insights and Progress Study (Curriculum Insights) was established in 2023 to monitor Year 3, 6 and 8 student progress and achievement in the refreshed New Zealand Curriculum. The study assesses how students are progressing in the foundational areas of reading, writing and maths, and across the eight curriculum learning areas.
2. In Term 4, 2023, the foundational areas of reading and maths were assessed. The results from the assessment were publicly released on 5 August, following your announcement of the key results on 4 August.
3. Six downloadable A3 summaries (Year 3, 6, & 8 for reading and maths) and data windows which provide more detailed student achievement information, broken down by demographic subgroups, have been published on Education Counts ([Curriculum Insights and Progress Study | Education Counts](#)), which support the report.
4. The Curriculum Insights & Progress Study Foundational Areas: Mathematics and Reading 2023 Results report (annex 1), outlines the context and key findings from the assessment, and what the assessments showed students were more able to do and less able to do.



5. Key results from the report have already been summarised online and we will publish the report on the Education Counts website along with the A3 dashboards and data windows.

**Proactive Release**

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- a. **agree** that the Ministry of Education release this paper in full once it has been considered by you.

**Agree / Disagree**



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

16/08/2024



Hon Erica Stanford  
Minister of Education

1, 10, 24



Grant Pollard  
General Manager, Data & Insights  
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15/08/2024

## Next Steps

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1. The Ministry of Education will publish the attached report on the Education Counts website.

## Annexes

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The following are annexed to this paper:

- Annex 1: Curriculum Insights and Progress Study Foundational Areas: Mathematics and Reading 2023 results

Proactively released

# **Curriculum Insights and Progress Study**

**Foundational Areas:**

**2023 Mathematics and Reading  
results.**

**Published: Aug 2024**

**Author: Ministry of Education**



**Te Tāhuhu o  
te Mātauranga**  
Ministry of Education

## Acknowledgements

- We thank the schools, principals, teachers and students who agreed to take part in the study in 2023.
- The study is operated by the University of Otago Educational Assessment Research Unit and The New Zealand Council for Educational Research. Thank you for your continued expertise and collaboration in this monitoring activity.
- The study builds upon previous assessment studies that tracked Years 4 and 8: the National Monitoring Study of Student Achievement (NMSSA) which ran from 2011-2022, and the National Education Monitoring Project (NEMP) which ran from 1995-2010.
- This report was authored by the Ministry of Education

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## Curriculum Insights and Progress Study

The Curriculum Insights and Progress study was established in 2023 to monitor Year 3, 6 and 8 student achievement and progress in the refreshed New Zealand Curriculum and develop insights that can be used to enable and support system improvement. It is run by the University of Otago and New Zealand Council for Educational Research.

The study has two assessment components:

- four yearly cycle assessing the 8 learning areas of the curriculum, 2 per year
- annual assessment of foundational areas of reading, writing and maths.

This report deals with how students are progressing annually in the foundational areas of reading and maths.

2023 was the first year of the study which involved a reduced timeline for preparation and in turn a reduced scope including the number of schools involved. In 2023, the foundational areas of reading and maths were assessed. In 2024, writing and maths will be assessed. From 2025, reading, writing and maths will be assessed every year.

2023 reading and maths results can be found on [Education Counts](#) and on the University of Otago [Curriculum Insights and Progress Study](#) website.

## Method

### School and student selection

- The sampling design was a two-stage process like previously used in NMSSA to generate nationally representative samples. For a full technical explanation of the process, it is explained in the [2022 technical report](#).
- The first stage was a random sample of schools stratified by region and equity index, with the probability of a school being selected proportional to roll size for the relevant year level.
- The second stage involved a random sample of up to 27 students per school.
- Due to the reduced scope of the first year of the study, it was agreed fewer schools would be involved than in the following years.
- Selection was from state and state-integrated English-medium schools across New Zealand aiming for 50 schools at each Year level in two sets, one set for Year 3 and 6 and a separate set of schools for Year 8.
- Achieved samples are outlined in figures 1 and 2 below.

Figure 1 – Achieved samples for 2023 Reading

Year level	Number of schools	Number of students
3	44	907
6	44	941
8	42	868

Figure 2 – Achieved samples for 2023 Mathematics

Year level	Number of schools	Number of students
3	43	902
6	43	932
8	42	853

- The sample sizes are smaller than aimed for but still reliable to give a national result within the 95% confidence level as below. For example, at Year 8 maths the mean scale score is 798 with a 95% confidence interval 792-805. When broken down by another variable the confidence interval widens, for example Year 8 maths mean for 'More barriers' schools 754 (739,769). Due to this, we have not reported lower level breakdowns, such as gender by equity index, by ethnicity.
- Weighting was applied to the results to adjust for any over and underrepresentation of key sampling variables.
- In 2024 and thereafter, the sample will be 80 schools and approximately 2,000 students at each year level. This will allow greater precision in comparison of sub-groups.

### **Data collection**

- Data collection was via an online assessment implemented by classroom teachers on school devices in October 2023. Answers were scored automatically.
- The maths assessment was a computer adaptive assessment drawing from a bank of selected response and short answer questions.
- The reading assessment used a range of tasks aligned to the progress outcomes of the 2023 draft Te Mātaiaho.

### **Curriculum alignment**

- The assessment of Years 3, 6 and 8 corresponds with the end of the first three phases of learning described in the refreshed curriculum.
- All maths questions were aligned to the progress outcomes from the 2023 draft Te Mātaiaho curriculum and related to number, algebra, space, statistics, and probability.
- The reading assessment at Year 3 included word recognition, sentence completion and cloze exercise and comprehension of longer texts. Comprehension questions covered information retrieval, local inference and more complex inference to integrate and interpret information across a text.
- Year 6 reading also included completing sentences that used a range of grammatical structures and forms of punctuation, recognising synonyms in a sentence context, cloze exercises and comprehending texts.
- At Year 8 reading exercises also included exercises such as choosing the correct word to restore meaning to a sentence, recognising synonyms in the context of a sentence, as well as comprehension of longer texts.

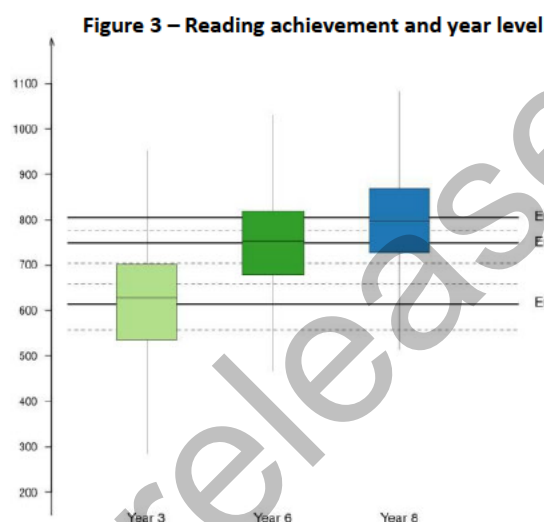
### **Sampling Comments**

The identities of participating schools are not released publicly. Likewise, the assessment items are kept confidential so that they can be reused in future assessment.

## Key findings

### Reading

- Around half of students are meeting the expected curriculum reading level for their age, with Year 3 at 54%, Year 6 at 52%, and Year 8 at 47%.
- Additionally, another 10-16% of students are less than one year behind the benchmark for their age.
- A large group of students are more than one year behind the relevant curriculum benchmark. This grows over the course of primary schooling, from 30% in Year 3, 32% in Year 6, up to 43% in Year 8.
- On average, students are making progress in the curriculum as they go through primary school. However, many are not progressing at the rate required to keep up with the curriculum expectation – especially in later years.
- There continues to be strong association of socio-economic status with student achievement, where students from schools with 'Fewer Barriers' were more likely to meet curriculum expectations their peers in schools with 'Moderate Barriers' and they were more likely to meet expectations than peers in schools with 'More Barriers'.
- Previous national results for reading came from NMSSA in 2019. At that time, 63% of Year 4's and 56% of Year 8's achieved the curriculum benchmarks associated with reading for English purposes in the 2007 New Zealand Curriculum.

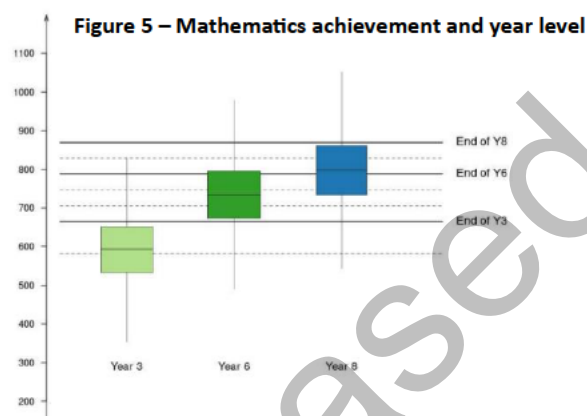


**Figure 4 – Reading achievement level**

Proportion of students who achieved curriculum benchmark for each Year (%)			
2023 Reading	Year 3	Year 6	Year 8
At or above curriculum level	54	52	47
Less than one year behind curriculum level	16	16	10
More than one year behind curriculum level	30	32	43

## Mathematics

- Overall, less than a quarter of students are meeting the expected curriculum level for their age, with Year 3 at 20%, Year 6 at 28% and Year 8 at 22%.
- In 2023, a new draft refreshed maths curriculum was introduced. As well as being clearer, more specific and detailed about what is expected at each year level, the refreshed curriculum increased expectations of student capability in maths.
- In 2022, NMSSA found that 82% of Year 4 and 42% of Year 8 met the 2007 NZC curriculum expectations. Analysis of the underlying maths assessment scales of both assessments at Year 8 confirmed that student performance has not changed from 2022 to 2023, but rather the curriculum expectation has changed with the refresh.
- Despite the proportion of students meeting the curriculum expectation for their age, the figure below shows that on average students are making progress, however not at the rate required by the curriculum.
- In maths, as in other areas, there was a strong association between socio-economic status and achievement. Students in the group of schools with 'Fewer Barriers' were more likely to meet curriculum expectations their peers in schools with 'Moderate Barriers' and they were more likely to meet expectations than peers in schools with 'More Barriers'.



**Figure 6 – Maths achievement level**

Proportion of students who achieved curriculum benchmark for each Year (%)			
2023 Maths	Year 3	Year 6	Year 8
At or above curriculum level	20	28	22
Less than one year behind curriculum level	35	17	15
More than one year behind curriculum level	45	56	63

## Other findings

- The study collected key variables by which to break down results for comparison of groups. Findings are in keeping with previous NMSSA results and much educational research.
- Ākonga Māori continue to have lower achievement than non-Māori peers in both reading and mathematics. This is shown in figures 7 and 8.

Figure 7 – reading achievement by Māori / Non-Māori

Reading 2023				
Proportion of students who achieved curriculum benchmark by Māori/Non-Māori (%)				
		Year 3	Year 6	Year 8
Māori	At or Above	41	31	33
	Less than one year behind	18	19	11
	More than one year behind	42	50	56
Non-Māori	At or Above	58	58	51
	Less than one year behind	15	15	10
	More than one year behind	27	27	39

Figure 8 – Mathematics achievement by Māori / Non-Māori

Mathematics 2023				
Proportion of students who achieved curriculum benchmark by Māori/Non-Māori (%)				
		Year 3	Year 6	Year 8
Māori	At or Above	9	12	12
	Less than one year behind	31	13	10
	More than one year behind	60	75	78
Non-Māori	At or Above	24	33	26
	Less than one year behind	36	18	16
	More than one year behind	40	50	58

### Socio-economic status

- Socio-economic status has a strong association with achievement. The Equity Index (EQI) has been developed to estimate educational barriers that students face and provide differential funding to schools based on this need.
- Even with equity funding (and before it Decile funding), we still see a higher average performance coming from students in schools with Fewer barriers. In 2023 for example, 57% of Year 8's in schools with Fewer barriers achieved the expected curriculum level for reading compared with 34% of their peers in schools with More barriers.
- Figures 9 and 10 give a full breakdown by Year level and the 3 categories of EQI.

Figure 9 – Reading achievement by EQI index

Reading 2023				
Proportion of students who achieved curriculum benchmark by EQI index (%)				
		Year 3	Year 6	Year 8
<b>Fewer barriers</b>	At or Above	67	69	57
	Less than one year behind	15	14	10
	More than one year behind	18	17	32
<b>Moderate barriers</b>	At or Above	50	46	44
	Less than one year behind	17	18	11
	More than one year behind	34	36	45
<b>More barriers</b>	At or Above	32	21	34
	Less than one year behind	16	17	10
	More than one year behind	52	61	56

Figure 10 – Mathematics achievement by EQI index

Mathematics 2023				
Proportion of students who achieved curriculum benchmark by EQI index (%)				
		Year 3	Year 6	Year 8
<b>Fewer barriers</b>	At or Above	31	44	34
	Less than one year behind	38	19	17
	More than one year behind	32	37	49
<b>Moderate barriers</b>	At or Above	14	18	20
	Less than one year behind	37	17	14
	More than one year behind	49	65	66
<b>More barriers</b>	At or Above	8	7	8
	Less than one year behind	24	10	13
	More than one year behind	67	84	79

#### Differences with boys and girls

- In New Zealand, girls have tended to outperform boys in reading for some time. In 2023 this was generally the case with Year 3 girls meeting the curriculum 58% of the time compared to boys 50% and Year 8 girls 51% compared to the boys 43%. However, it was very close at Year 6 with girls 52% and boys 51%.
- In 2019 NMSSA Year 8 girls met the curriculum expectations for reading 61% of the time compared to boys 50%. The most recent Progress in International Reading Literacy Study (PIRLS) held in New Zealand in term 4 of 2020 showed girls met the International Intermediate benchmark 75% of the time compared to boys 67%. PISA 2022 also showed that 84% of girls reached the PISA level 2 reading proficiency compared to 76% of New Zealand boys.
- In mathematics, it is the other way around, with boys outperforming girls. Year 8 boys met the expectations of the Te Mātaiaho maths curriculum 25% of the time compared with girls 20%. Boys also have a wider distribution of scores than girls, meaning there are more higher achieving and lower achieving boys than girls. PISA 2022 also showed that on average boys perform better at maths than girls.

Figure 11 – Reading achievement by gender

Reading 2023				
Proportion of students who achieved curriculum benchmark by gender (%)				
		Year 3	Year 6	Year 8
Boys	At or Above	50	51	43
	Less than one year behind	15	15	11
	More than one year behind	35	34	46
Girls	At or Above	58	52	51
	Less than one year behind	17	17	10
	More than one year behind	25	30	39

Figure 12 – Mathematics achievement by gender

Mathematics 2023				
Proportion of students who achieved curriculum benchmark by gender (%)				
		Year 3	Year 6	Year 8
Boys	At or Above	23	34	25
	Less than one year behind	34	16	16
	More than one year behind	43	50	59
Girls	At or Above	17	21	20
	Less than one year behind	36	17	13
	More than one year behind	47	62	67

## 2023 Reading and maths strengths and weaknesses

- The last two sections provide examples of the overall strengths and weaknesses of New Zealand students in reading and maths.

### What the assessments showed that students understood, knew and could do (abbreviated version of insights; full version found in downloadable A3s)

Examples: ✓ = could do, ❖ = had less success with

#### Year 3

Word Recognition:

- ✓ Recognised common words with vowel and consonant digraphs (e.g., shoes, chair).
- ❖ Found it difficult to recognise homophones (e.g., whether/weather) and uncommon vowel sounds (e.g., **w**arm for **w**orm, **s**eize for **s**cissors).

Reading Comprehension:

- ✓ Found retrieving information easier than making inferences.
- ❖ Found it difficult to respond to texts in less familiar contexts and non-straightforward structures (e.g., poem stanzas).

#### Year 6

Vocabulary:

- ✓ Frequently chose contextually appropriate words, though not always synonymous with the intended word.
- ❖ Struggled to replace words that were less likely to be part of their familiar, everyday language (e.g., genuine, theme, compact).

Reading Comprehension:

- ✓ Found fictional texts easier to understand than historical or biographical texts.
- ❖ Made inferences more easily when they could draw on prior knowledge (e.g., moa are extinct) but struggled with inferences requiring close reading and synthesis in unfamiliar contexts (e.g., life of Hone Tūwhare).

#### Year 8

Vocabulary:

- ✓ Often chose contextually appropriate words that were not exact synonyms of the intended replacements.
- ❖ Struggled with replacing less familiar words (e.g., juts, alleged) and often opted for colloquial terms (e.g., challenging for treacherous).
- ✓ Succeeded in replacing words related to world events or school contexts (e.g., perseverance, unprotected).

Reading Comprehension:

- ✓ Found information retrieval easier than both local and complex inferencing.
- ❖ Interpreting, integrating, critiquing, and evaluating were generally less difficult than inferencing questions.
- ✓ Successfully comprehended various types of texts, including narratives, poems, and science-based non-fiction.

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## 2023 Maths strength and weaknesses

**What the assessments showed that students understood, knew and could do or had less success with (abbreviated version of insights; full version found in downloadable A3s)**

Examples: ✓ = 2/3 of students could, ❖ = had less success with

### Year 3

- ✓ answer questions involving addition and subtraction with a single-digit number and a two-digit number, e.g. 26-7.
- ✓ identify the line of symmetry on a triangle.
- ✓ share a small collection of objects equally among two or three people, e.g. 15 objects among 3 people.
- ❖ multiplying a single-digit number and two-digit number.
- ❖ adding and subtracting two- and three-digit numbers.
- ❖ finding a unit fraction of a whole.

### Year 6

- ✓ identify the number of 10s in a three-digit number.
- ✓ find a simple fraction of a whole.
- ✓ read a scale marked in half-units.
- ❖ adding and subtracting fractions and decimals.
- ❖ multiplying two-digit numbers.
- ❖ working flexibly with perimeters, areas and turns.

### Year 8

- ✓ able to find a common percentage of a whole, e.g. 25%.
- ✓ add two-digit numbers.
- ✓ read scales to halves and tenths.
- ❖ ordering fractions with different denominators.
- ❖ subtracting decimal numbers with renaming.
- ❖ calculating the volume of a shape.

More information is available on the website of the [Curriculum Insights and Progress Study](#).