

Benchmarking Grade 5 numeracy performance: Are standards being met?

Table CNT5.1

Grade 5 student proficiency in numeracy

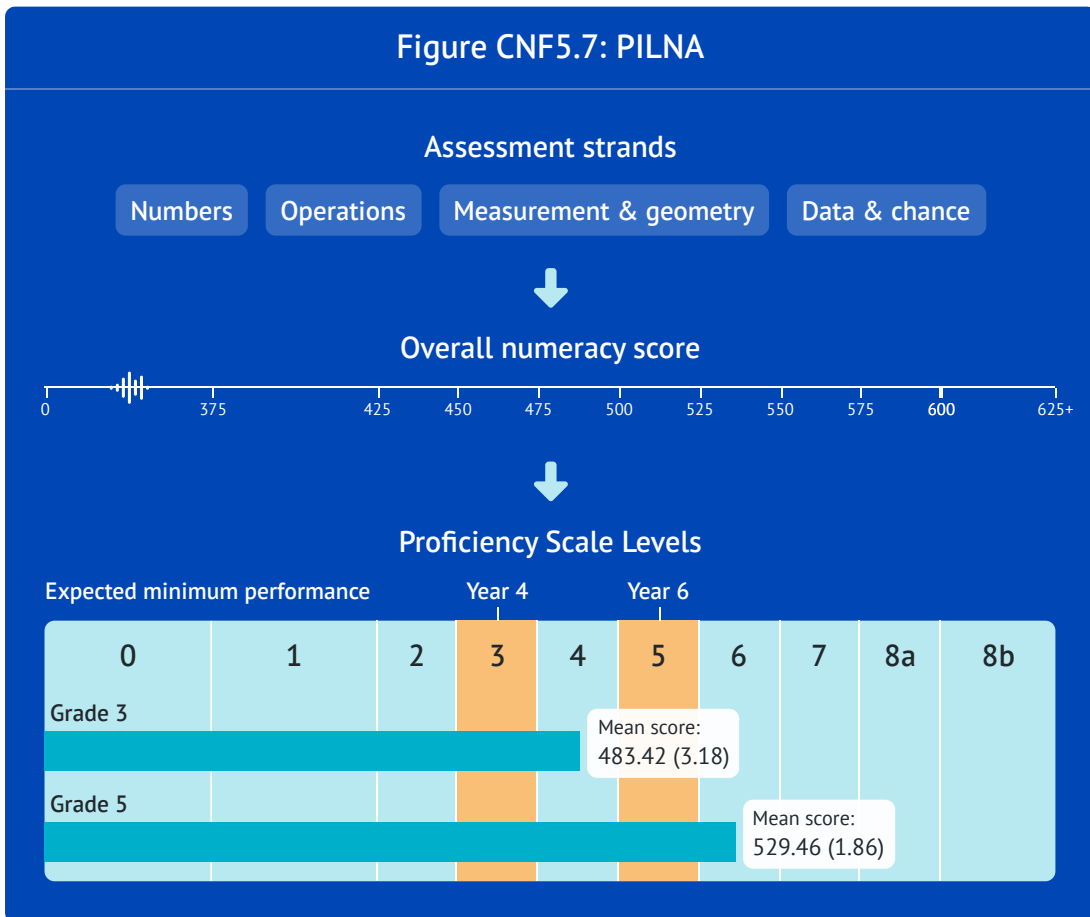
Level	Distribution	
8b		1.03% (0.32)
8a		12.35% (1.19)
7		18.27% (1.24)
6		23.70% (1.23)
5		21.53% (1.28)
4		13.23% (1.13)
3		6.09% (0.68)
2		2.61% (0.40)
1		1.15% (0.27)
0		0.05% (0.05)

Distribution of Grade 5 students by proficiency levels, PNG, PILNA 2021.

() Standard errors appear in parentheses.

Table CNT5.1 shows the Papua New Guinea distribution of grade five overall numeracy scores against the PILNA numeracy proficiency scale. This scale converts a student's overall numeracy score into a level ranking from zero to eight. The expected minimum overall numeracy performance for grade five students is proficiency level five. Pacific stakeholders expect these students to reach or exceed this proficiency level.

The average overall numeracy score for grade five students in Papua New Guinea in 2021 was 529.46 (SD = 42.51). This corresponds to proficiency level six in the PILNA numeracy proficiency scale (level six is assigned to scores 525–550). On average, grade five students in Papua New Guinea are achieving above the minimum expected standard in numeracy.



The average numeracy score does not tell us the whole story. The proportion of students who are meeting the minimum expected standard is also important. Approximately 77% of students, three out of four, performed at or above this expected level (levels 5–8), while approximately 23% of students, more than one in five, performed below it (levels 0–4). In other words, most grade five students are meeting the minimum expected level for numeracy (77%), but there is a significant proportion of grade five students (23%) who are yet to meet it.

Table CNT5.2

Grade 5 student numeracy proficiency relative to the region

Level	REGION	PNG
	5.21% (0.44)	undefined% (undefined)
	18.31% (0.68)	undefined% (undefined)
	16.87% (0.51)	undefined% (undefined)
	16.66% (0.53)	undefined% (undefined)
	14.94% (0.48)	undefined% (undefined)
	10.31% (0.4)	undefined% (undefined)
	6.52% (0.39)	undefined% (undefined)
	4.84% (0.34)	undefined% (undefined)
	4.80% (0.39)	undefined% (undefined)
	1.53% (0.21)	undefined% (undefined)

Distribution of Grade 5 students' performance in numeracy in PNG against the region, PILNA 2021.

() Standard errors appear in parentheses.

Table CNT5.2 compares the performance of grade five students for numeracy in Papua New Guinea, against that of the Pacific region. In Papua New Guinea, 77% of grade five students performed at or above the expected level (levels 5–8) for numeracy, while 72% did so in the region as a whole.

Table CNT5.3

Grade 5 Numeracy distribution by proficiency scores and gender

Level	Girls	Boys
8b	0.87% (0.37)	1.23% (0.46)
8a	11.94% (1.44)	12.81% (1.69)
7	17.78% (1.67)	18.36% (1.45)
6	24.37% (1.83)	23.10% (1.52)
5	21.67% (1.63)	21.59% (1.51)
4	13.58% (1.45)	12.75% (1.36)
3	6.44% (0.91)	5.82% (0.91)
2	2.44% (0.51)	2.83% (0.53)
1	0.86% (0.28)	1.48% (0.43)
0	0.05% (0.09)	0.04% (0.08)

Distribution of Grade 5 students' proficiency in numeracy by gender, PNG, PILNA 2021

() Standard errors appear in parentheses.

When looking at the Papua New Guinea grade five numeracy proficiency scores in 2021 by gender (Table CNT5.3), the proportions are similar. Approximately 77% of girls performed at or above the minimum expected proficiency level (levels 5–8b) as did approximately 77% of boys. This was consistent with the proportions who performed at the higher levels (L6–L8b) and the lower levels (L0–L2). More than half the girls and boys performed at the higher levels and less than 5% performed at the lower levels.

Table CNT5.4

Grade 5 student proficiency levels in numeracy

Level	2015	2018	2021
8	0.76%	19.28%	13.38%
7	4.55%	21.13%	18.27%
6	16.94%	24.55%	23.70%
5	28.52%	18.79%	21.53%
4	25.70%	10.11%	13.23%
3	14.48%	3.49%	6.09%
2	5.57%	1.54%	2.61%
1	3.49%	1.01%	1.15%
0	0.00%	0.11%	0.05%

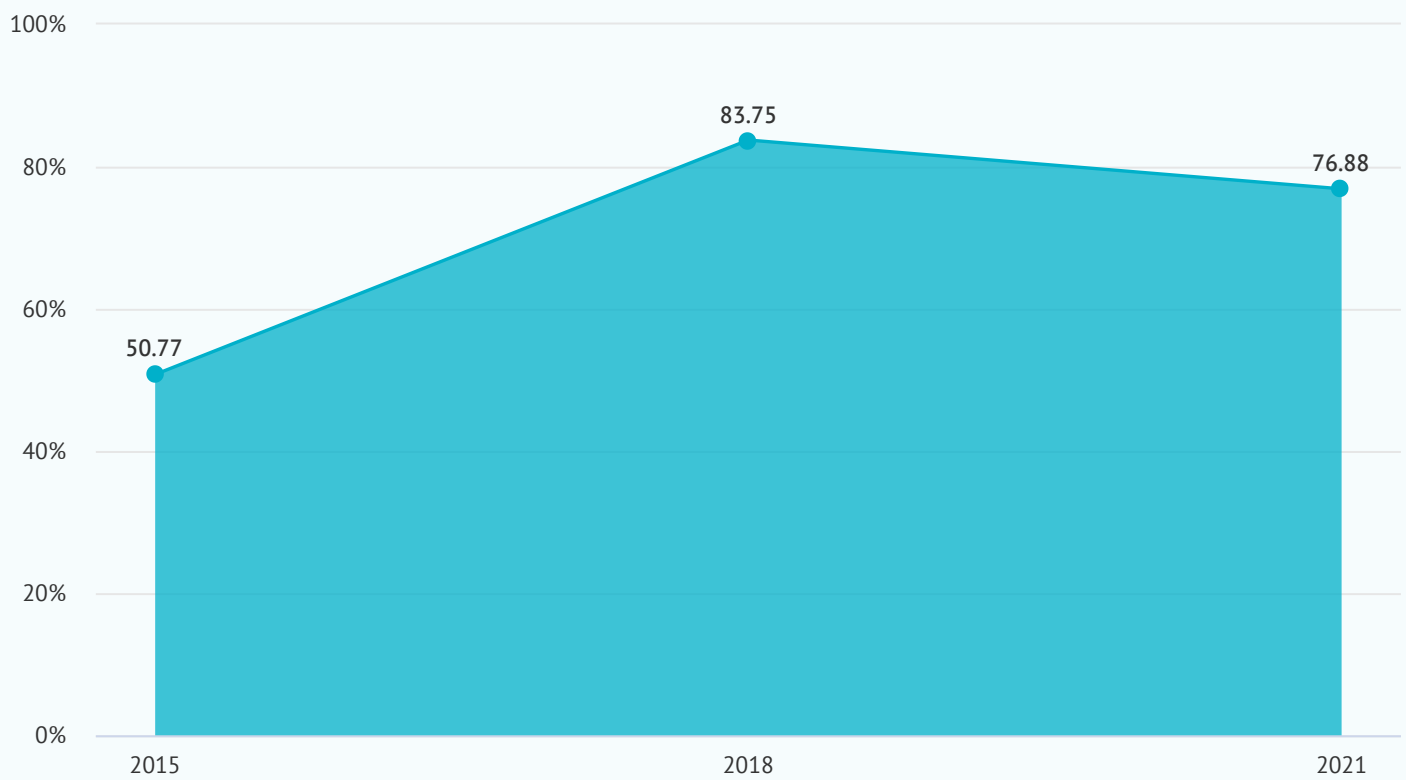
Distribution of Grade 5 students' proficiency levels in PNG, PILNA 2015, 2018 and 2021

() Standard errors appear in parentheses.

Table CNT5.4 shows grade five scores for Papua New Guinea students on the PILNA numeracy proficiency scale over time. Accompanying this is Figure CNF5.8, showing the proportion of grade five students in Papua New Guinea meeting the minimum overall numeracy standard over time. A lower proportion of grade five students met the minimum expected level of overall numeracy performance in 2021 than in 2018, but this proportion was still much higher than the 2015 proportion (2015 = 51%, 2018 = 84%, 2021 = 77%). This is similar to the trend found at the regional level (2015 = 68%, 2018 = 83%, 2021 = 72%). In 2021, Papua New Guinea and the region saw fewer students performing at or above the expected level than in 2018, but there was a smaller decrease in Papua New Guinea.

Figure CNF5.8

Proportion of grade 5 students meeting the overall numeracy standard overtime



Year	Students at or above
2015	50.77
2018	83.75
2021	76.88

Distribution of Grade 5 students proficiency levels in PNG, PILNA 2018 and 2021