

2021 Papua New Guinea Report / Performance / Numeracy / Grade 3 numeracy performance /
Benchmarking: Are standards being met?

Benchmarking Grade 3 numeracy performance: Are standards being met?

Table CNT3.1

Grade 3 student proficiency in numeracy

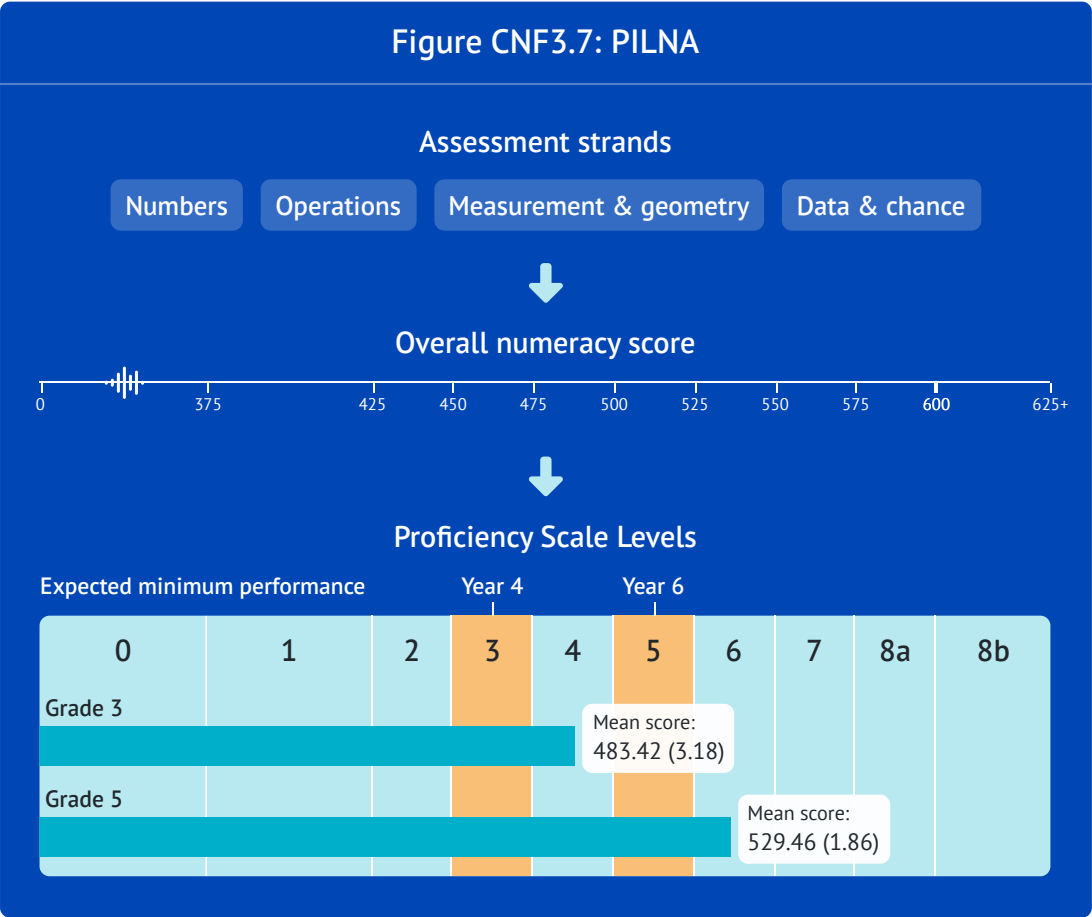
| Level | Distribution | |
|-------|--------------|----------------|
| | | 4.55 % (0.83) |
| | | 6.71 % (1.01) |
| | | 11.58 % (1.23) |
| | | 16.44 % (1.17) |
| | | 17.14 % (1.19) |
| | | 16.33 % (1.19) |
| | | 12.59 % (1.07) |
| | | 11.72 % (1.19) |
| | | 2.95 % (0.59) |

Distribution of Grade 3 students by proficiency levels, PNG, PILNA 2021.

() Standard errors appear in parentheses.

Table CNT3.1 shows the distribution of grade three overall numeracy scores in Papua New Guinea 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 three students is proficiency level three. Pacific stakeholders expect these students to reach or exceed this proficiency level.

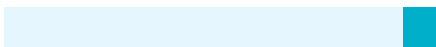
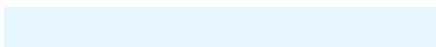
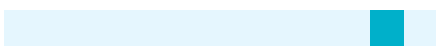
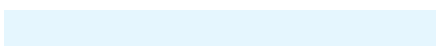
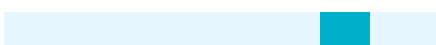
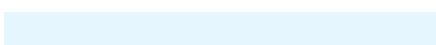
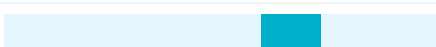
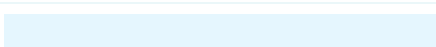

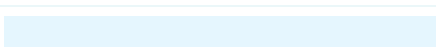

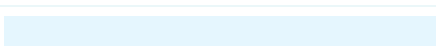
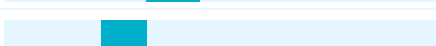
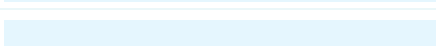
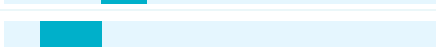
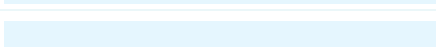
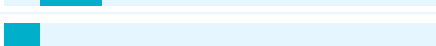
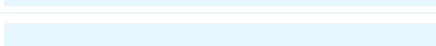
The average overall numeracy score for grade three students in Papua New Guinea in 2021 was 483.42 (SD = 55.64). This corresponds to the lower threshold of proficiency level four in the PILNA numeracy proficiency scale (level four is assigned to scores 475–500). On average, grade three students in Papua 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 73% of the grade three students in Papua New Guinea, nearly three out of four students, performed at or above this expected level (levels 3–8) in PILNA 2021. Conversely, approximately 27% of the students, one out of four, performed below the expected proficiency level (levels 0–2). In other words, most grade three students are meeting the minimum expected level for numeracy, but there is a significant proportion (27%) who are yet to meet that level.

Table CNT3.2

Grade 3 student numeracy proficiency relative to the region

| Level | REGION | PNG |
|-------|---|---|
| |  7.82% (0.48) |  undefined% (undefined) |
| |  7.52% (0.35) |  undefined% (undefined) |
| |  11.40% (0.35) |  undefined% (undefined) |
| |  13.95% (0.39) |  undefined% (undefined) |
| |  14.03% (0.41) |  undefined% (undefined) |
| |  12.45% (0.51) |  undefined% (undefined) |
| |  10.48% (0.45) |  undefined% (undefined) |
| |  14.11% (0.56) |  undefined% (undefined) |
| |  8.24% (0.59) |  undefined% (undefined) |

Distribution of Grade 3 students' performance in numeracy in PNG against the region, PILNA 2021.

() Standard errors appear in parentheses.

Table CNT3.2 compares the performance of grade three students for numeracy in Papua New Guinea, against the Pacific region. While 73% of grade three students performed at or above the expected level (levels 3–8) for numeracy in Papua New Guinea, the result for the entire region was 67%.

Table CNT3.3

Grade 3 Numeracy distribution by proficiency scores and gender

| Level | Girls | Boys |
|-------|---------------|---------------|
| 8 | 4.90% (1.08) | 4.43% (1.08) |
| 7 | 6.55% (1.08) | 7.29% (1.76) |
| 6 | 11.32% (1.45) | 12.16% (2.06) |
| 5 | 16.80% (1.37) | 16.55% (1.60) |
| 4 | 17.86% (1.35) | 16.83% (1.50) |
| 3 | 16.29% (1.49) | 16.23% (1.49) |
| 2 | 12.84% (1.53) | 11.85% (1.16) |
| 1 | 10.88% (1.34) | 11.73% (1.37) |
| 0 | 2.56% (0.55) | 2.93% (0.78) |

Distribution of Grade 3 students' proficiency in numeracy by gender, PNG, PILNA 2021

() Standard errors appear in parentheses.

The Papua New Guinea proportions of grade three numeracy proficiency scores in 2021 by gender (Table CNT3.3) are similar. Approximately 74% of girls performed at or above the minimum expected proficiency level (levels 3–8) compared to approximately 73% of boys. This was consistent with the proportions who performed at the higher levels (L6–L8) and the lower levels (L0–L2). One out of five girls and boys were performing at the higher levels and close to three out of ten girls and boys were performing at the lower levels.

Figure CNF3.8

Grade 3 students proficiency levels



| Year | Students at/above minimum |
|------|---------------------------|
| 2018 | 85.73 |
| 2021 | 72.75 |

Distribution of Grade 3 students proficiency levels in PNG, PILNA 2018 and 2021

Figure CNF3.8 shows the proportion of Papua New Guinea grade three students meeting the overall numeracy standard over time. As seen in Figure CNF3.8, a smaller proportion of grade three students met the minimum expected level of overall numeracy performance in 2021 than in 2018 (2018 = 86%, 2021 = 73%). While a similar proportion of students were performing at the mid-levels (levels 3–5), 10% fewer students were performing at the higher levels than in 2018, and 10% more were performing at the lower levels. Fewer grade three students performed at or above the minimum expected level of numeracy performance in 2021. This is similar to the results for the region which saw a similar decrease (2018 = 83%, 2021 = 67%). This is a critical finding from PILNA 2021: a decrease in the proportion of grade three students achieving the minimum expected level of numeracy.