

e-asTTle mathematics

These alignment results will help teachers who use the e-asTTle mathematics assessment tool as part of the evidence informing their overall teacher judgment. For each scale score, the results provide the likelihood of a student with that score being judged at each level of the [National Standards](#) in Mathematics.

The use of multiple pieces of evidence is important in informing overall teacher judgment of student performance against the National Standards. Certainly, no one assessment tool is enough to make a definite judgment against the mathematics standards. To emphasize this, the results of alignment are presented as likelihoods or probabilities.

Every assessment tool has strengths and weaknesses which need to be considered when making overall teacher judgments. Although there are many strengths of e-asTTle mathematics, teachers need to be aware that assessing problem-solving ability, which is the focus of the mathematics Standards, is not a strength of this assessment tool.

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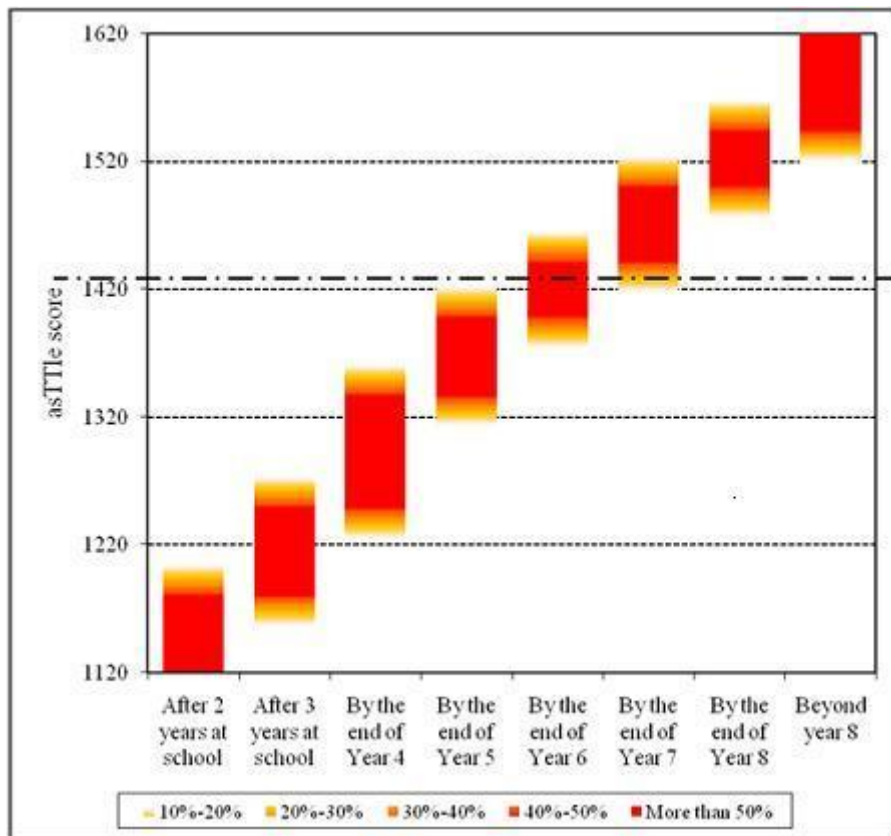
Method

Data collection was carried out by the Bookmarking methodology. It involved a panel of 15 experienced teachers independently placing bookmarks throughout a booklet of e-asTTle mathematics items which had been ordered by difficulty. The bookmarks separated those items likely to be correctly answered by a minimally competent student at a given level of the National Standards from the remaining items. This was followed by a discussion of the panel members' decisions and further rounds of bookmarking and discussion. The data was then statistically summarised to form the alignment. For details about the bookmarking methodology please contact Elliot Lawes elliot.lawes@minedu.govt.nz or Lisa Ng lisa.ng@minedu.govt.nz at the Ministry of Education.

Results

Student achievement in e-asTTle mathematics is measured by a total scale score. Figure 1 below describes how the e-asTTle mathematics scale score aligns with each of the Standards. The darker shades of red correspond to higher likelihoods of a judgment 'at' that reporting band.

Figure 1: E-asTTle mathematics and the National Standards - probabilities of 'At' judgment



To read the graph, consider a student receiving a scale score of 1430, as the horizontal dotted line shows. We can conclude the following:

- The line lies across the red area of the Year 6 band, reflecting that a student with an e-asTTle score of 1430 had the highest likelihood (more than 50%) being judged as at the End of Year 6 Standard.
- The line also lies across the pale orange area of the Year 7 band, reflecting that a student with an e-asTTle score of 1430 had a reasonable likelihood (20% to 30%) being judged as at the End of Year 7 Standard.
- Note that the line does not cross the Year 5 band, indicating that there is little likelihood (less than 10%) that a student with an e-asTTle score of 1430 will be judged as being at the End of Year 5 Standard.

A teacher whose student had an e-asTTle mathematics score of 1430 could use the above information, together with their knowledge of other aspects of that student's mathematics performance, to make an overall teacher judgment against the National Standards in mathematics.