

What Are Appropriate Uses of Scale Scores? Help Document

How can I compare scale scores from one grade to the next?

Because the scale scores at each grade are assigned the grade of the test as the first digit followed by the scale score of 1–99, scale scores are often misinterpreted as being on a continuous scale from one grade to the next. However, MCA scale scores are based only on grade-level content, and it is not possible to compare the scale scores across grades. In order to compare scale scores across grades, items that are above and below grade-level standards would have to be administered and considered during the creation of the scale scores. In technical terms, it is often stated that the tests are not vertically aligned, meaning that the scale scores are not on the same scale across grades. For more information, please refer to our [Understanding Scale Scores Document](#) for a visual representation of this information.

The independence of scales at each grade means that it is **not** possible to subtract scale scores from one year to the next and have any meaningful interpretation. Scale scores should never be compared across the grades for a particular student, especially when determining if a student has no growth, remained the same, or improved.

For some grades, even an improvement in student ability might be interpreted as an apparent scale score reduction because of how the scale score is created. For example, a student received a scale score of 492 on the MCA mathematics in grade 4, indicating a very high mathematics ability in grade 4. However, the top of the scale in grade 4 is 499, meaning the student did not max out the range of ability measurable in grade 4. The same student then receives a scale score of 586, which is the highest scale score, on the grade 5 MCA mathematics. This case can show that a comparison of scale scores across grades for a particular student should not be used to determine the ability growth of a student.

Another way to think about the scale scores not being on the same scale across grades is to consider the highest performing students in one grade and the lowest performing students in the grade above. Often, the lowest performing students in one grade are actually one or two years below grade level. However, those students would receive the lowest scale score for the grade-level test they took. That is, a grade seven student who is performing at a grade five level in reading will still receive a scale score of 711 (the lowest possible score in grade 7). A grade 6 student performing above grade level can only receive the highest scale score possible, which is 692. The grade 6 student is performing at a higher level than the grade 7 student, despite the grade 7 student having a seemingly higher scale score. For more information, please refer to the help document, [Where Do Scale Scores Come From?](#)

If a comparison of scale scores is desired for a particular student, a growth z-score should be used.

How can I look at scale score changes without using a growth z-score?

Although scale scores are not vertically aligned across grades, standards are vertically aligned across grades. This means that the standards from one grade to the next build upon one another and become increasingly difficult as grade level increases. Therefore, while you cannot look at the scale scores and assess changes in student performance from one grade to the next without completing complex analyses, you can look at the achievement levels—which indicate whether a student does not meet standards, partially meets standards, meets standards, or exceeds standards—to easily assess whether student growth across grades is demonstrated.

However, referring to achievement levels to determine growth works only when students achieve significant positive growth across grades. Because the MCA scale scores and achievement levels are based only on grade-level standards, it is difficult to make determinations of whether students are maintaining their level of knowledge from the previous grade, improving but not enough to be measured by the assessment, or slipping.

A student who moves up an achievement level from one grade to the next has clearly demonstrated positive growth because they are showing greater mastery of more difficult standards. Students who maintain partially meeting, meeting, or exceeding the standards also display growth because, to remain at the same standard level across grades, students' skills must improve from the previous grade's standards.