

Score Definitions

Renaissance Star Math scores represent how students performed on the test compared with the performance of a nationally representative sample of students, called the norms group. These scores present a snapshot of achievement at a specific point in time. As with any test, it is important to remember that many factors can affect a student's test scores. Renaissance Star Math test scores give only one picture of how a student is doing in school.

Domain Scores estimate a student's mastery of each domain for the student's grade level. For example, a domain score of 50 for a 5th grader means the student would be expected to answer correctly approximately 50 percent of the fifth-grade items in that domain.

Grade Equivalent (GE) is a norm-referenced score ranging from 1 to 12.9+. (Because Star Math norms go no lower than grade 1, the GE for a score below the minimum for GE 1.0 is reported as "< 1.") It represents how a student's test performance compares with that of other students nationally. For example, a fifth-grade student with a GE of 7.6 performed as well on Star Math as a typical seventh-grader after the sixth month of the school year. This score doesn't necessarily mean that the student is capable of doing seventh-grade math—instead, it indicates that this student's math skills are well above average for the fifth grade.

Grade Placement (GP) is a numeric representation of a student's grade level, based on the specific month in which a student takes a Star Math test. Star Math considers the standard school year to run from September through June and assigns increment values of 0.0 through 0.9 to these months. The software automatically assigns grade placements using a student's grade level and the month in which the Star Math test was taken. GP is important because PR and NCE values are based not only on the Scaled Score but also on the grade placement of the student at the time of the test.

Growth Score (or Open Growth Score) is a way to combine data from *all* assessment sources and create an overall score. It is updated every time a student takes an assessment. The underlying methodology for calculating Open Growth Scores is multi-dimensional item response theory (MIRT). The Open Growth Score ranges from 0 to 1400. For more information, see The Renaissance® Mastery Model at <https://www.renaissance.com/lp/renaissance-mastery-model/>.

Math Instructional Level (MIL) is a student's current level of math instruction. Teachers can adjust this value to enable the software to raise or lower the beginning difficulty level of the first Star Math test a student takes.

Normal Curve Equivalent (NCE) is a norm-referenced score similar to percentile rank but based on an equal interval scale. This means that the difference between any two successive scores on the NCE scale has the same meaning throughout the scale. NCEs are useful in making comparisons between different achievement tests and for statistical computations such as determining an average score for a group of students. NCE scores range from 1 to 99. NCEs are used mostly for research purposes.

A GE score preceded by ">" is a capped score. GE scores in excess of three grade levels above the student's actual grade are capped, meaning that such GE scores are shown as "> [student's actual grade level + 3]." This prevents the misinterpretation that students with excessively high GE scores are capable of work at those higher grades.

Percentile Rank (PR) is a norm-referenced score that provides a measure of a student's math ability compared to other students in the same grade nationally. The percentile rank score, which ranges from 1 to 99, indicates the percentage of other students nationally who obtained scores equal to or lower than the score of a particular student. For example, a student with a percentile rank score of 85 performed as well as or better than 85 percent of other students in the same grade.

Percentile Rank Range (PR Range) indicates the statistical variability in a student's percentile rank score. For example, a student with a percentile rank range of 32–59 is likely to score within that range if the Star Math test is taken again within a short time (i.e., four to six weeks).

Quantile® Measure is used to help educators understand which skills and concepts students are ready to learn, the level of success students are expected to have with an upcoming skill or concept, and how students are growing in mathematics on a single scale across grade levels. The Quantile® Measure is shown as a number with a "Q" after it: 750Q is 750 Quantile®. Quantile® Measures range from below 0Q to above 1400Q and span the skills and concepts taught in kindergarten through high school. Scores below 0Q are prefixed with "EM" for Emerging Mathematician. For these scores, the higher the *number* is, the lower the actual score is: for example, a score of EM200Q is lower than EM100Q.

Quantile® Range represents the difficulty range that optimizes the likelihood of a successful instructional experience. It is calculated by adding and subtracting 50 points from a student's Quantile® Measure. For example, a student with a Quantile® Measure of 738Q would have a Quantile® Range of 688Q–788Q.

Scaled Score (SS) is useful for comparing student performance over time and across grades. A scaled score is calculated based on the difficulty of questions and the number of correct responses. Because the same range is used for all students, scaled scores can be used to compare student performance across grade levels. Star Math scaled scores range from 0 to 1400. All norm-referenced scores are derived from the scaled score.

Student Growth Percentile (SGP) is a norm-referenced quantification of individual student growth derived using quantile regression techniques. An SGP compares a student's growth to that of his or her academic peers nationwide. SGPs range from 1–99 and interpretation is similar to that of Percentile Rank scores; lower numbers indicate lower relative growth and higher numbers show higher relative growth. For example, an SGP of 70 means that the student's growth from one test window to another exceeds the growth of 70% of students nationwide in the same grade with a similar achievement history.

