NWEA NORMATIVE STUDY

What is NWEA’s 2011 National Normative Study?

The 2011 NWEA National Norms were produced from a sample of the pool of test records of the 5.1 million students who took MAP tests in spring and fall terms of 2009 and 2010 as well as winter term of 2010. This study utilized demographics from every state to produce a sample population that is representative of each state. The 2011 norms represent the U.S. school age population and provides more robust estimates of growth across all ranges.

When will NWEA produce a new national normative study?

NWEA will release a new national normative study in summer 2015. This national normative study will have a large increase in data from the 2011 norms and include Common Core MAP assessment data from schools around the country across fall, winter and spring terms from fall 2012 to spring 2015.

STUDENT GROWTH, PERCENT VS. PERCENTILE & STANDARD DEVIATION VS. STANDARD ERROR

When students show growth that is precisely equivalent to their growth projections (i.e., mean normative growth), do they maintain the same percentile ranks at the end of the growth period?

No, not necessarily. A growth measure is calculated from the group of students who took the test at both terms (whether it is fall to spring or spring to spring). The growth projection is how a group of students that took the test in both terms grew, on average, with the same starting RIT. A student’s percentile in either test term is dependent on where the RIT score falls with respect to the norm sample. It is possible for a student to change percentiles while making expected growth.

Why do I see the same growth projections for all my students in my class of differing RIT scores?

“Flat” growth or similar growth projections for students are a result of NWEA’s 2011 norming sample. The 2011 norming study changed the sampling method and used all of the available data to estimate the growth norms for students on the ends of the scale (i.e. very high and very low performing students). The new estimates suggest that for certain grades and subjects (primarily in math) school age children will, when averaged over a very large nationally representative group, generally show nearly the same growth at all points of the RIT scale, all else being equal. It is true that average growth projections are flatter in the 2011 norming study than in prior norming studies at some grade levels, and this is also a product of the change in sampling methodology. The overly strong influence of very high and very low performing students in the 2008 growth norms appears to be moderated in the 2011 norms, and more representative of the actual distribution of student performance when looked at in comparison against 2008 norms. The 2011 growth norms are, in many grades, flatter across the achievement distribution than the 2008 norms. Most of the flattening can be attributed to changes in the growth estimates for very high and very low performing students and is mostly observed in the middle grade for Mathematics.

Some NWEA measures are given as percentages while others are given as percentiles. What is the difference?

There are two different types of NWEA measures that are sometimes confused because of the subtle differences in the language used to describe them. Measures given as percentages (e.g., Percentage of students who met or exceeded their projected RIT) describe an absolute measure of how many students meet certain criteria. Measures described as percentiles (e.g., Percentile range) describe a relative performance measure in a comparison with the norm sample. When you say 60% of your 25 students have an NWEA score at or above the grade level mean, it is
giving an absolute measure of the number of students. On the other hand when you say that a RIT score is at the 40th percentile, this means that your score is at or above 40% of scores in the norm sample for your grade.

**What is the difference between standard deviation and standard error?**

Standard deviation or SD (reported in the Summary section of the NWEA MAP reports) refers to the amount of variation from the average within a class or grade. The larger the SD means the greater the variation. Instructionally, general guidelines for understanding standard deviation is that if the SD of the group is less than 10, the group is cohesive and whole class instruction can be utilized while still keeping in mind outlier scores as well as skills not measure on the assessment. A standard deviation between 10 – 15 will require grouping for effective instruction. Individualized and group instruction is recommended for classes with a standard deviation above 15.

Standard error (SE) or standard error of mean (SEM) refers to the confidence of the measure for an individual student. All statistical measures have a standard error. NWEA MAP assessments standard error averages 3 RIT points. The larger the SEM, the less confident we are of the precision of a score for a student. Conversely, the lower the SEM, the more certain we are of the precision of that score. An SEM above 5.5 on an NWEA MAP assessment would invalidate the assessment (see question “What questions invalidate at MAP score? below).

**TEST CONSTRUCTION & FUNCTIONALITY**

**How many questions do students see on the MAP assessments?**

Students can see between 52-53 questions on a MAP Math assessment. 50 questions are operational questions and the remaining are field test items. Within the MAP Reading assessment, there are 42-43 items with 40 items as operational with the remaining as field test items.

**How are items presented to students in the MAP assessment? Are all items from the same goal structure presented at once or randomly between goal structures?**

The basic test design for most Survey with Goals Tests is that the first several items are power selected. Power selection refers to items that are pulled anywhere in the item pool that best fits that student’s RIT. After power selection, MAP program balances the items across goal structures. MAP tries to ensure as close to equal amount of items are presented to students from each goal area as well as the standard error of the goal structures is within an appropriate range. Field test items are also within the items presented to the student.

**What metrics invalidate a MAP test?**

Metrics that will invalidate a MAP test are a Standard Error Measurement (SEM) above 5.5, a RIT score below 100 or above 350 or a Test Duration under 6 minutes.

**AVAILABLE ASSESSMENTS: PURPOSE, IMPACT & WHEN TO USE THEM**

**What is the purpose of the “Survey” assessment?**

The Survey assessment is a brief (20 item) test, not designed to assess and report all the individual goal strands corresponding to Common Core content strands. The survey test is intended to be used as a brief tool for placement and intake of students. For students who transfer in to a school between MAP test administrations, administration of the Survey assessment is a quick way to identify an overall instructional level for the student. The Survey assessment can be used as one of multiple measures to monitor growth towards spring if a minimum of 8 instructional weeks are between administrations.
When should a student transition from MAP for Primary Grades (MPG) to MAP?

The general recommendation is that students whose MPG Reading score is greater than or equal to 190 should transition to MAP Reading. For math, students whose MPG Math score is greater than or equal to 200 should transition to MAP Math assuming the students are exposed to the second grade or above curriculum. Please reference the NWEA MPG to MAP Transition Guidance in the Knowledge Center for further information. Note: All 2nd graders are required to take the MAP assessments in Reading and Math during the spring term, regardless of their previous term MPG scores.

How does reading fluency impact transitioning a student in math from MPG to MAP?

Provided a student scores 200 RIT or above on MPG and is exposed to 2nd grade or above curriculum, that student can transition to MAP 2-5 Math. Sufficient reading fluency appears to have little, if any, impact in math for transitioning students. This is due to the lower reading demand associated with most math items. Please reference the NWEA MPG to MAP Transition Guidance in the Knowledge Center for further information.

RIT & GROWTH PROJECTIONS

What level RIT item does a 6th grader in math get presented when they take the MAP Math 6+ assessment for the first time?

If the student previously took the MAP Math 2-5 assessment, the first item the student is presented on the MAP Math 6+ assessment will be the same RIT difficulty where the student left off from the MAP Math 2-5 assessment.

If the student does not have a prior MAP score, then the first item will be a difficulty level associated with the 50th percentile performance for sixth grade.

Why do we see some RIT scores drop when students move from MAP Math 2-5 to 6+ assessment?

Any initial decrease in RIT score when transitioning students from MAP Math 2-5 to 6+ is due to a lack of exposure to content within the 6+ item pool. By spring of 5th grade, students have been exposed to the 2-5 content standards and are at the end of the MAP item pool. With a change in content and standards starting at 6th grade, students may see questions in the fall tied to content they have not yet been exposed to. For example, scientific notation may be presented to a student who has not had instruction on it yet. This could cause an initial decrease in score. However, by the end of 6th grade, once a student has been exposed to 6th grade curriculum, average growth is expected.

For an individual student, other factors may be at play beyond exposure to content. Other factors could include lack of engagement or changes in testing conditions.

On a MAP assessment, does the last RIT score of a prior test administration impact the start of the performance of the next term?

NWEA MAP assessments are computerized, adaptive assessments designed to target students’ instructional level. When a student takes a MAP assessment for the first time, the student will be presented with an item of a RIT value that is average for that student’s current grade level. With each subsequent assessment administrations, the student starts a MAP assessment with an item that is the same RIT value as the previous completed assessment.

For example, if a student completes a MAP assessment in the fall with a 200 RIT, when that student is administered the assessment in the winter, a 200 RIT item will be presented to the student. Due to the adaptive nature of the assessment, it will begin to adjust quickly to pinpoint the student’s current instructional level.
If a student had a high performance on one test administration and is presented with a high RIT item on the following test administration and the student gets it incorrect, MAP will adapt down. This adapting down is only until a student begins to answer the items correctly. Once an item is answered correctly, it will adapt up equally as it adapted down.

Does administration of the winter MAP assessment affect spring growth projections? Is there an advantage/disadvantage to administering MAP in the winter? How does the winter test affect accountability?

NWEA does not produce growth norms for spring (S) - winter (W) or winter - spring terms. The growth norms that are developed are S-S, F-F, F-W and F-S. A spring to spring growth projection remains constant regardless of fall and winter MAP administrations.

Because growth projections from spring to spring remain constant and due to MAP’s adaptability, there is no disadvantage in administering MAP during winter. In fact, there is an advantage in administering MAP during open testing windows if the data is used to inform instruction to help students make measurable growth towards a goal. Using winter data strategically can help teachers better pinpoint the needs of students who may be struggling, before the spring assessment. Note: The starting point of a spring assessment for a student who also took the winter assessment is not punitive as the assessment quickly adjusts to determine the most appropriate next set of items the student will see in order to most accurately calculate the overall RIT by the end of the test.

Although a winter test is available, accountability metrics are still based on growth made from spring to spring. In the case of students not in the district or missing a score from last spring, then growth is measured from fall to spring.

What is significant growth on the NWEA assessment?

Growth that is one standard deviation (SD) above the mean is very strong. One standard deviation of growth is equivalent to the 84th percentile in growth. This means that only approximately 16% of the population would be expected to produce growth at or above this level which would be considered significant.

TEST SECURITY AND PROCTORING

Who is required to sign the NWEA EOY Test Security Agreement?

Each individual who will be administering or proctoring the NWEA assessments or those authorized to observe administration MUST sign the respective term’s NWEA Test Security Agreement and agree to abide by the statements therein.

Who can be present during testing?

The content of the NWEA assessments is confidential and must be kept secure at all times. Maintaining the security of the test is critical. Individuals present during testing must have a designated role with a purpose directly related to proctoring the test, monitoring the testing environment for irregularities, administering test accommodations, troubleshooting technology issues and supporting students. All persons present during testing must have signed the NWEA Test Security Agreement prior to testing.

Teachers and Administrators who wish to get a look and feel for the NWEA assessments and platform should take the MAP Test Warm Up on the NWEA website, http://www.nwea.org/warmup/warmup_start_educators_map.html.
**Is scratch paper a permissible test material?**

Yes, blank scratch paper is a permissible test material for both the Reading and Mathematics assessments. Paper must be provided by the proctor or Test Coordinator, not the students. Students should NOT copy test items onto scratch paper. Proctor should collect all scratch paper used during the test session.

**IEP AND 504 ACCOMMODATIONS**

**For students with IEPs/504s, are instructional aides in the form of posters/wall hangings permissible if it is written in their plan?**

Students for whom instructional aides are written in their IEP/504 are permitted to use such tools as blank graphic organizers and visual references to strategies taught. Posters, maps, charts and displays that define, explain or illustrate terms or concepts in the subject area being tested are prohibited.

The following aides are unacceptable, even as an accommodation for a student with an IEP/504:

- Any step-by-step instructions for answering a reading question
- Vocabulary lists and definitions
- Mathematic formulas and symbol definitions
- Definitions of literary terms

Please be reminded of the allowable accommodations for the NWEA assessment for students with IEPs/504s in the appendix of the respective term’s NWEA Test Administration Guide found on Knowledge Center.

**For students with IEPs/504s, are external calculators permissible if it is written in their plan?**

No, external calculators are prohibited for all students taking the NWEA assessments.

The testing accommodations section of the IEP specifically indicates that for students taking District assessments, like the NWEA MAP, with accommodations and modifications (A&Ms), the A&Ms will be the "Allowable" A&Ms. The sentence highlighted in yellow below in the screenshot of a sample IEP is the language found in every IEP, which will hopefully alleviate the concern about IEP implementation. When the math assessment is measuring whether a student can multiply 7 by 8 or subtract 56 from 113, we cannot allow the use of a calculator as the test results for these items would then be invalid. This is similar in principle to a student who has read aloud as an accommodation on an IEP. Although during class assignments and even class tests a teacher may read certain passages aloud to a student, this accommodation cannot be provided during NWEA MAP (and is likely not provided during all classroom assessments), as the test is measuring a student’s independent ability to read passages and determine meaning. Fluency with mathematics operations works the same way.

Accommodations are meant to reduce barriers for students; however students who receive them are still expected to meet grade level content standards (the Common Core Standards in the case of literacy and math). For standards that are measuring application of operations through problem solving, use of a calculator is acceptable, as it won't invalidate the measure. In this case the key constructs being measured are application of formulas to novel situations, application of skills in combination, precision/attention to detail in problem specifications...etc. However if the standard being measured is on basic operations/fluency with numeric operations, then use of a calculator would invalidate the measure of the extent to which a child is independently capable of this. This is why NWEA's test has been programmed to include a calculator for non-operations/fluency items. The only exception to the expectation of students with or without IEPs meeting grade level standards is students with the most significant...
cognitive disabilities, who would instead have a significantly modified curriculum and take the IAA (and not the NWEA MAP).

Because of MAP’s adaptive nature, a student who may get a question tied to Number and Operations goal structure incorrect (ex. The student cannot do basic computation and is not using a calculator), that may result in seeing a lower RIT item in another goal structure. Conversely, a student who scores correctly on an item (Ex. Geometry) may see a higher RIT item in another goal structure (ex. Measurement and Data). So, this student would be able to show a deeper knowledge in areas when the student gets an answer correct because the test will generate a higher RIT for the next item – which is usually within another goal structure.

If a student gets a basic computation item incorrect because they cannot do the task and a calculator is not used, then that would influence the test’s behavior in that the next item may be of lower RIT from another goal structure. However, if that student gets that question correct in that goal structure, then it will ultimately display a higher RIT in another goal structure. Getting a goal structure item incorrect will not lead to only easier questions. Even if that were the case, it would only be in that subgoal in which the student is getting the questions incorrect. All subgoals within a goal structure roll up to report out at the goal structure level (ex. Numbers and operations, Geometry...)

### 10(c). Accommodations and Modifications: Assessments

**Classroom Assessments**

To add or remove classroom accommodations/modifications, go to the A/M: General page and check or uncheck the accommodations/modifications for the relevant subject area and indicate whether or not the student will need classroom testing accommodations/modifications.

John will participate in classroom assessment with accommodations/modifications in the following areas:

**Mathematics**

The accommodations/modifications will be as follows:

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**District/State Assessments**

**District Assessments:**

John will participate in the district assessments WITHOUT accommodations/modifications in the following areas:

- Language Arts/English/Reading
- Biological & Physical Sciences
- Social Sciences

John will participate in the district assessments WITH ALLOWABLE accommodations/modifications that are necessary to measure academic achievement and functional performance. Accommodations/modifications will be provided in the following areas and will be consistent with those provided in the classroom as described above:

**Mathematics**

**State Assessments:**

John will participate in the state assessments WITHOUT accommodations/modifications in the following areas:

- Language Arts/English/Reading
- Biological & Physical Sciences
- Social Sciences

John will participate in the state assessments WITH ALLOWABLE accommodations/modifications that are necessary to measure academic achievement and functional performance. Accommodations/modifications will be provided in the following areas and will be consistent with those provided in the classroom as described above:

**Mathematics**
ELL STUDENTS

*Are ELL students required to test in both Reading and Mathematics if they have a 2014 ACCESS Literacy Composite score of 3.0 and above?*

During EOY, ELLs who scored between a 3.0 and 3.4 on the 2014 ACCESS Literacy Composite are required to test in *both Reading and Mathematics*. Students who score **BELOW 3.0 are NOT required** to test.

*Note: Students must use the English version of the assessment and not the MATH MAP 2-5 Spanish version if they are required to test.*

This change was made to allow for the fact that many students in this range will likely score above a 3.5 on ACCESS literacy in this year’s 2015 ACCESS, but we will not have these scores until after NWEA MAP testing. Students who end up scoring at or above 3.5 on ACCESS Literacy 2015 will be included in attainment calculations this year. Students who end up scoring **BELOW 3.5** ACCESS Literacy 2015 will **NOT** be included in calculations.

*Can a school choose to test ELL students with a 2014 ACCESS Literacy Composite score of 2.9 and BELOW?*

Yes, if a school chooses, they may test students with 2014 ACCESS Literacy Composite scores of 2.9 and below. Spanish speaking students in grades 2-5 **at 2.9 or below** on the 2014 ACCESS literacy may be administered the Spanish version of the MAP Math assessment. Spanish speaking students **at or above 3.0** on the 2014 ACCESS literacy must be assessed in the **English version of MAP**.

SCHEDULING

*When can I begin scheduling my test?*

Schools can assign a test for scheduled test sessions the day before a testing window opens. If the testing window opens on a Monday, tests can be set up beginning the Friday before. **Students may not begin testing before the test window officially opens.** Any test events recorded before the test window opens, on the day designated for scheduling, will NOT be considered valid.

*When are the Skills Checklist and Survey tests available?*

The Skills Checklists and Survey tests remain ‘on’ while the official testing windows (BOY, MOY and EOY) are closed. For information on how to best utilize Skills Checklist assessments within your school, reference the **MPG Skills Checklist Guidance** coming soon, in February, to the NWEA page on [Knowledge Center](#).