

Predicting Proficiency on the Nebraska Student-Centered Assessment System (NSCAS) Based on RIT Scores

September 2026

NWEA Psychometrics and Analytics

Linking Study Updates

Date	Description
2020-09	Conducted a linking study for grades 3–8 in mathematics and ELA/reading based on the 2020 norms and Spring 2019 data.
2025-07	Updated the linking study based on the 2025 norms.
2025-10	Conducted a linking study for grades 3–8 in mathematics and ELA/reading based on the 2025 norms and Spring 2025 data.
2026-09	Conducted a new linking study for grades 3–8 in mathematics and ELA/reading and grades 5 and 8 in science based on the 2025 norms and Spring 2026 data.

Acknowledgements: This report was made possible with the contributions of Yan Zhou, Ann Hu, Christopher Wells, Justin Schreiber, and Derek May. We appreciate our colleagues at NWEA and all our partners who provided data for the study.

© 2026 NWEA. NWEA and MAP Growth are registered trademarks of NWEA in the U.S. and in other countries. All rights reserved. No part of this document may be modified or further distributed without written permission from NWEA.

Table of Contents

Executive Summary	1
1. Introduction	4
1.1. Purpose of the Study	4
1.2. Assessment Overview.....	4
2. Methods	6
2.1. Data Collection.....	6
2.2. Post-Stratification Weighting	6
2.3. Descriptive Statistics	6
2.4. RIT Cut Scores	7
2.5. Classification Accuracy	8
2.6. Proficiency Projections.....	8
3. Results.....	10
3.1. Study Sample	10
3.2. Descriptive Statistics	13
3.3. RIT Cut Scores	14
3.4. Classification Accuracy	17
3.5. Proficiency Projections.....	18
References	31

List of Tables

Table E.1. RIT Cut Scores Linked to Spring NSCAS <i>On Track</i> Cut Scores.....	2
Table 2.1. Description of Classification Accuracy Summary Statistics.....	8
Table 3.1. Linking Study Sample Demographics (Unweighted)	10
Table 3.2. Linking Study Population Demographics	11
Table 3.3. Linking Study Sample Demographics (Weighted).....	12
Table 3.4. Descriptive Statistics of Test Scores.....	14
Table 3.5. RIT Cut Scores—Mathematics	15
Table 3.6. RIT Cut Scores—ELA/Reading	16
Table 3.7. RIT Cut Scores—Science.....	17
Table 3.8. Classification Accuracy Results.....	18
Table 3.9. Proficiency Projections Based on RIT Scores—Mathematics	19
Table 3.10. Proficiency Projections Based on RIT Scores—ELA/Reading	24
Table 3.11. Proficiency Projections Based on RIT Scores—Science.....	29

List of Figures

Figure E.1. Correlations Between RIT Scores and NSCAS Summative Scale Scores.....	2
Figure E.2. Classification Accuracy of RIT Scores	3

Executive Summary

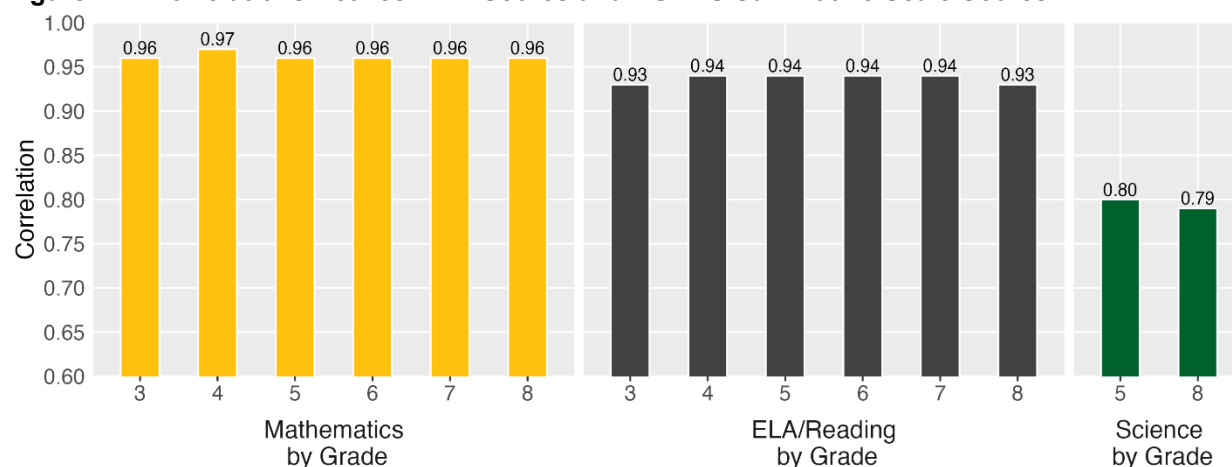
Linking studies allow partners to use MAP® Growth™ Rasch Unit (RIT) scores throughout the year to predict students' performance levels on state summative assessments. This is accomplished through statistical analyses that produce RIT cut scores that correspond to state summative performance levels. A "cut score" is the minimum score a student must get on a test to be placed at a certain summative performance level. The linking study for the Nebraska Student-Centered Assessment System (NSCAS) described in this report provides RIT cut scores for the fall, winter, and spring that correspond to the NSCAS summative performance levels for each subject and grade. Educators can use the RIT cut scores in fall, winter, and spring to identify students at risk of not meeting state proficiency standards and provide targeted instruction to improve academic outcomes.

Because spring RIT scores and spring summative scale scores are both derived from the same Nebraska state assessment under the Connected model, educators may have limited need to use spring RIT cut scores to evaluate student performance on the spring NSCAS summative assessment. However, spring RIT cut scores are still included in this report for educators in schools that have adopted the Independent model, which does not report RIT scores as part of the spring assessment. These educators can use the spring RIT cut scores, together with students' RIT scores from the standalone MAP Growth assessment, to predict students' performance on the spring NSCAS summative assessment before official summative performance levels become available.

The linking study was based on data from students who took the NSCAS in Spring 2026 under either the Connected model or the Independent model together with a standalone MAP Growth assessment. The study included students in grades 3–8 for mathematics and English language arts (ELA) and students in grades 5 and 8 for science. In total, the sample comprised 128,042 students from 769 schools across 225 districts in Nebraska.

Prior to initiating the linking study, NWEA's content specialists confirmed that the MAP Growth and NSCAS assessments were aligned on the same or similar set of content standards, supporting the appropriateness of establishing a link between the two. The relationship between the assessments was further examined by calculating the Pearson correlation coefficient between RIT scores (obtained from either MAP Growth or the diagnostic component of the spring NSCAS assessment) and the spring NSCAS summative scale scores. A high positive correlation (e.g., ≥ 0.70) indicates that students who perform well on one assessment also tend to perform well on the other, and vice versa, with 1.00 being a perfect positive correlation. As shown in Figure E.1, all correlations between the RIT scores and the NSCAS summative scale scores exceeded 0.70, indicating strong relationships between the two measures. These findings support the use of RIT scores to predict student performance on the spring NSCAS summative assessment.

Figure E.1. Correlations Between RIT Scores and NSCAS Summative Scale Scores



The equipercentile linking method (Kolen & Brennan, 2004) was used to produce the RIT cut scores for the spring administration that correspond to performance levels on the NSCAS summative assessment for every subject and grade. RIT cut scores for grade 2, as well as those for the fall and winter administrations of all grades, are also provided so that educators can track grade 2 students' progress on the NSCAS summative tests by grade 3, alongside all other students, early in the year. These cut scores were derived from the spring cuts and the growth norms for the adjacent grades (i.e., grades 2 to 3) or fall and winter administrations to the spring administration. While RIT cut scores were generated for every performance level on the spring NSCAS summative assessment, Table E.1 presents the *On Track* cut scores that indicate the minimum score a student must get to be considered proficient (*On Track* or *Advanced*) for accountability purposes.

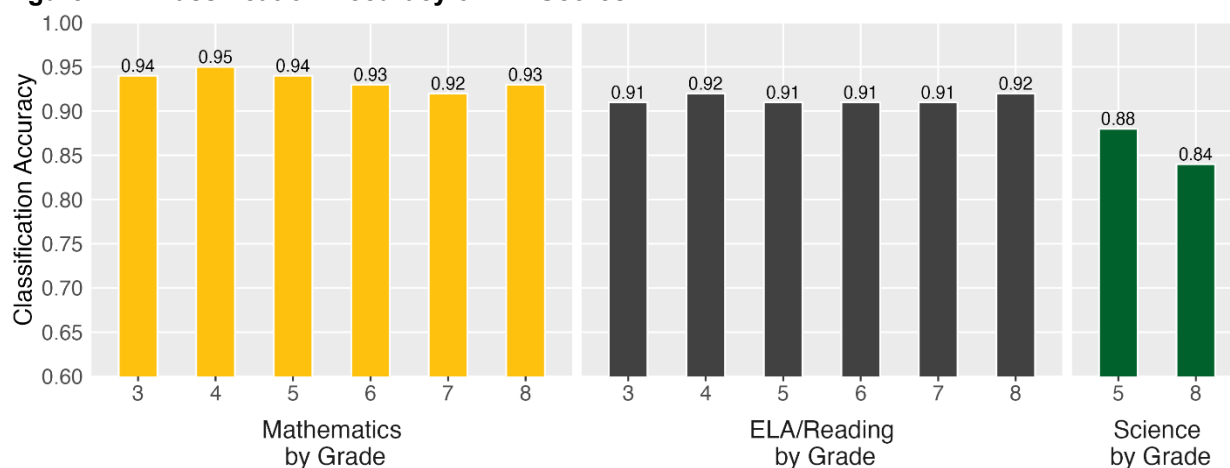
Table E.1. RIT Cut Scores Linked to Spring NSCAS *On Track* Cut Scores

Assessment		On Track Cut Scores by Grade						
		2	3	4	5	6	7	8
Mathematics								
NSCAS Scale Score		–	1166	1195	1216	1226	1228	1237
RIT	Fall	175	186	198	207	212	216	221
	Winter	183	195	205	213	218	220	225
	Spring	189	201	211	217	222	223	228
ELA/Reading								
NSCAS Scale Score		–	2450	2478	2499	2509	2518	2524
RIT	Fall	176	191	198	205	209	211	214
	Winter	183	196	202	208	211	213	215
	Spring	187	199	204	210	212	214	216
Science								
NSCAS Scale Score		–	–	–	3100	–	–	3100
RIT	Fall	–	–	–	189	–	–	205
	Winter	–	–	–	192	–	–	207
	Spring	–	–	–	196	–	–	209

Educators can use these cut scores to determine whether students are on track for proficiency on the state summative assessment. For example, the *On Track* cut score on the grade 3 NSCAS mathematics summative test is 1166. A grade 3 student with a mathematics RIT score of 186 in the fall is likely to meet proficiency on the NSCAS mathematics summative test in the spring, whereas a grade 3 student with a RIT score lower than 186 in the fall is in jeopardy of not meeting proficiency.

As further evidence that the spring RIT scores can be used to predict students' proficiency on the state summative tests, NWEA calculated classification accuracy statistics that show how well the RIT scores correctly classified, or predicted, students as proficient on the NSCAS summative tests. For example, the grade 3 mathematics spring *On Track* RIT cut score has a 0.94 accuracy rate, meaning it accurately predicted student performance on the state summative test for 94% of the sample. A high statistic indicates high accuracy. Overall, the spring RIT scores have a high accuracy rate of identifying student proficiency on the spring NSCAS summative tests, as illustrated in Figure E.2.

Figure E.2. Classification Accuracy of RIT Scores



Please note that the purpose of this report is to explain NWEA's linking study methodology. It is not meant as the main reference for determining a student's likely performance on state summative assessments. The cut scores in this report are based on the default instructional weeks for each term (i.e., Weeks 4, 20, and 32 for fall, winter, and spring, respectively), whereas instructional weeks often vary by district. The cut scores in this report may therefore differ from the results in the NWEA reporting system that reflect the specific instructional weeks set by partners. Partners should therefore reference their MAP Growth score reports instead.

1. Introduction

1.1. Purpose of the Study

NWEA® is committed to providing partners with useful tools to help make inferences about student learning from MAP® Growth™ test scores. One important use of Rasch Unit (RIT) scores is to predict a student's performance on state summative assessments at different times throughout the year. This allows educators and parents to determine if a student is on track in their learning to meet state standards by the end of the school year or, given a student's learning profile, is on track to obtain rigorous, realistic growth in their content knowledge and skills.

This report presents findings from a linking study performed by NWEA aiming to statistically connect the RIT scores obtained from either the Nebraska Student-Centered Assessment System (NSCAS) assessment under the Connected model or the MAP Growth assessment with the spring NSCAS summative scale scores. These assessments cover mathematics and ELA/reading for grades 3–8 as well as science for grades 5 and 8. The data utilized to generate this report are comprised of the NSCAS and MAP Growth test scores collected during Spring 2026. RIT cut scores are also included for grade 2 so that educators can track early learners' progress toward proficiency on the NSCAS summative test by grade 3. Specifically, this report presents the following results:

1. Student sample demographics
2. Descriptive statistics of test scores
3. RIT cut scores from fall, winter, and spring that correspond to the performance levels on the spring NSCAS summative assessment
4. Classification accuracy statistics to determine the degree to which RIT scores accurately predict student proficiency status on the NSCAS summative tests
5. The probability of achieving grade-level proficiency on the spring NSCAS summative assessment based on RIT scores from fall, winter, and spring

1.2. Assessment Overview

The NSCAS General assessment is Nebraska's statewide assessment aligned with Nebraska's College and Career Ready Standards. It is administered in mathematics and English language arts (ELA) in grades 3–8 and science in grades 5 and 8. Mathematics and ELA are primarily administered as computer adaptive tests, while science is administered as a fixed-form assessment.

The NSCAS General assessment is offered through two administration models: Connected or Independent. Both models provide the same NSCAS summative assessment experience and generate equivalent NSCAS summative results. For mathematics and ELA, NSCAS summative scale scores are derived from operational, on-grade items administered within the summative component of the assessment. In the Connected model, students also complete a diagnostic component following the summative component as part of a seamless, multiphase assessment. This additional component supports the estimation and reporting of RIT scores. In contrast, the Independent model includes only the summative component and reports NSCAS summative scale scores without RIT scores. Students can take the standalone MAP Growth assessment to obtain their RIT scores. Neither model reports RIT scores for science.

Based on their spring summative scale scores, students are classified into one of three performance levels: *Developing*, *On Track*, or *Advanced*. The *On Track* cut score represents the minimum level of performance considered to be proficient (*On Track* or *Advanced*) for accountability purposes.

MAP Growth tests are an adaptive interim assessment aligned to state-specific content standards and administered in the fall, winter, and spring. Scores are reported on the RIT vertical scale with a range of 100 to 350. NWEA conducts norming studies of student and school performance on MAP Growth to aid the interpretation of scores. Growth norms provide expected score gains for a test from term to term, such as from fall to spring terms. The most recent norms study was conducted in 2025 (NWEA, 2025).

2. Methods

2.1. Data Collection

This linking study is primarily based on mathematics, ELA/reading, and science data from the Spring 2026 administration of the MAP Growth and NSCAS assessments. For students who took the state assessment under the Connected model in mathematics and ELA/reading, state summative scale scores and RIT scores were automatically matched and, with district permission, extracted directly from NWEA's internal database. For students who took the state assessment under the Independent model in addition to the MAP Growth interim assessment in mathematics and ELA/reading (as well as students who took the science assessment), state summative scale scores were matched to MAP Growth RIT scores using students' first and last names, dates of birth, student IDs, and other available identifying information.

The mathematics and ELA/reading study samples included only students who took either the spring NSCAS assessment under the Connected model or took both the MAP Growth and the NSCAS under the Independent model in Spring 2026. The science study sample included students who took both the NSCAS and MAP Growth science assessments in Spring 2026.

2.2. Post-Stratification Weighting

Post-stratification weights were applied to the calculations to ensure that the linking study sample represented the state's test-taking student population in terms of race, sex, and performance level. These variables were selected because they are known to be correlated with students' academic achievement and are often available in state summative assessment reports. The weighted sample will match the target population as closely as possible for the key demographics and performance characteristics defined by the state.

A raking procedure was used to calculate the post-stratification weights that either compensate for the underrepresentation of certain groups or attenuate the overrepresentation of certain groups. Raking uses iterative procedures to obtain weights that match sample marginal distributions to known population margins. The following steps were taken during this process:

1. Calculate marginal distributions of race, sex, and performance level for the sample and population.
2. Calculate post-stratification weights with the rake function from the survey package in R (Lumley, 2019).
3. Apply the weights to the sample before conducting the linking study analyses.

2.3. Descriptive Statistics

Descriptive statistics are provided to summarize the RIT scores and the NSCAS summative scale scores, including test score mean, standard deviation (SD), minimum, and maximum. The mean presents the average test scores across all students in the study sample, and the SD indicates the variability of test scores, revealing how students' scores are distributed around the average score, or mean. Correlation coefficients are also provided to answer the question "How well do the spring RIT scores correlate to the NSCAS summative scale scores in the same subject and grade?" The correlations were calculated as:

$$r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \sum (y_i - \bar{y})^2}}$$

where r is the correlation coefficient, x_i and y_i are the values of the x- and y-variables in a sample, and $\bar{x}$ and $\bar{y}$ are the mean of the values of the x- and y-variables.

2.4. RIT Cut Scores

RIT cut scores that predict student achievement on the NSCAS summative assessment are reported for grades 3–8 in mathematics and ELA/reading and for grades 5 and 8 in science. RIT cut scores are also reported for grade 2 in mathematics and ELA/reading to help educators monitor early learners' progress toward achieving proficiency on the NSCAS summative assessment by grade 3. Percentile ranks based on the most recent NWEA norms are also provided. These are useful for understanding how students' scores compare with peers nationwide and the relative rigor of a state's performance level designations for its summative assessment.

The equipercentile linking method (Kolen & Brennan, 2004) was used to identify the spring RIT scores for grades 3–8 in mathematics and ELA/reading and for grades 5 and 8 in science that correspond to the spring NSCAS summative performance level cut scores. The equipercentile linking procedure matches scores on the two scales that have the same percentile rank (i.e., the proportion of tests at or below each score). For example, let x represent a score on Test X (e.g., the NSCAS summative component that generates summative scale scores). Its equipercentile equivalent score on Test Y (e.g., MAP Growth or the NSCAS diagnostic component that generates RIT scores), $e_y(x)$, can be obtained through a cumulative-distribution-based linking function defined as:

$$e_y(x) = G^{-1}[P(x)]$$

where $e_y(x)$ is the equipercentile equivalent of NSCAS scale score x on the RIT scale, $P(x)$ is the percentile rank of x , and G^{-1} is the inverse percentile rank function used to determine the RIT score corresponding to a given percentile rank. Polynomial loglinear pre-smoothing was applied to reduce irregularities of the score distributions and equipercentile linking curve.

The MAP Growth conditional growth norms provide students' expected score gains across terms, such as growth from fall to spring within the same grade or from spring of a lower grade to spring of the adjacent higher grade. This information was used to calculate the fall and winter cut scores for grades 3–8 in mathematics and ELA/reading as well as for grades 5 and 8 in science. The equation below was used to determine the previous term's RIT score needed to reach the spring cut score, considering the expected growth associated with the previous RIT score:

$$RIT_{PredSpring} = RIT_{previous} + g$$

where:

- $RIT_{PredSpring}$ is the predicted spring RIT score,
- $RIT_{previous}$ is the previous term's RIT score, and
- g is the expected growth from the previous RIT score (e.g., fall or winter) to the spring RIT score.

The most recent MAP Growth conditional growth norms were used to calculate the fall, winter, and spring cuts for grade 2. Students do not begin taking the NSCAS assessment until grade 3. Therefore, the cut scores for grade 2 were derived from the most recent growth norms across grades and terms. To determine the spring cut scores for grade 2, the growth scores from the

spring of grade 2 through the spring of grade 3 were used. The calculation of fall and winter cuts for grade 2 followed the same process as for the other grades. For example, the growth score from fall to spring in grade 2 was used to calculate the fall cuts for this grade.

2.5. Classification Accuracy

The degree to which the spring RIT scores predict student proficiency status on the spring NSCAS summative tests can be described using classification accuracy statistics based on the spring RIT cut scores. The results show the proportion of students correctly classified by their spring RIT scores as proficient (*On Track* or *Advanced*) or not proficient (*Developing*) on the spring NSCAS summative tests. Table 2.1 describes the classification accuracy statistics provided in this report (Pommerich et al., 2004).

Table 2.1. Description of Classification Accuracy Summary Statistics

Statistic	Description	Interpretation
Overall Classification Accuracy Rate	$(TP + TN) / (\text{total sample size})$	Proportion of the study sample whose proficiency classification on the state test was correctly predicted by RIT cut scores
False Negative (FN) Rate	$FN / (FN + TP)$	Proportion of students identified by RIT scores as not proficient in those observed as proficient on the state test
False Positive (FP) Rate	$FP / (FP + TN)$	Proportion of students identified by RIT scores as not proficient in those observed as not proficient on the state test
Sensitivity	$TP / (TP + FN)$	Proportion of students identified by RIT scores as proficient in those observed as such on the state test
Specificity	$TN / (TN + FP)$	Proportion of students identified by RIT scores as not proficient in those observed as such on the state test
Precision	$TP / (TP + FP)$	Proportion of students observed as proficient on the state test in those identified as such by their RIT scores
Area Under the Curve (AUC)	Area under the receiver operating characteristics (ROC) curve	How well RIT cut scores separate the study sample into proficiency categories that match those from the state test cut scores. An AUC at or above 0.80 is considered “good” accuracy.

Note. FP = false positives; FN = false negatives; TP = true positives; TN = true negatives.

2.6. Proficiency Projections

Given that all test scores contain measurement errors, reaching the *On Track* RIT cut does not guarantee that a student is proficient on the state summative tests. Instead, it can be claimed that a student meeting the RIT cut score has a 50% chance of reaching proficiency on the state summative tests, with their chances increasing the greater their score is from the cut. The proficiency projections indicate these probabilities for various RIT scores throughout the year.

In addition to calculating the fall and winter RIT cut scores (and the projected grade 2 cut scores), the MAP Growth conditional growth norms data were also used to calculate the probability of reaching proficiency on the NSCAS summative tests based on a student’s RIT scores from fall and winter:

$$Pr(\text{Achieving proficiency in spring} | \text{starting RIT}) = \Phi \left(\frac{RIT_{previous} + g - RIT_{SpringCut}}{SD} \right)$$

where:

- Φ is the standard normal cumulative distribution function,
- $RIT_{previous}$ is the student's RIT score in fall or winter,
- g is the expected growth from the previous RIT (e.g., fall or winter) to the spring RIT,
- $RIT_{SpringCut}$ is the *On Track* RIT cut score for spring, and
- SD is the conditional standard deviation of the expected growth, g .

The equation below was used to estimate the probability of a student achieving proficiency performance on the NSCAS summative tests based on their spring RIT score (RIT_{Spring}):

$$Pr(\text{Achieving proficiency in spring} \mid \text{spring RIT}) = \Phi\left(\frac{RIT_{Spring} - RIT_{SpringCut}}{SE}\right)$$

where SE is the standard error of measurement for RIT scores.

3. Results

3.1. Study Sample

Only students who have both RIT scores and state summative scale scores in Spring 2026 for mathematics, ELA/reading, and science were included in the study sample. The mathematics, ELA/reading, and science data used in this study were collected from 769 schools within 225 districts in Nebraska. Table 3.1 presents the distributions of students by race, sex, and performance level in the original unweighted study sample. Table 3.2 presents the distributions of the target population of students who took the spring NSCAS summative tests. Since the original study sample is different from the target NSCAS population, post-stratification weights were applied. Table 3.3 presents the demographic distributions of the sample after weighting, which are almost identical to the NSCAS student population distributions.

Table 3.1. Linking Study Sample Demographics (Unweighted)

Demographic Subgroup		Percentage of Students in Each Subgroup by Grade (%)					
		3	4	5	6	7	8
Mathematics							
Total N		20,978	21,476	20,946	21,275	20,932	20,886
Race	AI/AN	1.2	1.3	1.2	1.2	1.3	1.3
	Asian	3.3	3.6	3.5	3.6	3.7	3.6
	Black	7.0	6.7	6.9	6.7	6.8	6.8
	Hispanic	23.6	23.5	22.7	22.2	22.0	21.3
	NH/PI	0.2	0.2	0.1	0.1	0.1	0.2
	White	59.2	59.3	60.2	61.2	60.9	61.8
	Two or More Races	5.6	5.4	5.2	5.0	5.1	5.0
Sex	Female	49.0	49.1	48.2	49.4	48.6	48.2
	Male	51.0	50.9	51.8	50.6	51.4	51.8
Performance Level	<i>Developing</i>	37.7	39.0	40.5	45.0	43.3	42.3
	<i>On Track</i>	42.1	44.2	41.4	42.9	43.2	43.3
	<i>Advanced</i>	20.1	16.8	18.1	12.0	13.5	14.3
ELA/Reading							
Total N		21,708	21,372	21,003	21,170	20,903	20,854
Race	AI/AN	1.1	1.3	1.2	1.2	1.3	1.3
	Asian	3.3	3.6	3.5	3.6	3.7	3.6
	Black	6.8	6.7	6.9	6.7	6.9	6.8
	Hispanic	23.4	23.7	22.9	22.4	22.2	21.5
	NH/PI	0.2	0.2	0.1	0.1	0.1	0.2
	White	59.5	59.1	60.1	61.0	60.7	61.5
	Two or More Races	5.6	5.4	5.2	5.0	5.1	5.0
Sex	Female	48.9	49.1	48.2	49.5	48.6	48.2
	Male	51.1	50.9	51.8	50.5	51.4	51.8
Performance Level	<i>Developing</i>	41.3	40.2	42.4	42.9	42.0	36.2
	<i>On Track</i>	38.8	40.6	40.7	40.9	38.9	47.5
	<i>Advanced</i>	19.9	19.2	16.8	16.1	19.1	16.3

Demographic Subgroup		Percentage of Students in Each Subgroup by Grade (%)					
		3	4	5	6	7	8
Science							
Total N		1,303			2,675		
Race	AI/AN	0.8			1.4		
	Asian	0.5			3.3		
	Black	0.5			1.5		
	Hispanic	11.2			9.9		
	NH/PI	0.0			0.2		
	White	84.5			81.0		
	Two or More Races	2.5			2.8		
Sex	Female	47.0			47.8		
	Male	53.0			52.2		
Performance Level	<i>Developing</i>	8.3			12.9		
	<i>On Track</i>	71.4			63.4		
	<i>Advanced</i>	20.3			23.6		

Note. AI = American Indian; AN = Alaska Native; NH = Native Hawaiian; PI = Pacific Islander.

Table 3.2. Linking Study Population Demographics

Demographic Subgroup		Percentage of Students in Each Subgroup by Grade (%)					
		3	4	5	6	7	8
Mathematics							
Total N		23,015	23,492	23,331	23,451	23,235	23,260
Race	AI/AN	1.1	1.2	1.2	1.1	1.2	1.2
	Asian	3.2	3.4	3.3	3.4	3.5	3.4
	Black	6.6	6.4	6.6	6.4	6.5	6.5
	Hispanic	23.6	23.5	22.5	22.2	22.1	21.3
	NH/PI	0.2	0.2	0.1	0.1	0.2	0.2
	White	59.9	59.9	61.2	61.9	61.5	62.5
	Two or More Races	5.4	5.4	5.2	4.9	5.1	4.9
Sex	Female	48.9	49.3	48.1	49.1	48.5	48.2
	Male	51.2	50.7	51.9	50.9	51.5	51.8
Performance Level	<i>Developing</i>	37.5	38.8	40.1	44.5	43.1	42.3
	<i>On Track</i>	42.3	44.3	41.7	43.3	43.3	43.6
	<i>Advanced</i>	20.2	16.9	18.2	12.2	13.6	14.1
ELA/Reading							
Total N		23,066	23,531	23,389	23,521	23,344	23,333
Race	AI/AN	1.1	1.2	1.2	1.1	1.2	1.2
	Asian	3.2	3.5	3.3	3.4	3.5	3.4
	Black	6.6	6.4	6.6	6.4	6.5	6.5
	Hispanic	23.7	23.6	22.7	22.3	22.2	21.5
	NH/PI	0.2	0.2	0.1	0.1	0.2	0.2

Demographic Subgroup		Percentage of Students in Each Subgroup by Grade (%)					
		3	4	5	6	7	8
	White	59.8	59.8	61.0	61.8	61.4	62.4
	Two or More Races	5.4	5.4	5.1	5.0	5.1	4.9
Sex	Female	48.9	49.3	48.1	49.1	48.6	48.3
	Male	51.2	50.7	51.9	50.9	51.4	51.7
Performance Level	<i>Developing</i>	41.6	39.9	42.3	42.2	41.3	35.7
	<i>On Track</i>	38.8	40.8	40.9	41.6	39.3	47.9
	<i>Advanced</i>	19.7	19.3	16.9	16.3	19.4	16.4
Science							
Total N		23,329					23,281
Race	AI/AN	1.2					1.2
	Asian	3.3					3.4
	Black	6.6					6.5
	Hispanic	22.6					21.3
	NH/PI	0.1					0.2
	White	61.1					62.5
	Two or More Races	5.2					4.9
Sex	Female	48.1					48.2
	Male	51.9					51.8
Performance Level	<i>Developing</i>	13.3					25.0
	<i>On Track</i>	70.9					57.3
	<i>Advanced</i>	15.8					17.7

Note. AI = American Indian; AN = Alaska Native; NH = Native Hawaiian; PI = Pacific Islander.

Table 3.3. Linking Study Sample Demographics (Weighted)

Demographic Subgroup		Percentage of Students in Each Subgroup by Grade (%)					
		3	4	5	6	7	8
Mathematics							
Total N		20,978	21,476	20,946	21,275	20,932	20,886
Race	AI/AN	1.1	1.2	1.2	1.1	1.2	1.2
	Asian	3.2	3.4	3.3	3.4	3.5	3.4
	Black	6.6	6.4	6.6	6.3	6.5	6.5
	Hispanic	23.6	23.5	22.5	22.1	22.1	21.3
	NH/PI	0.2	0.2	0.1	0.1	0.2	0.2
	White	59.9	59.9	61.2	61.9	61.5	62.5
	Two or More Races	5.4	5.4	5.2	4.9	5.1	4.9
Sex	Female	48.8	49.3	48.1	49.1	48.5	48.2
	Male	51.2	50.7	51.9	50.9	51.5	51.8
Performance Level	<i>Developing</i>	37.5	38.8	40.1	44.5	43.1	42.3
	<i>On Track</i>	42.3	44.3	41.7	43.3	43.3	43.6
	<i>Advanced</i>	20.2	16.9	18.2	12.2	13.6	14.1

Demographic Subgroup		Percentage of Students in Each Subgroup by Grade (%)					
		3	4	5	6	7	8
ELA/Reading							
Total N		21,708	21,372	21,003	21,170	20,903	20,854
Race	AI/AN	1.1	1.2	1.2	1.1	1.2	1.2
	Asian	3.2	3.5	3.3	3.4	3.5	3.4
	Black	6.6	6.4	6.6	6.3	6.5	6.5
	Hispanic	23.7	23.6	22.7	22.3	22.2	21.5
	NH/PI	0.2	0.2	0.1	0.1	0.2	0.2
	White	59.8	59.8	61.0	61.8	61.4	62.4
	Two or More Races	5.4	5.4	5.1	4.9	5.1	4.9
Sex	Female	48.8	49.3	48.1	49.1	48.6	48.3
	Male	51.2	50.7	51.9	50.9	51.4	51.7
Performance Level	<i>Developing</i>	41.6	39.9	42.2	42.2	41.3	35.7
	<i>On Track</i>	38.8	40.8	40.9	41.6	39.3	47.9
	<i>Advanced</i>	19.7	19.3	16.9	16.2	19.4	16.4
Science							
Total N		1,303					2,675
Race	AI/AN	1.2					1.2
	Asian	3.3					3.4
	Black	6.6					6.5
	Hispanic	22.6					21.4
	NH/PI	0.0					0.2
	White	61.2					62.5
	Two or More Races	5.2					4.9
Sex	Female	48.1					48.2
	Male	51.9					51.8
Performance Level	<i>Developing</i>	13.3					25.0
	<i>On Track</i>	70.9					57.3
	<i>Advanced</i>	15.8					17.7

Note. AI = American Indian; AN = Alaska Native; NH = Native Hawaiian; PI = Pacific Islander.

3.2. Descriptive Statistics

Table 3.4 presents descriptive statistics of the spring RIT scores and the spring NSCAS summative scale scores, including the correlation coefficients (r) between them. The coefficients between the scores range from 0.96 to 0.97 for mathematics, 0.93 to 0.94 for ELA/reading, and 0.79 to 0.80 for science. These values indicate a high positive correlation among the scores, which is important validity evidence for the claim that the spring RIT scores are good predictors of performance on the spring NSCAS summative assessment.

Table 3.4. Descriptive Statistics of Test Scores

Grade	N	r	NSCAS Summative				RIT			
			Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
Mathematics										
3	20,978	0.96	1194.5	87.9	1002	1470	205.2	16.3	125	282
4	21,476	0.97	1220.4	84.4	1012	1500	215.3	16.8	128	276
5	20,946	0.96	1240.0	81.3	1022	1510	221.3	16.2	133	318
6	21,275	0.96	1237.7	83.4	1032	1530	223.8	17.2	159	293
7	20,932	0.96	1246.4	81.6	1042	1540	226.9	17.6	146	303
8	20,886	0.96	1254.3	83.6	1052	1550	231.3	18.9	160	309
ELA/Reading										
3	21,708	0.93	2461.7	85.3	2222	2757	200.8	13.3	145	248
4	21,372	0.94	2490.5	90.6	2252	2850	206.4	13.7	142	255
5	21,003	0.94	2506.8	84.5	2282	2859	211.0	13.3	155	258
6	21,170	0.94	2515.5	82.7	2292	2847	213.8	13.1	166	259
7	20,903	0.94	2528.8	85.4	2302	2863	216.3	13.3	165	264
8	20,854	0.93	2546.3	82.4	2312	2890	219.7	13.4	170	265
Science										
5	1,303	0.80	3125.8	23.8	3059	3204	210.8	13.2	158	244
8	2,675	0.79	3122.6	28.0	3047	3248	219.1	13.3	175	270

Note. SD = standard deviation; Min. = minimum; Max. = maximum.

3.3. RIT Cut Scores

Table 3.5 to Table 3.7 present the NSCAS summative scale score ranges as well as the corresponding RIT cut scores and percentile ranges by content area and grade. Bold numbers indicate the cut scores considered to be at least proficient for accountability purposes. These tables can be used to predict a student's likely performance level on the spring NSCAS summative assessment based on their RIT scores in the fall, winter, and spring. For example, a grade 3 student who obtained a mathematics RIT score of 186 in the fall is likely to achieve *On Track* performance on the spring NSCAS summative mathematics test. A grade 3 student who obtained a mathematics RIT score of 195 in the winter is also likely to achieve *On Track* performance on the spring NSCAS summative mathematics test. The winter cut score is higher than the fall cut score because growth is expected between fall and winter as students receive more instruction during the school year.

Within this report, the cut scores for fall and winter are derived from the spring cuts and the typical growth scores from fall-to-spring or winter-to-spring. The typical growth scores are based on the default instructional weeks for each term (i.e., Weeks 4, 20, and 32 for fall, winter, and spring, respectively). Since instructional weeks often vary by district, the cut scores in this report may differ slightly from the MAP Growth score reports that reflect instructional weeks set by partners. If the actual instructional weeks deviate substantially from the default ones, a student's expected performance level could be different from the projections presented in this report. Partners are therefore encouraged to use the projected performance level in students' score reports, since these reflect the specific instructional weeks set by partners.

Table 3.5. RIT Cut Scores—Mathematics

NSCAS Summative Mathematics						
Grade	Developing		On Track		Advanced	
3	1000–1165		1166–1263		1264–1470	
4	1010–1194		1195–1300		1301–1500	
5	1020–1215		1216–1318		1319–1510	
6	1030–1225		1226–1333		1334–1530	
7	1040–1227		1228–1336		1337–1540	
8	1050–1236		1237–1346		1347–1550	
MAP Growth Math						
Grade	Developing		On Track		Advanced	
	RIT	Percentile	RIT	Percentile	RIT	Percentile
Fall						
2	100–174	1–54	175–195	55–92	196–350	93–99
3	100–185	1–54	186–202	55–88	203–350	89–99
4	100–197	1–51	198–217	52–90	218–350	91–99
5	100–206	1–51	207–226	52–89	227–350	90–99
6	100–211	1–53	212–231	54–90	232–350	91–99
7	100–215	1–46	216–238	47–89	239–350	90–99
8	100–220	1–47	221–244	48–88	245–350	89–99
Winter						
2	100–182	1–54	183–203	55–92	204–350	93–99
3	100–194	1–55	195–212	56–88	213–350	89–99
4	100–204	1–50	205–225	51–89	226–350	90–99
5	100–212	1–52	213–232	53–88	233–350	89–99
6	100–217	1–54	218–238	55–90	239–350	91–99
7	100–219	1–47	220–243	48–88	244–350	89–99
8	100–224	1–47	225–249	48–88	250–350	89–99
Spring						
2	100–188	1–53	189–207	54–89	208–350	90–99
3	100–200	1–53	201–217	54–86	218–350	87–99
4	100–210	1–51	211–230	52–87	231–350	88–99
5	100–216	1–51	217–236	52–86	237–350	87–99
6	100–221	1–53	222–242	54–88	243–350	89–99
7	100–222	1–47	223–245	48–86	246–350	87–99
8	100–227	1–47	228–251	48–86	252–350	87–99

Note. Bold numbers indicate the cut scores considered to be at least proficient for accountability purposes.

Table 3.6. RIT Cut Scores—ELA/Reading

NSCAS Summative ELA						
Grade	Developing		On Track		Advanced	
3	2220–2449		2450–2535		2536–2840	
4	2250–2477		2478–2566		2567–2850	
5	2280–2498		2499–2585		2586–2860	
6	2290–2508		2509–2593		2594–2870	
7	2300–2517		2518–2600		2601–2880	
8	2310–2523		2524–2623		2624–2890	
MAP Growth Reading						
Grade	Developing		On Track		Advanced	
	RIT	Percentile	RIT	Percentile	RIT	Percentile
Fall						
2	100–175	1–63	176–194	64–92	195–350	93–99
3	100–190	1–62	191–205	63–87	206–350	88–99
4	100–197	1–54	198–213	55–83	214–350	84–99
5	100–204	1–52	205–220	53–83	221–350	84–99
6	100–208	1–49	209–223	50–80	224–350	81–99
7	100–210	1–46	211–224	47–77	225–350	78–99
8	100–213	1–45	214–229	46–79	230–350	80–99
Winter						
2	100–182	1–63	183–200	64–91	201–350	92–99
3	100–195	1–62	196–209	63–86	210–350	87–99
4	100–201	1–55	202–216	56–83	217–350	84–99
5	100–207	1–53	208–221	54–81	222–350	82–99
6	100–210	1–50	211–224	51–79	225–350	80–99
7	100–212	1–47	213–225	48–76	226–350	77–99
8	100–214	1–45	215–230	46–79	231–350	80–99
Spring						
2	100–186	1–61	187–202	62–88	203–350	89–99
3	100–198	1–60	199–211	61–83	212–350	84–99
4	100–203	1–53	204–217	54–81	218–350	82–99
5	100–209	1–53	210–222	54–79	223–350	80–99
6	100–211	1–49	212–225	50–79	226–350	80–99
7	100–213	1–47	214–226	48–75	227–350	76–99
8	100–215	1–45	216–231	46–79	232–350	80–99

Note. Bold numbers indicate the cut scores considered to be at least proficient for accountability purposes.

Table 3.7. RIT Cut Scores—Science

NSCAS Summative Science						
Grade	Developing		On Track		Advanced	
5	3000–3099		3100–3149		3150–3250	
8	3000–3099		3100–3149		3150–3250	
MAP Growth Science						
Grade	Developing		On Track		Advanced	
	RIT	Percentile	RIT	Percentile	RIT	Percentile
Fall						
5	100–188	1–17	189–219	18–92	220–350	93–99
8	100–204	1–36	205–229	37–91	230–350	92–99
Winter						
5	100–191	1–17	192–222	18–91	223–350	92–99
8	100–206	1–37	207–230	38–90	231–350	91–99
Spring						
5	100–195	1–21	196–223	22–89	224–350	90–99
8	100–208	1–39	209–231	40–89	232–350	90–99

Note. Bold numbers indicate the cut scores considered to be at least proficient for accountability purposes.

3.4. Classification Accuracy

Table 3.8 presents the classification accuracy summary statistics, including the overall classification accuracy rates. These results indicate how well spring RIT scores predict proficiency on the spring NSCAS summative tests, providing insight into the predictive validity of the spring RIT scores. The overall classification accuracy rates range from 0.92 to 0.95 for mathematics, 0.91 to 0.92 for ELA/reading, and 0.84 to 0.88 for science. These values suggest that the RIT cut scores effectively classify students as proficient (*On Track* or *Advanced*) or not proficient (*Developing*) on the spring NSCAS summative assessment.

Although the results show that RIT scores can be used to predict student proficiency on the NSCAS summative tests with relatively high accuracy, there is a notable limitation to how these results should be used and interpreted. The MAP Growth and the NSCAS assessments are designed for different purposes and measure slightly different constructs even within the same content area. Therefore, scores on these tests cannot be assumed to be interchangeable. MAP Growth may not be used as a substitute for the state tests and vice versa.

Table 3.8. Classification Accuracy Results

Grade	N	Cut Score		Class. Accuracy	Rate		Sensitivity	Specificity	Precision	AUC
		Spring RIT	Spring NSCAS		FP	FN				
Mathematics										
3	20,978	201	1166	0.94	0.08	0.05	0.95	0.92	0.95	0.94
4	21,476	211	1195	0.95	0.08	0.04	0.96	0.92	0.95	0.94
5	20,946	217	1216	0.94	0.10	0.03	0.97	0.90	0.94	0.94
6	21,275	222	1226	0.93	0.08	0.06	0.94	0.92	0.94	0.93
7	20,932	223	1228	0.92	0.10	0.05	0.95	0.90	0.92	0.92
8	20,886	228	1237	0.93	0.08	0.06	0.94	0.92	0.94	0.93
ELA/Reading										
3	21,708	199	2450	0.91	0.11	0.07	0.93	0.89	0.92	0.91
4	21,372	204	2478	0.92	0.13	0.05	0.95	0.87	0.92	0.91
5	21,003	210	2499	0.91	0.12	0.06	0.94	0.88	0.91	0.91
6	21,170	212	2509	0.91	0.14	0.05	0.95	0.86	0.90	0.90
7	20,903	214	2518	0.91	0.13	0.06	0.94	0.87	0.91	0.91
8	20,854	216	2524	0.92	0.13	0.06	0.94	0.87	0.93	0.90
Science										
5	1,303	196	3100	0.88	0.48	0.06	0.94	0.52	0.93	0.73
8	2,675	209	3100	0.84	0.41	0.07	0.93	0.59	0.87	0.76

Note. Class. Accuracy = overall classification accuracy rate; FP = false positives; FN = false negatives; AUC = area under the ROC curve.

3.5. Proficiency Projections

Table 3.9 to Table 3.11 present the estimated probability of achieving proficiency on the spring NSCAS summative tests based on RIT scores from fall, winter, or spring. Due to measurement error in all test scores, the *On Track* RIT score cuts do not guarantee that a student will reach proficiency on the spring NSCAS summative tests. Instead, they indicate a 50% chance that a student will reach proficiency. Therefore, these projections further elucidate the *On Track* cut scores by providing the likelihood of reaching proficiency on the spring NSCAS summative assessment at a given percentile throughout the year. For example, a grade 3 student at percentile 70 who obtained a mathematics RIT score of 192 in the fall has a 78% chance of reaching proficiency on the NSCAS summative test in spring. Additionally, an educator can also use the table to estimate that a grade 3 student who obtained a mathematics RIT score of 201 in the winter has an 80% probability of reaching proficiency on the spring NSCAS mathematics summative test.

Table 3.9. Proficiency Projections Based on RIT Scores—Mathematics

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				On Track	Prob.		On Track	Prob.		On Track	Prob.
2	5	189	147	No	<0.01	155	No	<0.01	161	No	<0.01
	10	189	153	No	0.01	161	No	<0.01	167	No	<0.01
	15	189	157	No	0.03	165	No	0.02	171	No	<0.01
	20	189	160	No	0.06	168	No	0.04	174	No	<0.01
	25	189	162	No	0.09	171	No	0.07	177	No	<0.01
	30	189	165	No	0.14	173	No	0.12	179	No	<0.01
	35	189	167	No	0.20	175	No	0.18	181	No	0.01
	40	189	169	No	0.27	177	No	0.25	183	No	0.04
	45	189	171	No	0.36	179	No	0.30	185	No	0.13
	50	189	173	No	0.45	181	No	0.40	187	No	0.28
	55	189	175	Yes	0.50	183	Yes	0.50	189	Yes	0.50
	60	189	177	Yes	0.60	185	Yes	0.60	192	Yes	0.80
	65	189	179	Yes	0.69	187	Yes	0.70	194	Yes	0.92
	70	189	181	Yes	0.77	189	Yes	0.75	196	Yes	0.98
	75	189	183	Yes	0.84	192	Yes	0.86	198	Yes	0.99
	80	189	186	Yes	0.89	194	Yes	0.91	201	Yes	>0.99
	85	189	189	Yes	0.94	197	Yes	0.96	204	Yes	>0.99
	90	189	193	Yes	0.97	201	Yes	0.98	208	Yes	>0.99
	95	189	198	Yes	0.99	207	Yes	>0.99	214	Yes	>0.99
3	5	201	158	No	<0.01	166	No	<0.01	171	No	<0.01
	10	201	164	No	<0.01	172	No	<0.01	177	No	<0.01
	15	201	168	No	0.01	176	No	0.01	181	No	<0.01
	20	201	171	No	0.03	179	No	0.02	185	No	<0.01
	25	201	174	No	0.06	182	No	0.05	188	No	<0.01
	30	201	176	No	0.10	184	No	0.08	190	No	<0.01
	35	201	178	No	0.15	186	No	0.13	193	No	0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				On Track	Prob.		On Track	Prob.		On Track	Prob.
	40	201	180	No	0.22	189	No	0.24	195	No	0.04
	45	201	182	No	0.30	191	No	0.34	197	No	0.13
	50	201	184	No	0.40	193	No	0.39	199	No	0.28
	55	201	186	Yes	0.50	195	Yes	0.50	201	Yes	0.50
	60	201	188	Yes	0.60	197	Yes	0.61	203	Yes	0.72
	65	201	190	Yes	0.70	199	Yes	0.71	206	Yes	0.92
	70	201	192	Yes	0.78	201	Yes	0.80	208	Yes	0.98
	75	201	195	Yes	0.87	204	Yes	0.89	211	Yes	>0.99
	80	201	197	Yes	0.92	206	Yes	0.94	213	Yes	>0.99
	85	201	200	Yes	0.96	210	Yes	0.97	217	Yes	>0.99
	90	201	204	Yes	0.99	214	Yes	0.99	221	Yes	>0.99
	95	201	210	Yes	>0.99	220	Yes	>0.99	227	Yes	>0.99
4	5	211	171	No	<0.01	176	No	<0.01	180	No	<0.01
	10	211	177	No	<0.01	183	No	<0.01	187	No	<0.01
	15	211	181	No	0.02	187	No	0.01	191	No	<0.01
	20	211	184	No	0.04	190	No	0.02	195	No	<0.01
	25	211	186	No	0.07	193	No	0.04	198	No	<0.01
	30	211	189	No	0.13	196	No	0.10	201	No	<0.01
	35	211	191	No	0.19	198	No	0.16	203	No	0.01
	40	211	193	No	0.27	200	No	0.24	206	No	0.08
	45	211	195	No	0.35	202	No	0.33	208	No	0.20
	50	211	197	No	0.45	204	No	0.44	210	No	0.39
	55	211	199	Yes	0.55	207	Yes	0.61	212	Yes	0.61
	60	211	201	Yes	0.65	209	Yes	0.67	215	Yes	0.87
	65	211	203	Yes	0.73	211	Yes	0.76	217	Yes	0.96
	70	211	205	Yes	0.81	213	Yes	0.84	220	Yes	0.99
	75	211	208	Yes	0.89	216	Yes	0.92	222	Yes	>0.99

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				On Track	Prob.		On Track	Prob.		On Track	Prob.
	80	211	210	Yes	0.93	219	Yes	0.97	225	Yes	>0.99
	85	211	214	Yes	0.98	222	Yes	0.99	229	Yes	>0.99
	90	211	217	Yes	0.99	226	Yes	>0.99	233	Yes	>0.99
	95	211	223	Yes	>0.99	232	Yes	>0.99	240	Yes	>0.99
5	5	217	180	No	<0.01	183	No	<0.01	186	No	<0.01
	10	217	185	No	<0.01	189	No	<0.01	192	No	<0.01
	15	217	189	No	0.01	194	No	0.01	197	No	<0.01
	20	217	193	No	0.03	197	No	0.01	200	No	<0.01
	25	217	195	No	0.05	200	No	0.03	204	No	<0.01
	30	217	198	No	0.12	203	No	0.08	206	No	<0.01
	35	217	200	No	0.19	205	No	0.13	209	No	0.01
	40	217	202	No	0.26	207	No	0.20	211	No	0.04
	45	217	204	No	0.35	210	No	0.33	214	No	0.20
	50	217	206	No	0.45	212	No	0.44	216	No	0.39
	55	217	208	Yes	0.55	214	Yes	0.56	218	Yes	0.61
	60	217	210	Yes	0.65	216	Yes	0.67	221	Yes	0.87
	65	217	212	Yes	0.74	219	Yes	0.80	223	Yes	0.96
	70	217	215	Yes	0.85	221	Yes	0.87	226	Yes	0.99
	75	217	217	Yes	0.90	224	Yes	0.94	228	Yes	>0.99
	80	217	220	Yes	0.95	226	Yes	0.97	232	Yes	>0.99
	85	217	223	Yes	0.98	230	Yes	0.99	235	Yes	>0.99
	90	217	227	Yes	0.99	234	Yes	>0.99	240	Yes	>0.99
	95	217	233	Yes	>0.99	240	Yes	>0.99	246	Yes	>0.99
6	5	222	184	No	<0.01	187	No	<0.01	190	No	<0.01
	10	222	190	No	<0.01	194	No	<0.01	197	No	<0.01
	15	222	194	No	0.01	198	No	<0.01	201	No	<0.01
	20	222	197	No	0.03	201	No	0.01	205	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				On Track	Prob.		On Track	Prob.		On Track	Prob.
	25	222	199	No	0.05	204	No	0.04	208	No	<0.01
	30	222	202	No	0.11	207	No	0.09	211	No	<0.01
	35	222	204	No	0.16	209	No	0.11	213	No	0.01
	40	222	206	No	0.23	212	No	0.21	216	No	0.04
	45	222	208	No	0.31	214	No	0.29	218	No	0.13
	50	222	210	No	0.40	216	No	0.39	220	No	0.28
	55	222	212	Yes	0.50	218	Yes	0.50	223	Yes	0.61
	60	222	214	Yes	0.60	220	Yes	0.61	225	Yes	0.80
	65	222	216	Yes	0.69	223	Yes	0.75	227	Yes	0.92
	70	222	219	Yes	0.81	225	Yes	0.83	230	Yes	0.99
	75	222	221	Yes	0.89	228	Yes	0.91	233	Yes	>0.99
	80	222	224	Yes	0.95	231	Yes	0.96	236	Yes	>0.99
	85	222	227	Yes	0.98	234	Yes	0.99	239	Yes	>0.99
	90	222	231	Yes	0.99	238	Yes	>0.99	244	Yes	>0.99
	95	222	237	Yes	>0.99	245	Yes	>0.99	251	Yes	>0.99
7	5	223	189	No	<0.01	191	No	<0.01	192	No	<0.01
	10	223	195	No	<0.01	197	No	<0.01	199	No	<0.01
	15	223	199	No	0.01	202	No	0.01	204	No	<0.01
	20	223	203	No	0.04	206	No	0.03	208	No	<0.01
	25	223	206	No	0.11	209	No	0.07	211	No	<0.01
	30	223	208	No	0.17	211	No	0.12	214	No	0.01
	35	223	211	No	0.27	214	No	0.22	216	No	0.02
	40	223	213	No	0.36	216	No	0.30	219	No	0.13
	45	223	215	No	0.45	219	No	0.45	221	No	0.28
	50	223	217	Yes	0.55	221	Yes	0.55	224	Yes	0.61
	55	223	219	Yes	0.64	223	Yes	0.65	226	Yes	0.80
	60	223	222	Yes	0.77	226	Yes	0.78	229	Yes	0.96

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				On Track	Prob.		On Track	Prob.		On Track	Prob.
	65	223	224	Yes	0.83	228	Yes	0.85	231	Yes	0.99
	70	223	226	Yes	0.89	231	Yes	0.90	234	Yes	>0.99
	75	223	229	Yes	0.94	233	Yes	0.94	237	Yes	>0.99
	80	223	232	Yes	0.97	236	Yes	0.98	240	Yes	>0.99
	85	223	235	Yes	0.99	240	Yes	0.99	244	Yes	>0.99
	90	223	239	Yes	>0.99	245	Yes	>0.99	249	Yes	>0.99
	95	223	246	Yes	>0.99	251	Yes	>0.99	256	Yes	>0.99
8	5	228	192	No	<0.01	194	No	<0.01	196	No	<0.01
	10	228	199	No	0.01	201	No	<0.01	203	No	<0.01
	15	228	203	No	0.02	206	No	0.01	208	No	<0.01
	20	228	207	No	0.05	210	No	0.04	212	No	<0.01
	25	228	210	No	0.10	213	No	0.07	215	No	<0.01
	30	228	212	No	0.15	216	No	0.13	218	No	<0.01
	35	228	215	No	0.25	219	No	0.23	221	No	0.02
	40	228	217	No	0.32	221	No	0.31	224	No	0.13
	45	228	220	No	0.45	224	No	0.45	226	No	0.28
	50	228	222	Yes	0.55	226	Yes	0.55	229	Yes	0.61
	55	228	224	Yes	0.63	228	Yes	0.65	231	Yes	0.80
	60	228	227	Yes	0.75	231	Yes	0.77	234	Yes	0.96
	65	228	229	Yes	0.82	233	Yes	0.84	237	Yes	0.99
	70	228	232	Yes	0.90	236	Yes	0.92	239	Yes	>0.99
	75	228	234	Yes	0.93	239	Yes	0.95	242	Yes	>0.99
	80	228	237	Yes	0.97	242	Yes	0.98	246	Yes	>0.99
	85	228	241	Yes	0.99	246	Yes	0.99	250	Yes	>0.99
	90	228	246	Yes	>0.99	251	Yes	>0.99	255	Yes	>0.99
	95	228	252	Yes	>0.99	258	Yes	>0.99	262	Yes	>0.99

Note. Prob. = Probability.

Table 3.10. Proficiency Projections Based on RIT Scores—ELA/Reading

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				On Track	Prob.		On Track	Prob.		On Track	Prob.
2	5	187	142	No	<0.01	149	No	<0.01	153	No	<0.01
	10	187	148	No	<0.01	155	No	<0.01	159	No	<0.01
	15	187	152	No	0.01	159	No	0.01	164	No	<0.01
	20	187	156	No	0.03	162	No	0.02	167	No	<0.01
	25	187	159	No	0.05	165	No	0.03	170	No	<0.01
	30	187	161	No	0.07	168	No	0.06	173	No	<0.01
	35	187	163	No	0.11	170	No	0.09	175	No	<0.01
	40	187	166	No	0.16	172	No	0.14	177	No	<0.01
	45	187	168	No	0.22	175	No	0.20	180	No	0.02
	50	187	170	No	0.29	177	No	0.27	182	No	0.08
	55	187	172	No	0.33	179	No	0.36	184	No	0.20
	60	187	174	No	0.41	181	No	0.41	186	No	0.39
	65	187	177	Yes	0.54	183	Yes	0.50	188	Yes	0.61
	70	187	179	Yes	0.59	186	Yes	0.64	191	Yes	0.87
	75	187	182	Yes	0.71	188	Yes	0.73	193	Yes	0.96
	80	187	184	Yes	0.78	191	Yes	0.80	196	Yes	0.99
	85	187	188	Yes	0.87	194	Yes	0.89	200	Yes	>0.99
	90	187	192	Yes	0.94	199	Yes	0.95	204	Yes	>0.99
	95	187	198	Yes	0.98	205	Yes	0.99	210	Yes	>0.99
3	5	199	155	No	<0.01	160	No	<0.01	164	No	<0.01
	10	199	161	No	<0.01	167	No	<0.01	171	No	<0.01
	15	199	166	No	0.01	171	No	<0.01	175	No	<0.01
	20	199	169	No	0.02	175	No	0.02	179	No	<0.01
	25	199	172	No	0.04	178	No	0.03	182	No	<0.01
	30	199	175	No	0.06	180	No	0.05	184	No	<0.01
	35	199	178	No	0.11	183	No	0.09	187	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				On Track	Prob.		On Track	Prob.		On Track	Prob.
	40	199	180	No	0.16	185	No	0.12	189	No	<0.01
	45	199	182	No	0.18	188	No	0.20	192	No	0.02
	50	199	185	No	0.29	190	No	0.27	194	No	0.08
	55	199	187	No	0.37	192	No	0.36	196	No	0.20
	60	199	189	No	0.46	194	No	0.41	198	No	0.39
	65	199	192	Yes	0.54	197	Yes	0.55	201	Yes	0.72
	70	199	194	Yes	0.63	199	Yes	0.64	203	Yes	0.87
	75	199	197	Yes	0.71	202	Yes	0.76	206	Yes	0.98
	80	199	200	Yes	0.82	205	Yes	0.83	209	Yes	>0.99
	85	199	204	Yes	0.89	209	Yes	0.92	213	Yes	>0.99
	90	199	208	Yes	0.95	213	Yes	0.96	217	Yes	>0.99
	95	199	215	Yes	0.99	220	Yes	>0.99	224	Yes	>0.99
4	5	204	166	No	<0.01	170	No	<0.01	173	No	<0.01
	10	204	173	No	<0.01	177	No	<0.01	179	No	<0.01
	15	204	177	No	0.02	181	No	0.01	184	No	<0.01
	20	204	181	No	0.04	184	No	0.02	187	No	<0.01
	25	204	184	No	0.08	187	No	0.05	190	No	<0.01
	30	204	186	No	0.10	190	No	0.10	193	No	<0.01
	35	204	189	No	0.17	193	No	0.16	195	No	0.01
	40	204	191	No	0.24	195	No	0.23	198	No	0.04
	45	204	194	No	0.32	197	No	0.31	200	No	0.13
	50	204	196	No	0.41	199	No	0.40	202	No	0.28
	55	204	198	Yes	0.50	202	Yes	0.50	204	Yes	0.50
	60	204	200	Yes	0.59	204	Yes	0.60	207	Yes	0.80
	65	204	203	Yes	0.68	206	Yes	0.69	209	Yes	0.92
	70	204	205	Yes	0.76	209	Yes	0.81	211	Yes	0.98
	75	204	208	Yes	0.86	211	Yes	0.84	214	Yes	>0.99

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				On Track	Prob.		On Track	Prob.		On Track	Prob.
	80	204	211	Yes	0.90	214	Yes	0.92	217	Yes	>0.99
	85	204	215	Yes	0.96	218	Yes	0.97	220	Yes	>0.99
	90	204	219	Yes	0.98	222	Yes	0.99	225	Yes	>0.99
	95	204	226	Yes	>0.99	229	Yes	>0.99	231	Yes	>0.99
5	5	210	175	No	<0.01	178	No	<0.01	180	No	<0.01
	10	210	181	No	0.01	184	No	<0.01	186	No	<0.01
	15	210	186	No	0.02	189	No	0.01	191	No	<0.01
	20	210	189	No	0.04	192	No	0.04	194	No	<0.01
	25	210	192	No	0.07	195	No	0.06	197	No	<0.01
	30	210	195	No	0.14	197	No	0.10	199	No	<0.01
	35	210	197	No	0.20	200	No	0.18	202	No	0.01
	40	210	199	No	0.23	202	No	0.26	204	No	0.04
	45	210	201	No	0.31	204	No	0.30	206	No	0.13
	50	210	204	No	0.45	206	No	0.40	208	No	0.28
	55	210	206	Yes	0.50	209	Yes	0.55	211	Yes	0.61
	60	210	208	Yes	0.60	211	Yes	0.60	213	Yes	0.80
	65	210	210	Yes	0.69	213	Yes	0.70	215	Yes	0.92
	70	210	213	Yes	0.77	215	Yes	0.78	217	Yes	0.98
	75	210	215	Yes	0.84	218	Yes	0.88	220	Yes	>0.99
	80	210	218	Yes	0.91	221	Yes	0.94	223	Yes	>0.99
	85	210	222	Yes	0.96	224	Yes	0.97	226	Yes	>0.99
	90	210	226	Yes	0.99	228	Yes	0.99	230	Yes	>0.99
	95	210	232	Yes	>0.99	235	Yes	>0.99	237	Yes	>0.99
6	5	212	181	No	<0.01	183	No	<0.01	185	No	<0.01
	10	212	187	No	0.01	189	No	0.01	191	No	<0.01
	15	212	191	No	0.03	193	No	0.02	195	No	<0.01
	20	212	195	No	0.07	197	No	0.06	198	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				On Track	Prob.		On Track	Prob.		On Track	Prob.
	25	212	198	No	0.14	199	No	0.10	201	No	<0.01
	30	212	200	No	0.16	202	No	0.16	203	No	0.01
	35	212	202	No	0.23	204	No	0.22	206	No	0.04
	40	212	205	No	0.36	206	No	0.31	208	No	0.13
	45	212	207	No	0.40	209	No	0.45	210	No	0.28
	50	212	209	Yes	0.50	211	Yes	0.50	212	Yes	0.50
	55	212	211	Yes	0.60	213	Yes	0.60	214	Yes	0.72
	60	212	213	Yes	0.69	215	Yes	0.69	216	Yes	0.87
	65	212	215	Yes	0.73	217	Yes	0.78	218	Yes	0.96
	70	212	218	Yes	0.84	219	Yes	0.84	221	Yes	0.99
	75	212	220	Yes	0.89	222	Yes	0.92	223	Yes	>0.99
	80	212	223	Yes	0.94	225	Yes	0.96	226	Yes	>0.99
	85	212	226	Yes	0.97	228	Yes	0.98	229	Yes	>0.99
	90	212	231	Yes	0.99	232	Yes	>0.99	233	Yes	>0.99
	95	212	237	Yes	>0.99	238	Yes	>0.99	239	Yes	>0.99
7	5	214	185	No	<0.01	186	No	<0.01	187	No	<0.01
	10	214	191	No	0.02	192	No	0.01	193	No	<0.01
	15	214	195	No	0.05	196	No	0.03	197	No	<0.01
	20	214	198	No	0.08	200	No	0.09	201	No	<0.01
	25	214	201	No	0.15	202	No	0.11	203	No	<0.01
	30	214	204	No	0.24	205	No	0.20	206	No	0.01
	35	214	206	No	0.28	207	No	0.27	208	No	0.04
	40	214	208	No	0.36	210	No	0.40	211	No	0.20
	45	214	210	No	0.45	212	No	0.45	213	No	0.39
	50	214	212	Yes	0.55	214	Yes	0.55	215	Yes	0.61
	55	214	214	Yes	0.59	216	Yes	0.64	217	Yes	0.80
	60	214	217	Yes	0.72	218	Yes	0.73	219	Yes	0.92

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				On Track	Prob.		On Track	Prob.		On Track	Prob.
	65	214	219	Yes	0.79	220	Yes	0.80	221	Yes	0.98
	70	214	221	Yes	0.85	223	Yes	0.89	224	Yes	>0.99
	75	214	224	Yes	0.92	225	Yes	0.93	226	Yes	>0.99
	80	214	226	Yes	0.95	228	Yes	0.97	229	Yes	>0.99
	85	214	230	Yes	0.98	231	Yes	0.99	232	Yes	>0.99
	90	214	234	Yes	0.99	235	Yes	>0.99	237	Yes	>0.99
	95	214	240	Yes	>0.99	241	Yes	>0.99	243	Yes	>0.99
8	5	216	188	No	0.01	189	No	<0.01	190	No	<0.01
	10	216	194	No	0.03	195	No	0.02	196	No	<0.01
	15	216	198	No	0.07	199	No	0.05	200	No	<0.01
	20	216	201	No	0.11	203	No	0.12	203	No	<0.01
	25	216	204	No	0.18	205	No	0.14	206	No	<0.01
	30	216	207	No	0.25	208	No	0.24	209	No	0.02
	35	216	209	No	0.33	210	No	0.32	211	No	0.08
	40	216	211	No	0.41	213	No	0.41	213	No	0.20
	45	216	214	Yes	0.50	215	Yes	0.50	216	Yes	0.50
	50	216	216	Yes	0.59	217	Yes	0.59	218	Yes	0.72
	55	216	218	Yes	0.67	219	Yes	0.68	220	Yes	0.87
	60	216	220	Yes	0.75	221	Yes	0.76	222	Yes	0.96
	65	216	222	Yes	0.82	223	Yes	0.83	224	Yes	0.99
	70	216	225	Yes	0.89	226	Yes	0.90	227	Yes	>0.99
	75	216	227	Yes	0.93	228	Yes	0.94	229	Yes	>0.99
	80	216	230	Yes	0.96	231	Yes	0.97	232	Yes	>0.99
	85	216	233	Yes	0.98	235	Yes	0.99	236	Yes	>0.99
	90	216	238	Yes	>0.99	239	Yes	>0.99	240	Yes	>0.99
	95	216	244	Yes	>0.99	245	Yes	>0.99	246	Yes	>0.99

Note. Prob. = Probability.

Table 3.11. Proficiency Projections Based on RIT Scores—Science

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				On Track	Prob.		On Track	Prob.		On Track	Prob.
5	5	196	179	No	0.11	182	No	0.09	184	No	<0.01
	10	196	184	No	0.29	187	No	0.23	189	No	0.02
	15	196	187	No	0.39	190	No	0.38	192	No	0.13
	20	196	190	Yes	0.55	193	Yes	0.56	195	No	0.39
	25	196	192	Yes	0.66	195	Yes	0.62	197	Yes	0.61
	30	196	194	Yes	0.71	197	Yes	0.72	199	Yes	0.80
	35	196	196	Yes	0.79	199	Yes	0.81	201	Yes	0.92
	40	196	198	Yes	0.86	201	Yes	0.88	203	Yes	0.98
	45	196	199	Yes	0.89	203	Yes	0.93	205	Yes	0.99
	50	196	201	Yes	0.93	204	Yes	0.93	207	Yes	>0.99
	55	196	203	Yes	0.95	206	Yes	0.96	208	Yes	>0.99
	60	196	204	Yes	0.96	208	Yes	0.98	210	Yes	>0.99
	65	196	206	Yes	0.98	209	Yes	0.99	212	Yes	>0.99
	70	196	208	Yes	0.99	211	Yes	0.99	214	Yes	>0.99
	75	196	210	Yes	>0.99	213	Yes	>0.99	216	Yes	>0.99
	80	196	212	Yes	>0.99	216	Yes	>0.99	218	Yes	>0.99
	85	196	215	Yes	>0.99	218	Yes	>0.99	221	Yes	>0.99
	90	196	218	Yes	>0.99	221	Yes	>0.99	224	Yes	>0.99
	95	196	223	Yes	>0.99	226	Yes	>0.99	229	Yes	>0.99
8	5	209	186	No	0.01	187	No	0.01	188	No	<0.01
	10	209	191	No	0.05	193	No	0.04	194	No	<0.01
	15	209	195	No	0.13	196	No	0.09	197	No	<0.01
	20	209	198	No	0.19	199	No	0.17	200	No	0.01
	25	209	200	No	0.26	202	No	0.25	203	No	0.04
	30	209	202	No	0.35	204	No	0.34	205	No	0.13
	35	209	204	No	0.45	206	No	0.45	207	No	0.28

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				On Track	Prob.		On Track	Prob.		On Track	Prob.
	40	209	206	Yes	0.55	208	Yes	0.55	209	Yes	0.50
	45	209	208	Yes	0.60	210	Yes	0.66	211	Yes	0.72
	50	209	210	Yes	0.69	211	Yes	0.66	213	Yes	0.87
	55	209	211	Yes	0.74	213	Yes	0.75	215	Yes	0.96
	60	209	213	Yes	0.81	215	Yes	0.83	217	Yes	0.99
	65	209	215	Yes	0.87	217	Yes	0.89	219	Yes	>0.99
	70	209	217	Yes	0.90	219	Yes	0.93	221	Yes	>0.99
	75	209	219	Yes	0.94	221	Yes	0.96	223	Yes	>0.99
	80	209	222	Yes	0.97	224	Yes	0.98	226	Yes	>0.99
	85	209	224	Yes	0.98	227	Yes	0.99	228	Yes	>0.99
	90	209	228	Yes	>0.99	230	Yes	>0.99	232	Yes	>0.99
	95	209	233	Yes	>0.99	236	Yes	>0.99	238	Yes	>0.99

Note. Prob. = Probability.

References

- Kolen, M. J., & Brennan, R. L. (2004). *Test equating, scaling, and linking: Methods and practices* (2nd ed.). Springer. <https://doi.org/10.1007/978-1-4939-0317-7>
- Lumley, T. (2019). *Survey: Analysis of complex survey samples*. (R package version 3.36) [Computer software]. Available from <https://CRAN.R-project.org/package=survey>.
- NWEA. (2025). *MAP Growth achievement status and growth norms for students and schools*. [Tech Rep.]. NWEA.
- Pommerich, M., Hanson, B., Harris, D., & Sconing, J. (2004). Issues in conducting linkage between distinct tests. *Applied Psychological Measurement*, 28(4), 247–273. <https://doi.org/10.1177/0146621604265033>