Linking Study Report: Predicting Performance on the South Carolina College-and Career-Ready Assessments (SC READY) based on NWEA MAP Growth Scores

July 2020

NWEA Psychometric Solutions

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Suggested citation: NWEA. (2020). *Linking study report: Predicting performance on the South Carolina College-and Career-Ready Assessments (SC READY) based on NWEA MAP Growth scores.* Portland, OR: Author.

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Executive Summary

To predict student achievement on the South Carolina College-and Career-Ready Assessments (SC READY) in Grades 3–8 English Language Arts (ELA) and Mathematics, NWEA® conducted a linking study using Spring 2017 data to derive Rasch Unit (RIT) cut scores on the MAP® Growth™ assessments that correspond to the SC READY performance levels. With this information, educators can identify students at risk of failing to meet state proficiency standards early in the year and provide tailored educational interventions. The linking study has been updated since the previous version published in February 2018 to incorporate the new 2020 NWEA MAP Growth norms (Thum & Kuhfeld, 2020).

Table E.1 presents the SC READY *Meets Expectations* performance level cut scores and the corresponding MAP Growth RIT cut scores that allow teachers to identify students who are on track for proficiency on the state summative test and those who are not. For example, the *Meets Expectations* cut score on the SC READY Grade 3 ELA test is 452. A Grade 3 student with a MAP Growth Reading RIT score of 194 in the fall is likely to meet proficiency on the SC READY ELA test in the spring, whereas a Grade 3 student with a MAP Growth Reading RIT score lower than 194 in the fall is in jeopardy of not meeting proficiency. MAP Growth cut scores for Grade 2 are also provided so educators can track early learners' progress toward proficiency on the SC READY test by Grade 3. These cut scores were derived based on the Grade 3 cuts and the 2020 NWEA growth norms for the adjacent grade (i.e., Grades 2 to 3).

Table E.1. MAP Growth Cut Scores for SC READY Proficiency

Assessment		*Meets Expectations* Cut Scores by Grade						
		2	3	4	5	6	7	8
ELA/Reading								
SC READY Spring		–	452	509	558	576	615	643
MAP Growth	Fall	182	194	205	214	217	223	225
	Winter	190	201	210	218	220	225	227
	Spring	194	204	212	219	221	226	228
Mathematics								
SC READY Spring		–	438	482	536	543	578	615
MAP Growth	Fall	176	189	203	215	218	228	236
	Winter	185	197	210	221	223	232	239
	Spring	190	202	214	225	226	235	241

Please note that the results in this report may differ from those found in the NWEA reporting system for individual districts. The typical growth scores from fall to spring or winter to spring used in this report are based on the default instructional weeks most commonly encountered for each term (i.e., Weeks 4, 20, and 32 for fall, winter, and spring, respectively). However, instructional weeks often vary by district, so the cut scores in this report may differ slightly from the MAP Growth score reports that reflect spring instructional weeks set by partners.

E.1. Assessment Overview

The SC READY in Grades 3–8 ELA and Mathematics are South Carolina's state summative assessments aligned to the South Carolina College-and Career-Ready Standards. Based on their test scores, students are placed into one of four performance levels: *Does Not Meet Expectations*, *Approaches Expectations*, *Meets Expectations*, and *Exceeds Expectations*. These tests are used to provide evidence of student achievement in ELA and Mathematics for various test score uses such as meeting the requirements of the state's accountability program. The *Meets Expectations* cut score demarks the minimum level of achievement considered to be proficient. MAP Growth tests are adaptive interim assessments 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 100–350.

E.2. Linking Methods

Based on scores from the Spring 2017 test administration, the equipercentile linking method was used to identify the spring MAP Growth scores that correspond to the spring SC READY performance level cut scores. Spring cuts for Grade 2 were derived based on the cuts for Grade 3 and the 2020 NWEA growth norms. MAP Growth fall and winter cut scores that predict proficiency on the spring SC READY test were then projected using the 2020 NWEA growth norms that provide expected score gains across test administrations.

E.3. Student Sample

Only students who took both the MAP Growth and SC READY assessments in Spring 2017 were included in the study sample. Table E.2 presents the weighted number of South Carolina students from 21 districts and 292 schools who were included in the linking study. The linking study sample is voluntary and can only include student scores from partners who share their data. Also, not all students in a state take MAP Growth. The sample may therefore not represent the general student population as well as it should. To ensure that the linking study sample represents the state student population in terms of race, sex, and performance level, weighting (i.e., a statistical method that matches the distributions of the variables of interest to those of the target population) was applied to the sample. As a result, the RIT cuts derived from the study sample can be generalized to any student from the target population. All analyses in this study for Grades 3–8 were conducted based on the weighted sample.

Table E.2. Linking Study Sample

Grade	#Students	
	ELA/Reading	Mathematics
3	15,015	15,019
4	16,185	16,282
5	15,777	15,790
6	15,317	15,365
7	14,911	14,966
8	14,244	14,117

E.4. Test Score Relationships

Correlations between MAP Growth RIT scores and SC READY scores range from 0.82 to 0.86 across both content areas, as shown in Figure E.1. These values indicate a strong relationship among the scores, which is important validity evidence for the claim that MAP Growth scores are good predictors of performance on the SC READY assessments.

Figure E.1. Correlations between MAP Growth and SC READY
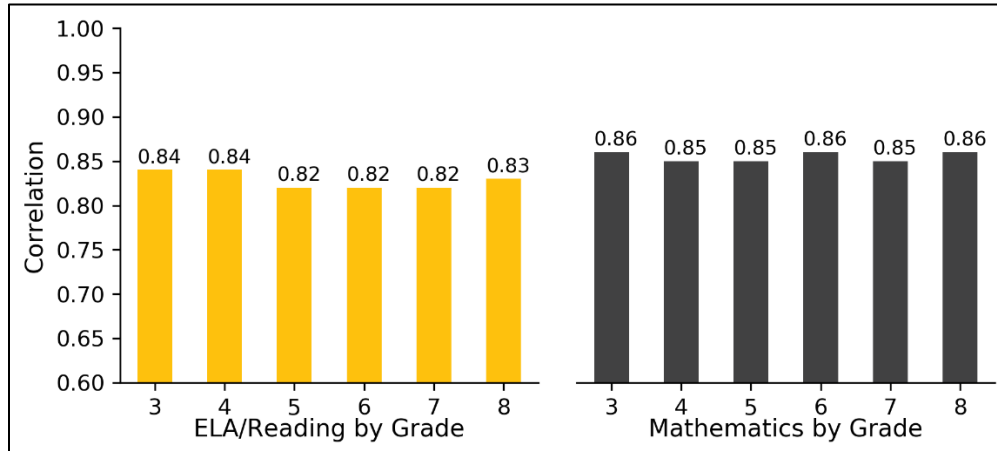
E.5. Accuracy of MAP Growth Classifications

Figure E.2 presents the classification accuracy statistics that show the proportion of students correctly classified by their RIT scores as proficient or not proficient on the SC READY tests. For example, the MAP Growth Reading Grade 3 *Meets Expectations* cut score has a 0.85 accuracy rate, meaning it accurately classified student achievement on the state test for 85% of the sample. The results range from 0.85 to 0.89 across both content areas, indicating that RIT scores have a high accuracy rate of identifying student proficiency on the SC READY tests.

Figure E.2. Accuracy of MAP Growth Classifications
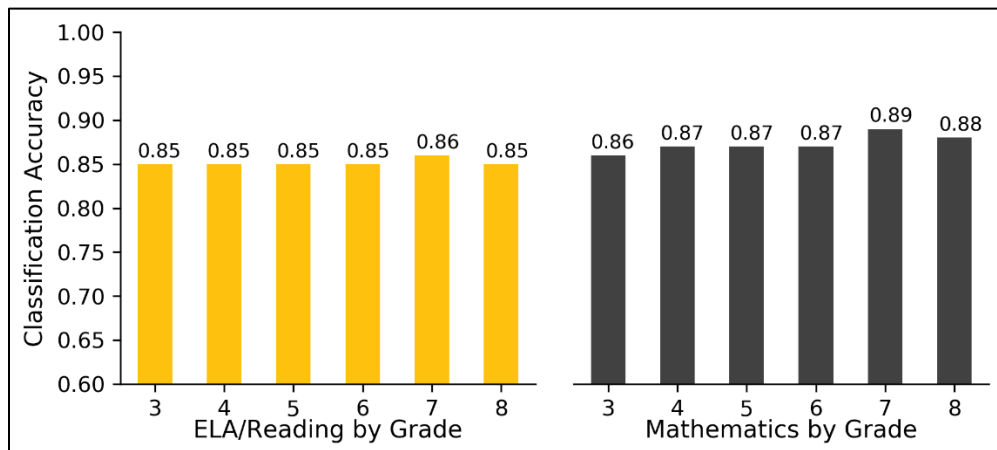
1. Introduction

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 MAP Growth results is to predict a student's performance on the state summative assessment 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 year or, given a student's learning profile, is on track to obtain rigorous, realistic growth in their content knowledge and skills.

This document presents results from a linking study conducted by NWEA in July 2020 to statistically connect the scores of the South Carolina College-and Career-Ready Assessments (SC Ready) in Grades 3–8 English Language Arts (ELA) and Mathematics with Rasch Unit (RIT) scores from the MAP Growth assessments taken during the Spring 2017 term. The linking study has been updated since the previous version published in February 2018 to incorporate the new 2020 NWEA MAP Growth norms (Thum & Kuhfeld, 2020). In this updated study, MAP Growth cut scores are also included for Grade 2 so educators can track early learners' progress toward proficiency on the SC READY test by Grade 3. This report presents the following results:

1. Student sample demographics
2. Descriptive statistics of test scores
3. MAP Growth cut scores that correspond to the SC READY performance levels using the equipercentile linking procedure for the spring results and the 2020 norms for the fall and winter results
4. MAP Growth cut scores that correspond to the SC READY Third Grade Retention program
5. Classification accuracy statistics to determine the degree to which MAP Growth accurately predicts student proficiency status on the SC READY tests
6. The probability of achieving grade-level proficiency on the SC READY assessment based on MAP Growth RIT scores from fall, winter, and spring using the 2020 norms

1.2. Assessment Overview

The SC READY Grades 3–8 ELA and Mathematics summative assessments are aligned to the South Carolina College-and Career-Ready Standards. Each assessment has three cut scores (i.e., the minimum score a student must get on a test to be placed in a certain performance level) that distinguish between the following performance levels: *Does Not Meet Expectations*, *Approaches Expectations*, *Meets Expectations*, and *Exceeds Expectations*. The *Meets Expectations* cut score demarks the minimum level of performance considered to be proficient for accountability purposes.

MAP Growth interim assessments from NWEA are computer adaptive and aligned to state-specific content standards. Scores are reported on the RIT vertical scale with a range of 100–350. Each content area has its own scale. To aid the interpretation of scores, NWEA periodically conducts norming studies of student and school performance on MAP Growth. Achievement status norms show how well a student performed on the MAP Growth test compared to students in the norming group by associating the student's performance on the MAP Growth test, expressed as a RIT score, with a percentile ranking. Growth norms provide expected score gains across test administrations (e.g., the relative evaluation of a student's growth from fall to spring). The most recent norms study was conducted in 2020 (Thum & Kuhfeld, 2020).

2. Methods

2.1. Data Collection

This linking study is based on data from the Spring 2017 administrations of the MAP Growth and SC READY assessments. NWEA recruited South Carolina districts to participate in the study by sharing their student and score data for the target term. Districts also gave NWEA permission to access students' associated MAP Growth scores from the NWEA in-house database. Once South Carolina state score information was received by NWEA, each student's state testing record was matched to their MAP Growth score by using the student's first and last names, date of birth, student ID, and other available identifying information. Only students who took both the MAP Growth and SC READY assessments in Spring 2017 were included in the study sample.

2.2. Post-Stratification Weighting

Post-stratification weights were applied to the calculations to ensure that the linking study sample represented the state population in terms of race, sex, and performance level. These variables were selected because they are correlated with the student's academic achievement within this study and are often provided in the data for the state population. The weighted sample matches the target population as closely as possible on the key demographics and test score characteristics. Specifically, a raking procedure was used to calculate the post-stratification weights and improve the representativeness of the sample. Raking uses iterative procedures to obtain weights that match sample marginal distributions to known population margins. The following steps were taken during this process:

- Calculate marginal distributions of race, sex, and performance level for the sample and population.
- Calculate post-stratification weights with the rake function from the survey package in R (Lumley, 2019).
- Trim the weight if it is not in the range of 0.3 to 3.0.
- Apply the weights to the sample before conducting the linking study analyses.

2.3. MAP Growth Cut Scores

The equipercentile linking method (Kolen & Brennan, 2004) was used to identify the spring MAP Growth RIT scores that correspond to the spring SC READY performance level cut scores. Spring cuts for Grade 2 were derived based on the cuts for Grade 3 and the 2020 NWEA growth norms. RIT fall and winter cut scores that predict proficiency on the spring SC READY test were then projected using the 2020 growth norms. Percentile ranks are also provided that show how a nationally representative sample of students in the same grade scored on MAP Growth for each administration, which is an important interpretation of RIT scores. This is useful for understanding (1) how student scores compare to peers nationwide and (2) the relative rigor of a state's performance level designations for its summative assessment.

The MAP Growth spring cut scores for Grades 3–8 could be calculated using the equipercentile linking method because that data are directly connected to the SC READY spring data used in the study. 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., SC READY). Its equipercentile equivalent score on Test Y (e.g., MAP Growth), $e_y(x)$, can be obtained through a cumulative-distribution-based linking function defined in Equation 1:

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

where $e_y(x)$ is the equipercentile equivalent of score x on SC READY on the scale of MAP Growth, $P(x)$ is the percentile rank of a given score on SC READY, and G^{-1} is the inverse of the percentile rank function for MAP Growth that indicates the score on MAP Growth corresponding to a given percentile. 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 or winter to spring within the same grade or from spring of a lower grade to the spring of the adjacent higher grade. This information can be used to calculate the fall and winter cut scores for Grades 3–8 and the fall, winter, and spring cut scores for Grade 2. Equation 2 was used to determine the previous term's or grade's MAP Growth score needed to reach the spring cut score, considering the expected growth associated with the previous RIT score:

$$RIT_{PredSpring} = RIT_{previous} + g \tag{2}$$

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

To derive the spring cut scores for Grade 2, the growth score from spring of one year to the next was used (i.e., the growth score from spring Grade 2 to spring Grade 3). The calculation of fall and winter cuts for Grade 2 followed the same process as the other grades. For example, the growth score from fall to spring in Grade 2 was used to calculate the fall cuts for Grade 2.

2.4. Classification Accuracy

The degree to which MAP Growth predicts student proficiency status on the SC READY tests can be described using classification accuracy statistics based on the MAP Growth RIT spring cut scores that show the proportion of students correctly classified by their RIT scores as proficient (*Meets Expectations* or *Exceeds Expectations*) or not proficient (*Does Not Meet Expectations* or *Approaches Expectations*). Table 2.1 describes the classification accuracy statistics provided in this report (Pommerich, Hanson, Harris, & Sconing, 2004). The results are based on the Spring 2017 MAP Growth and SC READY data for the *Meets Expectations* cut score.

Since South Carolina students do not begin taking the SC READY assessment until Grade 3, longitudinal data were collected for the 2016–2017 Grade 3 cohort in order to link the SC READY assessment to MAP Growth for Grade 2 to calculate the classification accuracy statistics. To accomplish this, 2016–2017 SC READY Grade 3 results were linked to MAP Growth data from Grade 3 students in 2016–2017 and Grade 2 students in 2015–2016. In this way, the data came from the same cohort of students beginning when they were in Grade 2 and continuing through Grade 3.

Table 2.1. Description of Classification Accuracy Summary Statistics

Statistic	Description*	Interpretation
Overall Classification Accuracy Rate	(TP + TN) / (total sample size)	Proportion of the study sample whose proficiency classification on the state test was correctly predicted by MAP Growth cut scores
False Negative (FN) Rate	FN / (FN + TP)	Proportion of not-proficient students identified by MAP Growth in those observed as proficient on the state test
False Positive (FP) Rate	FP / (FP + TN)	Proportion of proficient students identified by MAP Growth in those observed as not proficient on the state test
Sensitivity	TP / (TP + FN)	Proportion of proficient students identified by MAP Growth in those observed as such on the state test
Specificity	TN / (TN + FP)	Proportion of not-proficient students identified by MAP Growth in those observed as such on the state test
Precision	TP / (TP + FP)	Proportion of observed proficient students on the state test in those identified as such by the MAP Growth test
Area Under the Curve (AUC)	Area under the receiver operating characteristics (ROC) curve	How well MAP Growth 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.

*FP = false positives. FN = false negatives. TP = true positives. TN = true negatives.

2.5. Proficiency Projection

In addition to calculating the MAP Growth fall and winter cut scores, the MAP Growth conditional growth norms data were also used to calculate the probability of reaching proficiency on the SC READY test based on a student's RIT scores from fall, winter, and spring. Equation 3 was used to calculate the probability of a student achieving *Meets Expectations* proficiency on the SC READY test based on their fall or winter RIT score:

$$Pr(Achieving\ Meets\ Expectations\ in\ spring|\ starting\ RIT) = \Phi\left(\frac{RIT_{previous} + g - RIT_{SpringCut}}{SD}\right) \quad (3)$$

where:
- Φ is a standardized normal cumulative distribution.
- $RIT_{previous}$ is the student's RIT score in fall or winter (or in spring of Grade 2).
- g is the expected growth from the previous RIT (e.g., fall or winter) to the spring RIT.
- $RIT_{SpringCut}$ is the MAP Growth *Meets Expectations* cut score for spring. For Grade 2, this is the Grade 3 cut score for spring.
- SD is the conditional standard deviation of the expected growth, g.

Equation 4 was used to estimate the probability of a student achieving *Meets Expectations* proficiency on the SC READY test based on their spring RIT score (RIT_{Spring}):

$$Pr(Achieving\ Meets\ Expectations\ in\ spring\ |\ spring\ RIT) = \Phi\left(\frac{RIT_{Spring} - RIT_{SpringCut}}{SE}\right) \quad (4)$$

where SE is the standard error of measurement for MAP Growth.

3. Results

3.1. Study Sample

Only students who took both the MAP Growth and SC READY assessments in Spring 2017 were included in the study sample. Data used in this study were collected from 21 districts and 292 schools in South Carolina. Table 3.1 presents the demographic distributions of race, sex, and performance level in the original unweighted study sample. Table 3.2 presents the distributions of the student population that took the Spring 2017 SC READY tests (SCDE, 2017). Since the unweighted data are different from the general SC READY population, post-stratification weights were applied to the linking study sample to improve its representativeness. Table 3.3 presents the demographic distributions of the sample after weighting, which are almost identical to the SC READY student population distributions. The analyses in this study were therefore conducted based on the weighted sample.

Table 3.1. Linking Study Sample Demographics (Unweighted)

Linking Study Sample (Unweighted)							
		%Students by Grade					
Demographic Subgroup		**3**	**4**	**5**	**6**	**7**	**8**
ELA/Reading							
	Total N	15,015	16,201	15,777	15,332	14,926	14,244
Race	Asian	1.2	1.4	1.3	1.4	1.5	1.4
	Black	29.1	27.5	27.1	27.2	26.2	27.3
	Hispanic	7.3	7.4	7.3	7.0	6.6	6.2
	Multi-Race	4.5	3.7	3.8	3.2	3.3	3.0
	Other	0.9	2.5	2.1	1.9	1.8	1.9
	White	57.1	57.6	58.4	59.4	60.7	60.2
Sex	Female	48.1	48.1	49.2	49.3	48.7	49.3
	Male	51.9	51.9	50.8	50.7	51.3	50.7
Performance Level	*Does Not Meet*	24.9	27.7	25.9	22.2	24.9	25.4
	Approaches	31.2	28.4	32.3	34.4	34.2	30.2
	Meets	27.4	27.7	27.6	26.4	24.8	28.0
	Exceeds	16.5	16.2	14.2	16.9	16.0	16.4
Mathematics							
	Total N	15,034	16,282	15,790	15,365	14,951	14,117
Race	Asian	1.2	1.4	1.3	1.4	1.5	1.4
	Black	29.1	27.5	27.0	27.2	26.1	27.3
	Hispanic	7.4	7.5	7.4	7.0	6.7	6.4
	Multi-Race	4.5	3.7	3.8	3.2	3.3	3.0
	Other	0.9	2.5	2.1	1.9	1.8	1.9
	White	57.1	57.5	58.4	59.3	60.5	60.0
Sex	Female	48.1	48.1	49.3	49.3	48.7	49.2
	Male	51.9	51.9	50.7	50.7	51.3	50.8
Performance Level	*Does Not Meet*	20.2	21.6	24.4	22.5	26.0	27.5
	Approaches	24.4	28.7	30.7	31.4	34.1	32.6
	Meets	31.9	26.0	22.4	22.0	18.8	19.3
	Exceeds	23.5	23.7	22.5	24.1	21.1	20.7

Table 3.2. Spring 2017 SC READY Student Population Demographics

Spring 2017 SC READY Population							
		%Students by Grade					
Demographic Subgroup		**3**	**4**	**5**	**6**	**7**	**8**
ELA							
	Total N	59,740	60,052	57,739	56,413	55,849	55,049
Race	Asian	1.5	1.5	1.5	1.1	1.6	1.6
	Black	34.6	34.2	33.5	23.6	32.6	32.7
	Hispanic	9.9	10.0	9.8	35.1	8.7	8.5
	Multi-Race	4.3	4.1	4.1	2.7	3.7	3.4
	Other	0.5	0.4	0.5	0.3	0.5	0.4
	White	49.2	49.8	50.7	37.1	52.8	53.4
Sex	Female	49.0	48.7	49.1	49.2	48.6	49.1
	Male	51.0	51.3	50.9	50.8	51.4	50.9
Performance Level	*Does Not Meet*	26.1	29.5	28.0	23.7	28.4	28.0
	Approaches	31.8	29.5	33.7	36.6	35.2	31.9
	Meets	26.5	26.8	27.2	26.0	23.3	26.9
	Exceeds	15.6	14.1	11.1	13.6	13.0	13.2
Mathematics							
	Total N	59,887	60,287	57,908	56,549	56,055	55,203
Race	Asian	1.5	1.6	1.5	1.6	1.6	1.6
	Black	34.5	34.1	33.4	32.9	32.6	32.6
	Hispanic	10.1	10.2	10.0	9.4	8.9	8.7
	Multi-Race	4.3	4.1	4.1	3.8	3.7	3.4
	Other	0.5	0.4	0.5	0.5	0.5	0.4
	White	49.1	49.6	50.6	51.8	52.7	53.3
Sex	Female	49.0	48.6	49.2	49.2	48.6	49.1
	Male	51.0	51.4	50.8	50.8	51.4	50.9
Performance Level	*Does Not Meet*	22.2	24.1	27.9	25.6	31.0	31.5
	Approaches	25.2	29.5	32.1	32.9	35.8	34.0
	Meets	30.9	25.4	20.8	21.7	17.1	18.6
	Exceeds	21.6	21.0	19.2	19.8	16.2	15.9

Table 3.3. Linking Study Sample Demographics (Weighted)

Linking Study Sample (Weighted)							
		%Students by Grade					
Demographic Subgroup		**3**	**4**	**5**	**6**	**7**	**8**
ELA/Reading							
	Total N	15,015	16,185	15,777	15,317	14,911	14,244
Race	Asian	1.5	1.5	1.5	1.1	1.6	1.6
	Black	34.6	34.2	33.5	23.6	32.6	32.7
	Hispanic	9.9	10.0	9.8	35.1	8.7	8.5
	Multi-Race	4.3	4.1	4.1	2.7	3.7	3.4
	Other	0.5	0.4	0.5	0.3	0.5	0.4
	White	49.2	49.8	50.6	37.1	52.9	53.4
Sex	Female	49.0	48.7	49.1	49.2	48.6	49.1
	Male	51.0	51.3	50.9	50.8	51.4	50.9
Performance Level	*Does Not Meet*	26.1	29.5	28.0	23.7	28.4	28.0
	Approaches	31.8	29.5	33.7	36.6	35.2	31.9
	Meets	26.5	26.8	27.2	26.0	23.3	26.9
	Exceeds	15.6	14.1	11.1	13.6	13.0	13.2
Mathematics							
	Total N	15,019	16,282	15,790	15,365	14,966	14,117
Race	Asian	1.5	1.6	1.5	1.6	1.6	1.6
	Black	34.5	34.1	33.4	32.9	32.6	32.6
	Hispanic	10.1	10.2	10.0	9.4	8.9	8.7
	Multi-Race	4.3	4.1	4.1	3.8	3.7	3.4
	Other	0.5	0.4	0.5	0.5	0.5	0.4
	White	49.1	49.6	50.5	51.8	52.7	53.3
Sex	Female	49.0	48.6	49.2	49.2	48.6	49.1
	Male	51.0	51.4	50.8	50.8	51.4	50.9
Performance Level	*Does Not Meet*	22.2	24.1	27.9	25.6	31.0	31.5
	Approaches	25.2	29.5	32.1	32.9	35.8	34.0
	Meets	30.9	25.4	20.8	21.7	17.1	18.6
	Exceeds	21.6	21.0	19.2	19.8	16.2	15.9

3.2. Descriptive Statistics

Table 3.4 presents descriptive statistics of the MAP Growth and SC READY test scores from Spring 2017, including the correlation coefficient (r) between them. The correlation coefficients between the scores range from 0.82 to 0.84 for ELA/Reading and 0.85 to 0.86 for Mathematics. These values indicate a strong relationship among the scores, which is important validity evidence for the claim that MAP Growth scores are good predictors of performance on the SC READY assessments.

Table 3.4. Descriptive Statistics of Test Scores

Grade	N	r	SC READY*				MAP Growth*			
			Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
ELA/Reading										
3	15,015	0.84	433.4	98.7	170	825	199.1	15.9	120	245
4	16,185	0.84	481.8	103.0	154	850	206.3	15.7	143	251
5	15,777	0.82	523.2	105.2	129	875	212.4	15.4	139	259
6	15,317	0.82	543.8	106.7	256	900	214.7	15.7	145	261
7	14,911	0.82	580.3	102.4	313	925	218.9	15.7	139	268
8	14,244	0.83	613.7	108.5	318	950	222.7	15.6	146	274
Mathematics										
3	15,019	0.86	454.1	113.4	132	825	202.3	14.3	125	265
4	16,282	0.85	483.7	104.0	210	850	211.8	15.7	138	297
5	15,790	0.85	525.2	107.6	252	875	220.4	17.3	131	286
6	15,365	0.86	535.6	111.8	114	900	221.6	16.9	144	314
7	14,966	0.85	549.3	98.2	318	925	226.9	18.2	139	299
8	14,117	0.86	585.9	102.2	301	950	231.8	19.2	148	318

*SD = standard deviation. Min. = minimum. Max. = maximum.

3.3. MAP Growth Cut Scores

Table 3.5 and Table 3.6 present the SC READY scale score ranges and the corresponding MAP Growth RIT cut scores and percentile ranges by content area and grade. These tables can be used to predict a student's likely performance level on the SC READY spring assessment when MAP Growth is taken in the fall, winter, or spring. For example, a Grade 3 student who obtained a MAP Growth Reading RIT score of 194 in the fall is likely to reach *Meets Expectations* proficiency on the SC READY ELA test. A Grade 3 student who obtained a MAP Growth Reading RIT score of 204 in the spring is also likely to reach *Meets Expectations* proficiency on the SC READY. The spring cut score is higher than the fall cut score because growth is expected between fall and spring 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 most commonly encountered for each term (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 from the default ones, a student's projected performance level could be different from the generic projection presented in this document. Partners are therefore encouraged to use the projected performance level in students' profile, classroom, and grade reports in the NWEA reporting system since they reflect the specific instructional weeks set by partners.

Table 3.5. MAP Growth Cut Scores—ELA/Reading

SC READY ELA							
Grade	*Does Not Meet*		*Approaches*		*Meets*		*Exceeds*
3	100–358		359–451		**452**–539		540–825
4	100–418		419–508		**509**–592		593–850
5	100–449		450–557		**558**–652		653–875
6	100–454		455–575		**576**–667		668–900
7	100–511		512–614		**615**–704		705–925
8	100–537		538–642		**643**–737		738–950

MAP Growth Reading*							
	Does Not Meet		*Approaches*		*Meets*		*Exceeds*	
Grade	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
2	100–161	1–24	162–181	25–73	**182**–197	74–94	198–350	95–99
3	100–176	1–27	177–193	28–66	**194**–207	67–89	208–350	90–99
4	100–189	1–34	190–204	35–68	**205**–215	69–87	216–350	88–99
5	100–195	1–29	196–213	30–71	**214**–224	72–88	225–350	89–99
6	100–197	1–22	198–216	23–65	**217**–227	66–85	228–350	86–99
7	100–205	1–30	206–222	31–69	**223**–233	70–87	234–350	88–99
8	100–208	1–29	209–224	30–65	**225**–236	66–86	237–350	87–99
Winter								
2	100–170	1–24	171–189	25–71	**190**–203	72–93	204–350	94–99
3	100–184	1–28	185–200	29–66	**201**–213	67–88	214–350	89–99
4	100–195	1–33	196–209	34–67	**210**–220	68–86	221–350	87–99
5	100–201	1–32	202–217	33–70	**218**–227	71–87	228–350	88–99
6	100–202	1–24	203–219	25–64	**220**–229	65–83	230–350	84–99
7	100–208	1–30	209–224	31–68	**225**–234	69–86	235–350	87–99
8	100–212	1–32	213–226	33–64	**227**–237	65–84	238–350	85–99
Spring								
2	100–175	1–26	176–193	27–70	**194**–207	71–92	208–350	93–99
3	100–188	1–30	189–203	31–65	**204**–215	66–87	216–350	88–99
4	100–198	1–35	199–211	36–66	**212**–221	67–84	222–350	85–99
5	100–203	1–32	204–218	33–68	**219**–228	69–86	229–350	87–99
6	100–204	1–25	205–220	26–63	**221**–230	64–83	231–350	84–99
7	100–210	1–32	211–225	33–67	**226**–235	68–85	236–350	86–99
8	100–213	1–31	214–227	32–64	**228**–238	65–84	239–350	85–99

*Cut scores for fall and winter are derived from the spring cuts and growth norms based on the typical instructional weeks. Spring cut scores for Grade 2 were derived from the Grade 3 cuts using the growth norms. Bolded numbers indicate the cut scores considered to be at least proficient for accountability purposes.

Table 3.6. MAP Growth Cut Scores—Mathematics

Grade	Does Not Meet	Approaches	Meets	Exceeds
	SC READY Mathematics			
3	100–359	360–437	**438**–543	544–825
4	100–401	402–481	**482**–562	563–850
5	100–447	448–535	**536**–621	622–875
6	100–453	454–542	**543**–627	628–900
7	100–487	488–577	**578**–649	650–925
8	100–526	527–614	**615**–683	684–950

	MAP Growth Mathematics*							
	Does Not Meet		Approaches		Meets		Exceeds	
Grade	RIT	Percentile	RIT	Percentile	RIT	Percentile	RIT	Percentile
Fall								
2	100–161	1–15	162–175	16–52	**176**–190	53–88	191–350	89–99
3	100–177	1–21	178–188	22–51	**189**–201	52–83	202–350	84–99
4	100–188	1–22	189–202	23–58	**203**–213	59–83	214–350	84–99
5	100–198	1–24	199–214	25–64	**215**–226	65–87	227–350	88–99
6	100–201	1–20	202–217	21–57	**218**–229	58–82	230–350	83–99
7	100–210	1–29	211–227	30–66	**228**–238	67–85	239–350	86–99
8	100–216	1–33	217–235	34–71	**236**–245	72–86	246–350	87–99
Winter								
2	100–171	1–17	172–184	18–52	**185**–198	53–86	199–350	87–99
3	100–185	1–22	186–196	23–51	**197**–208	52–82	209–350	83–99
4	100–194	1–22	195–209	23–59	**210**–220	60–83	221–350	84–99
5	100–204	1–26	205–220	27–64	**221**–232	65–87	233–350	88–99
6	100–206	1–22	207–222	23–57	**223**–234	58–81	235–350	82–99
7	100–213	1–28	214–231	29–66	**232**–242	67–84	243–350	85–99
8	100–219	1–33	220–238	34–70	**239**–248	71–85	249–350	86–99
Spring								
2	100–177	1–19	178–189	20–51	**190**–203	52–85	204–350	86–99
3	100–190	1–23	191–201	24–52	**202**–213	53–81	214–350	82–99
4	100–199	1–24	200–213	25–58	**214**–224	59–81	225–350	82–99
5	100–208	1–27	209–224	28–64	**225**–236	65–85	237–350	86–99
6	100–209	1–22	210–225	23–56	**226**–237	57–80	238–350	81–99
7	100–216	1–29	217–234	30–66	**235**–245	67–84	246–350	85–99
8	100–221	1–33	222–240	34–69	**241**–250	70–84	251–350	85–99

*Cut scores for fall and winter are derived from the spring cuts and growth norms based on the typical instructional weeks. Spring cut scores for Grade 2 were derived from the Grade 3 cuts using the growth norms. Bolded numbers indicate the cut scores considered to be at least proficient for accountability purposes.

3.4. Third Grade Retention

Beginning in 2017–2018, a student must be retained in Grade 3 if the student fails to demonstrate reading proficiency at the end of Grade 3 as indicated by scoring at the lowest achievement level on the SC READY Reading assessment (*Level 1: Does Not Meet Expectations*). A student may be exempt for good cause from the mandatory retention but shall continue to receive instructional support and services and reading intervention appropriate for their age and reading level. Table 3.7 presents the MAP Growth Reading RIT cut scores corresponding to the *Level 1* sublevels.

Table 3.7. MAP Growth Score Predictions for *Level 1* Sublevels—ELA/Reading

SC READY ELA		
Grade	*Level 1: Not Met 1*	*Level 1: Above Not Met 1*
3	100–275	276–358
MAP Growth Reading		
	Level 1: Not Met 1	*Level 1: Above Not Met 1*
Grade	RIT Percentile	RIT Percentile
Spring		
3	100–170 1–4	171–188 5–30

3.5. Classification Accuracy

Table 3.8 presents the classification accuracy summary statistics, including the overall classification accuracy rate. These results indicate how well MAP Growth spring RIT scores predict proficiency on the SC READY tests, providing insight into the predictive validity of MAP Growth. The overall classification accuracy rate ranges from 0.82 to 0.86 for ELA/Reading and 0.83 to 0.89 for Mathematics. These values suggest that the RIT cut scores are good at classifying students as proficient or not proficient on the SC READY assessment. For Grade 2, the classification accuracy rate refers to how well the MAP Growth cuts can predict students' proficiency status on SC READY in Grade 3.

Although the results show that MAP Growth scores can be used to accurately classify students as likely to be proficient on the SC READY tests, there is a notable limitation to how these results should be used and interpreted. SC READY and MAP Growth assessments are designed for different purposes and measure slightly different constructs even within the same content area. Therefore, scores on the two 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*
		MAP Growth	SC READY		FP	FN				
ELA/Reading										
2	13,828	194	452	0.82	0.16	0.20	0.80	0.84	0.81	0.90
3	15,015	204	452	0.85	0.14	0.16	0.84	0.86	0.82	0.93
4	16,185	212	509	0.85	0.12	0.20	0.80	0.88	0.82	0.93
5	15,777	219	558	0.85	0.11	0.22	0.78	0.89	0.81	0.93
6	15,317	221	576	0.85	0.11	0.20	0.80	0.89	0.83	0.93
7	14,911	226	615	0.86	0.11	0.21	0.79	0.89	0.81	0.93
8	14,244	228	643	0.85	0.13	0.19	0.81	0.87	0.81	0.93
Mathematics										
2	13,878	190	438	0.83	0.21	0.15	0.85	0.79	0.84	0.91
3	15,019	202	438	0.86	0.16	0.12	0.88	0.84	0.86	0.94
4	16,282	214	482	0.87	0.13	0.13	0.87	0.87	0.85	0.94
5	15,790	225	536	0.87	0.13	0.13	0.87	0.87	0.81	0.95
6	15,365	226	543	0.87	0.12	0.14	0.86	0.88	0.84	0.95
7	14,966	235	578	0.89	0.09	0.14	0.86	0.91	0.83	0.96
8	14,117	241	615	0.88	0.07	0.21	0.79	0.93	0.86	0.95

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

3.6. Proficiency Projection

Table 3.9 and Table 3.10 present the estimated probability of achieving *Meets Expectations* performance on the SC READY test based on RIT scores from fall, winter, or spring. For example, a Grade 3 student who obtained a MAP Growth Reading score of 204 in the fall has an 86% chance of reaching *Meets Expectations* proficiency or higher on the SC READY test. "Prob." indicates the probability of obtaining proficient status on the SC READY test in the spring.

Table 3.9. Proficiency Projection based on RIT Scores—ELA/Reading

				ELA/Reading								
			Fall			Winter			Spring			
				Projected Proficiency			Projected Proficiency			Projected Proficiency		
Grade	Start %ile	Spring Cut	Fall RIT	*Meets*	Prob.	Winter RIT	*Meets*	Prob.	Spring RIT	*Meets*	Prob.	
2	5	194	147	No	<0.01	156	No	<0.01	160	No	<0.01	
	10	194	153	No	<0.01	162	No	<0.01	166	No	<0.01	
	15	194	157	No	<0.01	166	No	<0.01	170	No	<0.01	
	20	194	160	No	0.01	169	No	<0.01	173	No	<0.01	
	25	194	162	No	0.01	171	No	<0.01	175	No	<0.01	
	30	194	164	No	0.02	173	No	<0.01	177	No	<0.01	
	35	194	166	No	0.03	175	No	<0.01	180	No	<0.01	
	40	194	168	No	0.06	177	No	0.01	182	No	<0.01	
	45	194	170	No	0.07	179	No	0.02	184	No	<0.01	
	50	194	172	No	0.12	181	No	0.05	186	No	0.01	
	55	194	174	No	0.18	183	No	0.10	188	No	0.03	
	60	194	176	No	0.25	185	No	0.17	189	No	0.06	
	65	194	178	No	0.35	187	No	0.29	192	No	0.27	
	70	194	180	No	0.40	189	No	0.43	194	Yes	0.50	
	75	194	183	Yes	0.55	191	Yes	0.57	196	Yes	0.73	
	80	194	185	Yes	0.65	194	Yes	0.77	199	Yes	0.94	
	85	194	188	Yes	0.75	197	Yes	0.90	202	Yes	0.99	
	90	194	192	Yes	0.88	200	Yes	0.97	205	Yes	>0.99	
	95	194	197	Yes	0.96	206	Yes	>0.99	211	Yes	>0.99	
3	5	204	159	No	<0.01	167	No	<0.01	170	No	<0.01	
	10	204	165	No	<0.01	173	No	<0.01	176	No	<0.01	
	15	204	169	No	<0.01	177	No	<0.01	180	No	<0.01	
	20	204	173	No	0.01	180	No	<0.01	183	No	<0.01	
	25	204	175	No	0.01	183	No	<0.01	186	No	<0.01	
	30	204	178	No	0.03	185	No	<0.01	189	No	<0.01	
	35	204	180	No	0.04	188	No	0.01	191	No	<0.01	
	40	204	182	No	0.07	190	No	0.02	193	No	<0.01	
	45	204	185	No	0.14	192	No	0.05	195	No	<0.01	
	50	204	187	No	0.17	194	No	0.09	197	No	0.01	
	55	204	189	No	0.25	196	No	0.17	199	No	0.06	
	60	204	191	No	0.34	198	No	0.29	201	No	0.17	
	65	204	193	No	0.45	200	No	0.43	203	No	0.38	
	70	204	195	Yes	0.50	202	Yes	0.57	206	Yes	0.73	
	75	204	198	Yes	0.66	205	Yes	0.77	208	Yes	0.89	
	80	204	201	Yes	0.79	207	Yes	0.87	211	Yes	0.99	
	85	204	204	Yes	0.86	211	Yes	0.95	214	Yes	>0.99	
	90	204	208	Yes	0.95	215	Yes	0.99	218	Yes	>0.99	
	95	204	214	Yes	0.99	220	Yes	>0.99	224	Yes	>0.99	

			ELA/Reading								
			Fall			**Winter**			**Spring**		
			Fall RIT	**Projected Proficiency**		**Winter RIT**	**Projected Proficiency**		**Spring RIT**	**Projected Proficiency**	
Grade	**Start %ile**	**Spring Cut**		*Meets*	**Prob.**		*Meets*	**Prob.**		*Meets*	**Prob.**
	5	212	169	No	<0.01	176	No	<0.01	178	No	<0.01
	10	212	175	No	<0.01	182	No	<0.01	184	No	<0.01
	15	212	179	No	<0.01	186	No	<0.01	188	No	<0.01
	20	212	183	No	<0.01	189	No	<0.01	191	No	<0.01
	25	212	185	No	0.01	192	No	<0.01	194	No	<0.01
	30	212	188	No	0.02	194	No	<0.01	196	No	<0.01
	35	212	190	No	0.04	196	No	0.01	199	No	<0.01
	40	212	192	No	0.06	198	No	0.02	201	No	<0.01
	45	212	195	No	0.11	200	No	0.03	203	No	<0.01
4	50	212	197	No	0.17	202	No	0.06	205	No	0.01
	55	212	199	No	0.24	205	No	0.17	207	No	0.06
	60	212	201	No	0.34	207	No	0.28	209	No	0.17
	65	212	203	No	0.39	209	No	0.42	211	No	0.38
	70	212	205	Yes	0.50	211	Yes	0.58	213	Yes	0.62
	75	212	208	Yes	0.66	213	Yes	0.72	216	Yes	0.89
	80	212	211	Yes	0.76	216	Yes	0.87	219	Yes	0.99
	85	212	214	Yes	0.87	219	Yes	0.96	222	Yes	>0.99
	90	212	218	Yes	0.94	223	Yes	0.99	226	Yes	>0.99
	95	212	224	Yes	0.99	229	Yes	>0.99	232	Yes	>0.99
	5	219	178	No	<0.01	183	No	<0.01	185	No	<0.01
	10	219	183	No	<0.01	189	No	<0.01	191	No	<0.01
	15	219	187	No	<0.01	193	No	<0.01	194	No	<0.01
	20	219	191	No	<0.01	196	No	<0.01	198	No	<0.01
	25	219	193	No	0.01	198	No	<0.01	200	No	<0.01
	30	219	196	No	0.02	201	No	<0.01	203	No	<0.01
	35	219	198	No	0.03	203	No	<0.01	205	No	<0.01
	40	219	200	No	0.05	205	No	0.01	207	No	<0.01
	45	219	202	No	0.08	207	No	0.03	209	No	<0.01
5	50	219	204	No	0.13	209	No	0.06	211	No	0.01
	55	219	207	No	0.20	211	No	0.13	213	No	0.03
	60	219	209	No	0.29	213	No	0.22	215	No	0.11
	65	219	211	No	0.39	215	No	0.35	217	No	0.27
	70	219	213	No	0.44	217	No	0.42	219	Yes	0.50
	75	219	216	Yes	0.61	220	Yes	0.65	222	Yes	0.83
	80	219	218	Yes	0.71	222	Yes	0.78	224	Yes	0.94
	85	219	221	Yes	0.80	226	Yes	0.94	228	Yes	>0.99
	90	219	225	Yes	0.92	229	Yes	0.98	231	Yes	>0.99
	95	219	231	Yes	0.98	235	Yes	>0.99	237	Yes	>0.99

			ELA/Reading									
			Fall			**Winter**			**Spring**			
Grade	**Start %ile**	**Spring Cut**	**Fall RIT**	**Projected Proficiency**		**Winter RIT**	**Projected Proficiency**		**Spring RIT**	**Projected Proficiency**		
				Meets	**Prob.**		*Meets*	**Prob.**		*Meets*	**Prob.**	
6	5	221	183	No	<0.01	188	No	<0.01	189	No	<0.01	
	10	221	189	No	<0.01	193	No	<0.01	195	No	<0.01	
	15	221	193	No	<0.01	197	No	<0.01	199	No	<0.01	
	20	221	196	No	<0.01	200	No	<0.01	202	No	<0.01	
	25	221	199	No	0.02	203	No	<0.01	205	No	<0.01	
	30	221	202	No	0.03	205	No	<0.01	207	No	<0.01	
	35	221	204	No	0.06	208	No	0.02	209	No	<0.01	
	40	221	206	No	0.10	210	No	0.04	211	No	<0.01	
	45	221	208	No	0.13	212	No	0.09	213	No	0.01	
	50	221	210	No	0.19	214	No	0.17	215	No	0.03	
	55	221	212	No	0.28	216	No	0.22	217	No	0.11	
	60	221	214	No	0.39	218	No	0.35	219	No	0.27	
	65	221	217	Yes	0.50	220	Yes	0.50	222	Yes	0.62	
	70	221	219	Yes	0.61	222	Yes	0.65	224	Yes	0.83	
	75	221	221	Yes	0.72	225	Yes	0.83	226	Yes	0.94	
	80	221	224	Yes	0.81	227	Yes	0.91	229	Yes	0.99	
	85	221	227	Yes	0.90	230	Yes	0.97	232	Yes	>0.99	
	90	221	231	Yes	0.97	234	Yes	>0.99	236	Yes	>0.99	
	95	221	237	Yes	>0.99	240	Yes	>0.99	242	Yes	>0.99	
7	5	226	187	No	<0.01	190	No	<0.01	191	No	<0.01	
	10	226	193	No	<0.01	196	No	<0.01	197	No	<0.01	
	15	226	197	No	<0.01	200	No	<0.01	201	No	<0.01	
	20	226	200	No	<0.01	203	No	<0.01	205	No	<0.01	
	25	226	203	No	<0.01	206	No	<0.01	207	No	<0.01	
	30	226	206	No	0.02	209	No	<0.01	210	No	<0.01	
	35	226	208	No	0.03	211	No	0.01	212	No	<0.01	
	40	226	210	No	0.06	213	No	0.01	214	No	<0.01	
	45	226	212	No	0.08	215	No	0.03	216	No	<0.01	
	50	226	214	No	0.12	217	No	0.06	218	No	0.01	
	55	226	216	No	0.19	219	No	0.12	220	No	0.03	
	60	226	218	No	0.28	221	No	0.22	223	No	0.17	
	65	226	221	No	0.39	223	No	0.35	225	No	0.38	
	70	226	223	Yes	0.50	226	Yes	0.58	227	Yes	0.62	
	75	226	225	Yes	0.61	228	Yes	0.72	229	Yes	0.83	
	80	226	228	Yes	0.76	231	Yes	0.88	232	Yes	0.97	
	85	226	231	Yes	0.84	234	Yes	0.96	235	Yes	>0.99	
	90	226	235	Yes	0.94	238	Yes	0.99	239	Yes	>0.99	
	95	226	241	Yes	0.99	244	Yes	>0.99	245	Yes	>0.99	

			Fall			Winter			Spring		
				Projected Proficiency			**Projected Proficiency**			**Projected Proficiency**	
Grade	**Start %ile**	**Spring Cut**	**Fall RIT**	*Meets*	**Prob.**	**Winter RIT**	*Meets*	**Prob.**	**Spring RIT**	*Meets*	**Prob.**
	5	228	190	No	<0.01	193	No	<0.01	194	No	<0.01
	10	228	196	No	<0.01	199	No	<0.01	200	No	<0.01
	15	228	200	No	<0.01	203	No	<0.01	204	No	<0.01
	20	228	204	No	<0.01	206	No	<0.01	207	No	<0.01
	25	228	207	No	0.01	209	No	<0.01	210	No	<0.01
	30	228	209	No	0.03	212	No	<0.01	213	No	<0.01
	35	228	211	No	0.04	214	No	0.01	215	No	<0.01
	40	228	214	No	0.08	216	No	0.02	217	No	<0.01
	45	228	216	No	0.13	218	No	0.04	220	No	0.01
8	50	228	218	No	0.20	221	No	0.13	222	No	0.03
	55	228	220	No	0.24	223	No	0.22	224	No	0.11
	60	228	222	No	0.34	225	No	0.35	226	No	0.27
	65	228	225	Yes	0.50	227	Yes	0.50	228	Yes	0.50
	70	228	227	Yes	0.61	229	Yes	0.65	231	Yes	0.83
	75	228	230	Yes	0.71	232	Yes	0.83	233	Yes	0.94
	80	228	232	Yes	0.80	235	Yes	0.94	236	Yes	0.99
	85	228	236	Yes	0.92	238	Yes	0.98	239	Yes	>0.99
	90	228	240	Yes	0.97	242	Yes	>0.99	243	Yes	>0.99
	95	228	246	Yes	>0.99	248	Yes	>0.99	249	Yes	>0.99

ELA/Reading

Table 3.10. Proficiency Projection based on RIT Scores—Mathematics

Grade	Start %ile	Spring Cut	Fall RIT	Fall Projected Proficiency Meets	Fall Projected Proficiency Prob.	Winter RIT	Winter Projected Proficiency Meets	Winter Projected Proficiency Prob.	Spring RIT	Spring Projected Proficiency Meets	Spring Projected Proficiency Prob.
				Fall			**Winter**			**Spring**	
2	5	190	154	No	<0.01	163	No	<0.01	167	No	<0.01
	10	190	158	No	0.01	167	No	<0.01	172	No	<0.01
	15	190	162	No	0.03	171	No	<0.01	175	No	<0.01
	20	190	164	No	0.04	173	No	0.01	178	No	<0.01
	25	190	166	No	0.08	175	No	0.03	180	No	<0.01
	30	190	168	No	0.14	177	No	0.07	182	No	<0.01
	35	190	170	No	0.22	179	No	0.15	184	No	0.02
	40	190	172	No	0.32	181	No	0.20	186	No	0.08
	45	190	173	No	0.38	182	No	0.26	188	No	0.25
	50	190	175	No	0.44	184	No	0.42	189	No	0.37
	55	190	177	Yes	0.56	186	Yes	0.58	191	Yes	0.63
	60	190	178	Yes	0.62	187	Yes	0.66	193	Yes	0.85
	65	190	180	Yes	0.73	189	Yes	0.80	195	Yes	0.96
	70	190	182	Yes	0.82	191	Yes	0.90	196	Yes	0.98
	75	190	184	Yes	0.89	193	Yes	0.95	198	Yes	>0.99
	80	190	186	Yes	0.92	195	Yes	0.98	201	Yes	>0.99
	85	190	188	Yes	0.96	198	Yes	>0.99	203	Yes	>0.99
	90	190	192	Yes	0.99	201	Yes	>0.99	207	Yes	>0.99
	95	190	196	Yes	>0.99	205	Yes	>0.99	212	Yes	>0.99
3	5	202	166	No	<0.01	174	No	<0.01	178	No	<0.01
	10	202	171	No	<0.01	179	No	<0.01	183	No	<0.01
	15	202	175	No	0.01	182	No	<0.01	186	No	<0.01
	20	202	177	No	0.03	185	No	0.01	189	No	<0.01
	25	202	179	No	0.05	187	No	0.02	192	No	<0.01
	30	202	181	No	0.10	189	No	0.04	194	No	<0.01
	35	202	183	No	0.17	191	No	0.10	196	No	0.02
	40	202	185	No	0.26	193	No	0.20	198	No	0.08
	45	202	187	No	0.37	195	No	0.33	199	No	0.15
	50	202	188	No	0.44	196	No	0.42	201	No	0.37
	55	202	190	Yes	0.56	198	Yes	0.58	203	Yes	0.63
	60	202	192	Yes	0.63	200	Yes	0.74	205	Yes	0.85
	65	202	194	Yes	0.74	201	Yes	0.80	207	Yes	0.96
	70	202	196	Yes	0.83	203	Yes	0.90	208	Yes	0.98
	75	202	198	Yes	0.90	205	Yes	0.96	211	Yes	>0.99
	80	202	200	Yes	0.95	208	Yes	0.99	213	Yes	>0.99
	85	202	202	Yes	0.97	210	Yes	>0.99	216	Yes	>0.99
	90	202	206	Yes	>0.99	214	Yes	>0.99	219	Yes	>0.99
	95	202	211	Yes	>0.99	219	Yes	>0.99	224	Yes	>0.99

			Fall			Winter			Spring		
				Projected Proficiency			Projected Proficiency			Projected Proficiency	
Grade	Start %ile	Spring Cut	Fall RIT	Meets	Prob.	Winter RIT	Meets	Prob.	Spring RIT	Meets	Prob.
4	5	214	176	No	<0.01	182	No	<0.01	185	No	<0.01
	10	214	181	No	<0.01	187	No	<0.01	191	No	<0.01
	15	214	185	No	<0.01	191	No	<0.01	194	No	<0.01
	20	214	187	No	0.01	194	No	<0.01	197	No	<0.01
	25	214	190	No	0.02	196	No	<0.01	200	No	<0.01
	30	214	192	No	0.04	198	No	0.01	202	No	<0.01
	35	214	194	No	0.07	200	No	0.02	205	No	<0.01
	40	214	196	No	0.13	202	No	0.04	207	No	0.01
	45	214	198	No	0.21	204	No	0.10	209	No	0.04
	50	214	200	No	0.32	206	No	0.20	211	No	0.15
	55	214	201	No	0.37	208	No	0.33	212	No	0.25
	60	214	203	Yes	0.50	210	Yes	0.50	214	Yes	0.50
	65	214	205	Yes	0.63	212	Yes	0.67	217	Yes	0.85
	70	214	207	Yes	0.74	214	Yes	0.80	219	Yes	0.96
	75	214	209	Yes	0.83	216	Yes	0.90	221	Yes	0.99
	80	214	212	Yes	0.93	219	Yes	0.97	224	Yes	>0.99
	85	214	214	Yes	0.96	221	Yes	0.99	227	Yes	>0.99
	90	214	218	Yes	0.99	225	Yes	>0.99	230	Yes	>0.99
	95	214	223	Yes	>0.99	231	Yes	>0.99	236	Yes	>0.99
5	5	225	184	No	<0.01	189	No	<0.01	191	No	<0.01
	10	225	190	No	<0.01	194	No	<0.01	197	No	<0.01
	15	225	193	No	<0.01	198	No	<0.01	201	No	<0.01
	20	225	196	No	<0.01	201	No	<0.01	205	No	<0.01
	25	225	199	No	<0.01	204	No	<0.01	207	No	<0.01
	30	225	201	No	0.02	206	No	<0.01	210	No	<0.01
	35	225	203	No	0.03	209	No	0.01	212	No	<0.01
	40	225	205	No	0.06	211	No	0.02	215	No	<0.01
	45	225	207	No	0.11	213	No	0.05	217	No	<0.01
	50	225	209	No	0.18	215	No	0.10	219	No	0.02
	55	225	211	No	0.27	217	No	0.20	221	No	0.08
	60	225	213	No	0.38	219	No	0.34	223	No	0.25
	65	225	215	Yes	0.50	221	Yes	0.50	225	Yes	0.50
	70	225	217	Yes	0.62	223	Yes	0.66	228	Yes	0.85
	75	225	219	Yes	0.73	225	Yes	0.80	230	Yes	0.96
	80	225	222	Yes	0.86	228	Yes	0.93	233	Yes	>0.99
	85	225	225	Yes	0.94	231	Yes	0.98	236	Yes	>0.99
	90	225	229	Yes	0.98	235	Yes	>0.99	240	Yes	>0.99
	95	225	234	Yes	>0.99	241	Yes	>0.99	246	Yes	>0.99

Mathematics

			Fall			Winter			Spring		
				Projected Proficiency			**Projected Proficiency**			**Projected Proficiency**	
Grade	**Start %ile**	**Spring Cut**	**Fall RIT**	*Meets*	**Prob.**	**Winter RIT**	*Meets*	**Prob.**	**Spring RIT**	*Meets*	**Prob.**
	5	226	188	No	<0.01	192	No	<0.01	194	No	<0.01
	10	226	194	No	<0.01	198	No	<0.01	200	No	<0.01
	15	226	198	No	<0.01	202	No	<0.01	205	No	<0.01
	20	226	201	No	<0.01	205	No	<0.01	208	No	<0.01
	25	226	204	No	0.01	208	No	<0.01	211	No	<0.01
	30	226	206	No	0.03	211	No	0.01	214	No	<0.01
	35	226	209	No	0.08	213	No	0.02	216	No	<0.01
	40	226	211	No	0.14	215	No	0.04	218	No	<0.01
	45	226	213	No	0.22	217	No	0.10	221	No	0.04
6	50	226	215	No	0.32	220	No	0.26	223	No	0.15
	55	226	217	No	0.44	222	No	0.42	225	No	0.37
	60	226	219	Yes	0.56	224	Yes	0.58	227	Yes	0.63
	65	226	221	Yes	0.68	226	Yes	0.74	230	Yes	0.92
	70	226	223	Yes	0.78	228	Yes	0.86	232	Yes	0.98
	75	226	226	Yes	0.90	231	Yes	0.96	235	Yes	>0.99
	80	226	228	Yes	0.94	234	Yes	0.99	238	Yes	>0.99
	85	226	231	Yes	0.98	237	Yes	>0.99	241	Yes	>0.99
	90	226	235	Yes	>0.99	241	Yes	>0.99	245	Yes	>0.99
	95	226	241	Yes	>0.99	247	Yes	>0.99	252	Yes	>0.99
	5	235	192	No	<0.01	194	No	<0.01	196	No	<0.01
	10	235	198	No	<0.01	201	No	<0.01	203	No	<0.01
	15	235	202	No	<0.01	205	No	<0.01	207	No	<0.01
	20	235	206	No	<0.01	209	No	<0.01	211	No	<0.01
	25	235	208	No	<0.01	212	No	<0.01	214	No	<0.01
	30	235	211	No	<0.01	215	No	<0.01	217	No	<0.01
	35	235	213	No	<0.01	217	No	<0.01	220	No	<0.01
	40	235	216	No	0.02	219	No	<0.01	222	No	<0.01
	45	235	218	No	0.05	222	No	0.02	224	No	<0.01
7	50	235	220	No	0.10	224	No	0.04	227	No	<0.01
	55	235	222	No	0.17	226	No	0.10	229	No	0.02
	60	235	225	No	0.31	229	No	0.26	231	No	0.08
	65	235	227	No	0.44	231	No	0.42	234	No	0.37
	70	235	229	Yes	0.56	233	Yes	0.58	236	Yes	0.63
	75	235	232	Yes	0.74	236	Yes	0.80	239	Yes	0.92
	80	235	235	Yes	0.87	239	Yes	0.93	242	Yes	0.99
	85	235	238	Yes	0.95	243	Yes	0.99	246	Yes	>0.99
	90	235	243	Yes	0.99	247	Yes	>0.99	251	Yes	>0.99
	95	235	249	Yes	>0.99	254	Yes	>0.99	257	Yes	>0.99

The table above is titled **Mathematics**.

			Fall			Winter			Spring		
				Projected Proficiency			**Projected Proficiency**			**Projected Proficiency**	
Grade	**Start %ile**	**Spring Cut**	**Fall RIT**	*Meets*	**Prob.**	**Winter RIT**	*Meets*	**Prob.**	**Spring RIT**	*Meets*	**Prob.**
	5	241	194	No	<0.01	196	No	<0.01	197	No	<0.01
	10	241	201	No	<0.01	203	No	<0.01	205	No	<0.01
	15	241	205	No	<0.01	208	No	<0.01	210	No	<0.01
	20	241	209	No	<0.01	212	No	<0.01	214	No	<0.01
	25	241	212	No	<0.01	215	No	<0.01	217	No	<0.01
	30	241	215	No	<0.01	218	No	<0.01	220	No	<0.01
	35	241	218	No	<0.01	221	No	<0.01	223	No	<0.01
	40	241	220	No	0.01	223	No	<0.01	225	No	<0.01
	45	241	223	No	0.03	226	No	<0.01	228	No	<0.01
8	50	241	225	No	0.06	228	No	0.01	230	No	<0.01
	55	241	227	No	0.10	231	No	0.05	233	No	<0.01
	60	241	230	No	0.19	233	No	0.11	235	No	0.02
	65	241	232	No	0.28	236	No	0.27	238	No	0.15
	70	241	235	No	0.44	238	No	0.42	241	Yes	0.50
	75	241	238	Yes	0.61	241	Yes	0.66	244	Yes	0.85
	80	241	241	Yes	0.76	244	Yes	0.85	247	Yes	0.98
	85	241	245	Yes	0.90	248	Yes	0.97	251	Yes	>0.99
	90	241	249	Yes	0.97	253	Yes	>0.99	256	Yes	>0.99
	95	241	256	Yes	>0.99	260	Yes	>0.99	263	Yes	>0.99

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