Predicting Performance on the Minnesota Comprehensive Assessments-Series III (MCA-III) Based on NWEA MAP Growth Scores

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NWEA Psychometrics and Analytics

Linking Study Updates

Date	Description
2020-07	Conducted a linking study for grades 3–8 in reading and mathematics based on the 2020 norms and Spring 2019 data.
2025-08	Updated the linking study based on the 2025 norms.

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

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Executive Summary

To predict student achievement on the Minnesota Comprehensive Assessments-Series III (MCA-III) grades 3–8 reading and mathematics assessments, NWEA® conducted a linking study using Spring 2019 data to derive Rasch Unit (RIT) cut scores on the MAP® Growth™ assessments that correspond to the MCA-III achievement 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 to incorporate the most recent 2025 NWEA MAP Growth norms (NWEA, 2025).

Table E.1 presents the MCA-III *Meets the Standards* achievement level cut scores and the corresponding RIT cut scores that allow teachers to identify students who are on track for proficiency (*Meets the Standards* or higher) on the state summative test and those who are not. For example, the *Meets the Standards* cut score on the MCA-III grade 3 reading test is 350. A grade 3 student with a MAP Growth reading RIT score of 193 in the fall is likely to meet proficiency on the MCA-III reading test in the spring, whereas a grade 3 student with a MAP Growth reading RIT score lower than 193 in the fall is in jeopardy of not meeting proficiency. MAP Growth cut scores for grade 2 are also provided so that educators can track early learners' progress toward proficiency on the MCA-III test by grade 3. These cut scores were derived based on the grade 3 cuts and the 2025 NWEA growth norms for the adjacent grade (i.e., grades 2 to 3).

Table E.1. MAP Growth Cut Scores for MCA-III Proficiency

Assessment		*Meets the Standards* Cut Scores by Grade						
		2	**3**	**4**	**5**	**6**	**7**	**8**
Reading								
MCA-III Spring		–	350	450	550	650	750	850
MAP Growth	Fall	180	193	204	207	213	219	223
	Winter	186	198	207	209	215	220	224
	Spring	190	201	209	211	216	221	225
Mathematics								
MCA-III Spring		–	350	450	550	650	750	850
MAP Growth	Fall	178	189	204	219	222	230	233
	Winter	186	198	212	225	229	235	238
	Spring	192	204	217	229	233	237	240

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 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 MCA-III grades 3–8 reading and mathematics tests are Minnesota's state summative assessments aligned to the Minnesota Academic Standards. Based on their test scores, students are placed into one of four achievement levels: *Does Not Meet the Standards, Partially Meets the Standards*, *Meets the Standards*, and *Exceeds the Standards*. These MCA-III tests are used to evaluate school and district success in Minnesota's accountability system. The *Meets the Standards* cut score demarks the minimum level of achievement considered to be proficient for accountability purposes. 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 2019 test administration, the equipercentile linking method was used to identify the spring MAP Growth scores that correspond to the spring MCA-III achievement level cut scores. MAP Growth spring cut scores for grade 2 were then derived from the spring cuts for grade 3 and the growth norms for the adjacent grade (i.e., grades 2 to 3). Similarly, the MAP Growth cut scores for the fall and winter administrations of all grades were derived from the spring administration cuts and the growth norms for either fall to spring or winter to spring, respectively. The spring cuts[1] for mathematics were adjusted for score alignment before deriving the cuts for grade 2 spring and for all grades' fall and winter administrations.

E.3. Student Sample

Only students who took both the MAP Growth and MCA-III assessments in Spring 2019 were included in the study sample. Table E.2 presents the weighted numbers of Minnesota students from 24 districts and 118 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 achievement 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.

[1] To enhance content validity, NWEA developed an Enhanced Item-Selection Algorithm (EISA) for the MAP Growth assessment to prioritize grade-level content. A pilot study (Meyer et al., 2023) showed that students taking MAP Growth with EISA demonstrated higher average math scores compared with those taking traditional MAP Growth. To improve score comparability, NWEA (Lewis & Kuhfeld, 2024) developed concordance tables to adjust mathematics scores from traditional assessments to align with scores from MAP Growth with EISA, or vice versa. Given that the data for this study were collected from traditional MAP Growth tests but that the results will be used for MAP Growth with EISA, the spring cuts for mathematics were adjusted using the concordance tables before being used to derive other cut scores. This score adjustment will become unnecessary for future linking studies once the new data from EISA tests are collected.

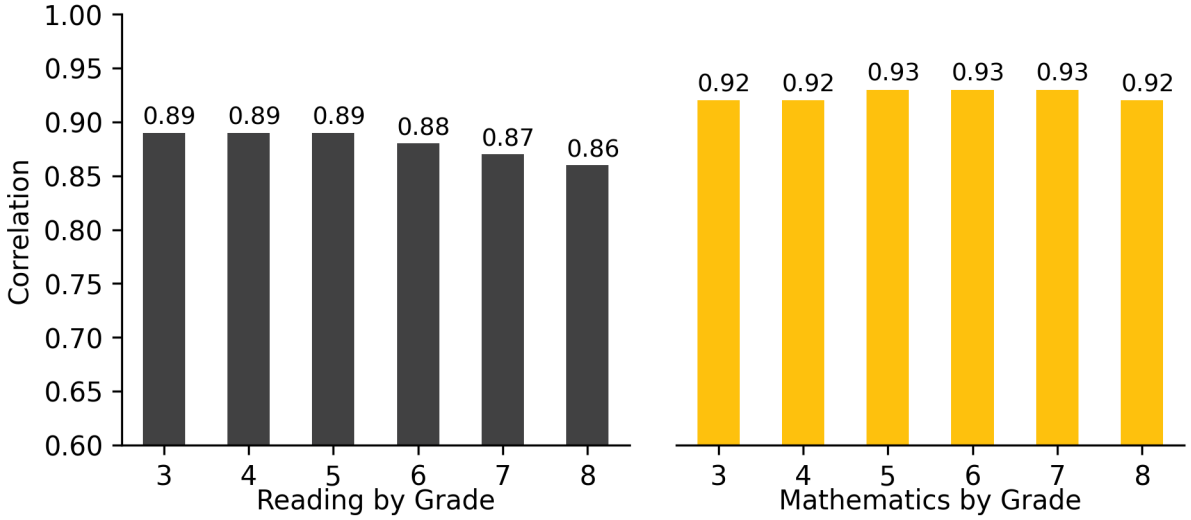
Table E.2. Linking Study Sample

Grade	# Students	
	Reading	Mathematics
3	5,028	4,981
4	5,106	5,036
5	5,183	5,396
6	6,097	5,621
7	4,483	4,068
8	3,389	3,355

E.4. Test Score Relationships

Correlations between MAP Growth RIT scores and MCA-III scores range from 0.86 to 0.93 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 MCA-III tests.

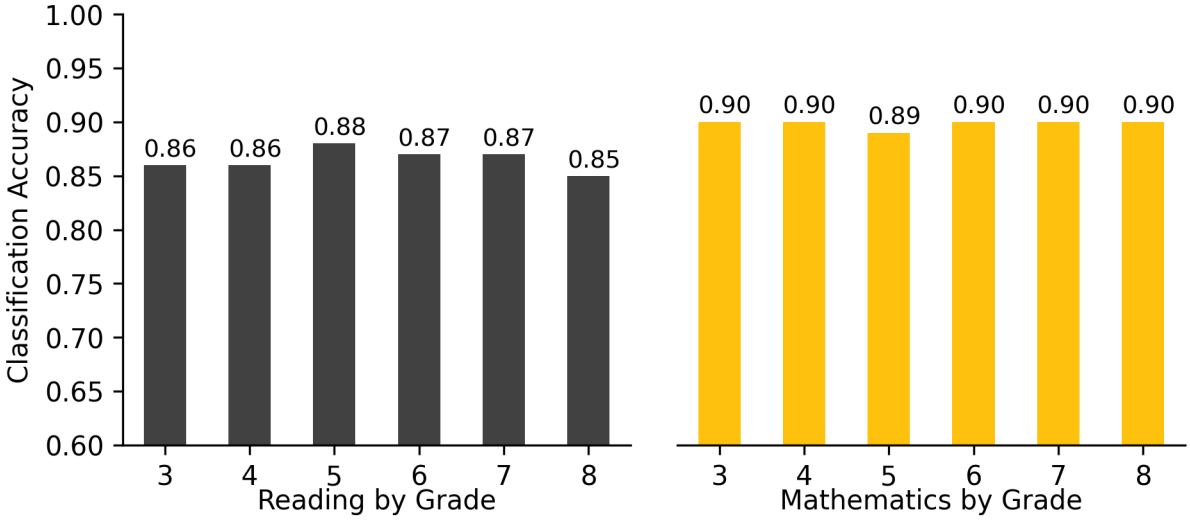
Figure E.1. Correlations Between MAP Growth and MCA-III



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 (*Meets the Standards* or higher) or not proficient (lower than *Meets the Standards*) on the MCA-III tests. For example, the MAP Growth reading grade 3 *Meets the Standards* cut score has a 0.86 accuracy rate, meaning it accurately classified student achievement on the state test for 86% of the sample. The results range from 0.85 to 0.90 across both content areas, indicating that RIT scores have a high accuracy rate of identifying student proficiency on the MCA-III 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 report presents results from a linking study conducted by NWEA to statistically connect the scores of the Minnesota Comprehensive Assessments-Series III (MCA-III) grades 3–8 reading and mathematics assessments with Rasch Unit (RIT) scores from the MAP Growth assessments taken during the Spring 2019 term. The linking study has been updated since the previous version to incorporate the most recent 2025 NWEA MAP Growth norms (NWEA, 2025). In this updated study, MAP Growth cut scores are also included for grade 2 so that educators can track early learners' progress toward proficiency on the MCA-III 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 MCA-III achievement levels using the equipercentile linking procedure for the spring results and the 2025 norms for the fall and winter results
4. Classification accuracy statistics to determine the degree to which MAP Growth accurately predicts student proficiency status on the MCA-III tests
5. The probability of achieving grade-level proficiency on the MCA-III test based on MAP Growth RIT scores from fall, winter, and spring using the 2025 norms

1.2. Assessment Overview

The MCA-III grades 3–8 reading and mathematics summative assessments are aligned to the Minnesota Academic 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 achievement level) that distinguish between the following achievement levels: *Does Not Meet the Standards, Partially Meets the Standards*, *Meets the Standards,* and *Exceeds the Standards.* The *Meets the Standards* 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 with 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 2025 (NWEA, 2025).

2. Methods

2.1. Data Collection

This linking study is based on data from the Spring 2019 administrations of the MAP Growth and MCA-III assessments. NWEA requested that Minnesota districts recruited to participate in the study share their student and score data for the target term. Districts also permitted NWEA to access students' associated MAP Growth scores from the NWEA in-house database. Once Minnesota state score information was available to 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 MCA-III tests in Spring 2019 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 achievement 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 for 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:

1. Calculate marginal distributions of race, sex, and achievement 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. 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 MCA-III achievement level cut scores. Spring cuts for grade 2 were derived based on the cuts for grade 3 and the 2025 NWEA growth norms. MAP Growth fall and winter cut scores that predict proficiency (*Meets the Standards* or higher) on the spring MCA-III test were then projected using the 2025 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 with peers nationwide and (2) the relative rigor of a state's achievement 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 MCA-III 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., MCA-III). 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 as:

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

where $e_y(x)$ is the equipercentile equivalent of score x on the MCA-III tests on the scale of MAP Growth, $P(x)$ is the percentile rank of a given score on the MCA-III tests, 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. The equation below 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:

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

where:

- $RIT_{PredSpring}$ is the predicted MAP Growth spring score,
- $RIT_{previous}$ is the previous term's or grade's RIT score, and
- 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 MCA-III 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 the Standards* or higher) or not proficient (lower than *Meets the Standards*). Table 2.1 describes the classification accuracy statistics provided in this report (Pommerich et al., 2004). The results are based on the Spring 2019 MAP Growth and MCA-III data for the *Meets the Standards* cut score.

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 students identified by MAP Growth as not proficient in those observed as proficient on the state test
False Positive (FP) Rate	FP / (FP + TN)	Proportion of students identified by MAP Growth as not proficient in those observed as not proficient on the state test

Statistic	Description	Interpretation
Sensitivity	TP / (TP + FN)	Proportion of students identified by MAP Growth as proficient in those observed as such on the state test
Specificity	TN / (TN + FP)	Proportion of students identified by MAP Growth 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 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.

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

2.5. Proficiency Projections

Given that all test scores contain measurement errors, reaching the *Meets the Standards* RIT cut does not guarantee that a student is proficient on the state test. Instead, it can be claimed that a student meeting the RIT cut score has a 50% chance of reaching proficiency (*Meets the Standards* or higher) on the state test, 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 MAP Growth fall and winter 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 MCA-III test based on a student's RIT scores from fall, winter, and spring. The equation below was used to calculate the probability of a student achieving proficiency on the MCA-III test based on their fall or winter RIT score:

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

where:

- Φ is a standardized normal cumulative distribution,
- $RIT_{previous}$ 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 MAP Growth *Meets the Standards* 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 on the MCA-III test based on their spring RIT score (RIT_{Spring}):

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

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 MCA-III tests in Spring 2019 were included in the study sample. Data used in this study were collected from 24 districts and 118 schools in Minnesota. Table 3.1 presents the demographic distributions of race, sex, and achievement level in the original unweighted study sample. Table 3.2 presents the distributions of the student population who took the Spring 2019 MCA-III tests (MDE, 2019). Since the unweighted data are different from the general MCA-III 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 MCA-III student population distributions. The analyses in this study were therefore conducted based on the weighted sample.

Table 3.1. Linking Study Sample Demographics (Unweighted)

Demographic Subgroup		% Students by Grade					
		3	4	5	6	7	8
Reading							
	Total N	5,033	5,106	5,188	6,097	4,479	3,389
Race	Asian	10.5	11.5	10.6	12.0	10.5	14.4
	Black	12.7	11.7	11.9	13.3	11.0	12.8
	Hispanic	10.4	10.7	11.0	11.6	12.3	13.4
	Multi-Race	6.9	7.4	5.7	6.7	6.0	5.6
	Other	0.6	0.6	0.9	0.6	0.6	0.6
	White	58.9	58.1	59.9	55.8	59.5	53.1
Sex	Female	48.8	49.3	48.4	48.1	47.8	47.2
	Male	51.2	50.7	51.6	51.9	52.2	52.8
Achievement Level	*Does Not Meet*	28.3	21.7	16.2	21.1	24.2	30.7
	Partially Meets	15.3	20.4	16.8	17.2	18.5	19.0
	Meets	40.0	39.0	45.5	36.7	37.3	31.5
	Exceeds	16.5	18.8	21.5	25.0	20.0	18.8
Mathematics							
	Total N	4,981	5,036	5,396	5,621	4,072	3,355
Race	Asian	10.6	11.7	10.5	12.2	10.2	12.9
	Black	12.8	11.8	11.6	14.2	11.9	11.1
	Hispanic	9.8	9.8	9.6	12.2	12.7	12.8
	Multi-Race	6.9	7.4	5.6	6.5	6.0	4.5
	Other	0.6	0.6	0.9	0.6	0.7	0.5
	White	59.3	58.8	61.8	54.4	58.5	58.1
Sex	Female	48.6	49.2	47.9	48.5	49.5	48.5
	Male	51.4	50.8	52.1	51.5	50.5	51.5
Achievement Level	*Does Not Meet*	15.9	18.8	19.8	28.5	25.3	24.1
	Partially Meets	16.3	15.4	22.2	21.8	24.3	19.6
	Meets	36.9	31.8	33.5	27.9	28.7	25.2
	Exceeds	30.8	34.0	24.6	21.7	21.7	31.1

Table 3.2. Spring 2019 MCA-III Student Population Demographics

Demographic Subgroup		% Students by Grade					
		3	4	5	6	7	8
Reading							
	Total N	62,648	63,392	65,018	65,387	64,397	63,091
Race	Asian	7.1	7.3	6.9	6.9	6.5	6.9
	Black	11.5	11.3	11.3	11.0	10.7	10.5
	Hispanic	9.8	10.1	10.0	10.1	9.9	9.4
	Multi-Race	5.6	5.7	5.5	5.4	5.0	4.7
	Other	1.8	1.9	1.9	1.8	1.7	1.6
	White	64.2	63.8	64.5	64.8	66.2	66.9
Sex	Female	49.4	48.9	49.3	49.3	49.0	49.3
	Male	50.6	51.1	50.7	50.7	51.0	50.7
Achievement Level	*Does Not Meet*	30.5	24.2	17.4	20.9	24.2	25.4
	Partially Meets	16.5	22.0	18.8	18.0	20.0	18.7
	Meets	39.1	38.1	45.4	38.0	37.8	35.9
	Exceeds	13.8	15.7	18.3	23.1	18.1	20.0
Mathematics							
	Total N	62,279	62,992	64,666	65,011	64,082	62,674
Race	Asian	7.1	7.3	6.9	6.9	6.5	6.9
	Black	11.5	11.3	11.3	11.0	10.7	10.5
	Hispanic	9.7	9.9	9.9	10.1	9.8	9.3
	Multi-Race	5.6	5.7	5.4	5.3	5.0	4.7
	Other	1.8	1.9	1.9	1.8	1.7	1.6
	White	64.3	63.9	64.5	64.9	66.2	67.0
Sex	Female	49.5	49.0	49.3	49.3	49.0	49.3
	Male	50.5	51.0	50.7	50.7	51.0	50.7
Achievement Level	*Does Not Meet*	18.3	21.3	24.7	27.6	23.1	24.1
	Partially Meets	17.4	15.9	24.7	23.3	26.3	22.2
	Meets	37.9	33.1	35.0	29.2	31.3	29.3
	Exceeds	26.4	29.7	15.6	19.9	19.2	24.4

Table 3.3. Linking Study Sample Demographics (Weighted)

Demographic Subgroup		% Students by Grade					
		3	4	5	6	7	8
Reading							
	Total N	5,028	5,106	5,183	6,097	4,483	3,389
Race	Asian	7.1	7.3	6.9	6.9	6.5	6.9
	Black	11.5	11.3	11.3	11.0	10.7	10.5
	Hispanic	9.8	10.1	10.0	10.1	9.9	9.4
	Multi-Race	5.6	5.7	5.5	5.4	5.0	4.7
	Other	1.8	1.9	1.9	1.8	1.7	1.6
	White	64.2	63.7	64.4	64.8	66.2	66.9
Sex	Female	49.4	48.9	49.3	49.3	49.0	49.3
	Male	50.6	51.1	50.7	50.7	51.0	50.7
Achievement Level	*Does Not Meet*	30.5	24.2	17.4	20.9	24.2	25.4
	Partially Meets	16.5	22.0	18.8	18.0	20.0	18.7
	Meets	39.1	38.1	45.4	38.0	37.8	35.9
	Exceeds	13.8	15.7	18.3	23.1	18.1	20.0
Mathematics							
	Total N	4,981	5,036	5,396	5,621	4,068	3,355
Race	Asian	7.1	7.3	6.9	6.9	6.5	6.9
	Black	11.5	11.3	11.3	11.0	10.7	10.5
	Hispanic	9.7	9.9	9.9	10.1	9.8	9.3
	Multi-Race	5.6	5.7	5.4	5.3	5.0	4.7
	Other	1.8	1.9	1.9	1.8	1.7	1.6
	White	64.3	63.9	64.6	64.9	66.2	67.0
Sex	Female	49.5	49.0	49.3	49.3	49.0	49.3
	Male	50.5	51.0	50.7	50.7	51.0	50.7
Achievement Level	*Does Not Meet*	18.3	21.3	24.7	27.6	23.1	24.1
	Partially Meets	17.4	15.9	24.7	23.3	26.3	22.2
	Meets	37.9	33.1	35.0	29.2	31.3	29.3
	Exceeds	26.4	29.7	15.6	19.9	19.2	24.4

3.2. Descriptive Statistics

Table 3.4 presents descriptive statistics of the MAP Growth and MCA-III test scores from Spring 2019, including the correlation coefficients (*r*) between them. The correlation coefficients between the scores range from 086 to 0.89 for reading and 0.92 to 0.93 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 MCA-III tests.

Table 3.4. Descriptive Statistics of Test Scores

Grade	N	*r*	MCA-III				MAP Growth			
			Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
Reading										
3	5,028	0.89	350.1	21.9	301	399	200.5	16.5	139	246
4	5,106	0.89	450.3	15.3	409	490	208.2	16.0	147	258
5	5,183	0.89	553.8	14.7	517	591	214.2	15.7	150	261
6	6,097	0.88	653.4	18.0	606	699	217.9	16.0	156	261
7	4,483	0.87	750.8	17.8	703	798	221.7	15.9	158	267
8	3,389	0.86	850.7	18.9	802	898	225.1	16.2	150	284
Mathematics										
3	4,981	0.92	354.6	16.8	315	399	205.8	15.2	136	272
4	5,036	0.92	454.8	19.2	409	499	216.4	16.9	152	298
5	5,396	0.93	549.0	14.4	515	586	225.3	18.1	137	296
6	5,621	0.93	648.1	15.3	611	688	228.5	18.6	151	284
7	4,068	0.93	748.7	12.9	718	782	233.8	19.9	146	301
8	3,355	0.92	849.8	15.8	813	888	237.2	21.7	151	305

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

3.3. MAP Growth Cut Scores

Table 3.5 and Table 3.6 present the MCA-III 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 achievement level on the MCA-III 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 193 in the fall is likely to reach *Meets the Standards* performance on the MCA-III reading test. A grade 3 student who obtained a MAP Growth reading RIT score of 198 in the winter is also likely to reach *Meets the Standards* performance on the MCA-III. 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 most 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 achievement level could be different from the generic projection presented in this document. Partners are therefore encouraged to use the projected achievement 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—Reading

MCA-III Reading								
Grade	***Does Not Meet***		***Partially Meets***		***Meets***		***Exceeds***	
3	301–339		340–349		**350**–373		374–399	
4	401–439		440–449		**450**–465		466–499	
5	501–539		540–549		**550**–566		567–599	
6	601–639		640–649		**650**–666		667–699	
7	701–739		740–749		**750**–766		767–799	
8	801–839		840–849		**850**–866		867–899	
MAP Growth Reading								
Grade	***Does Not Meet***		***Partially Meets***		***Meets***		***Exceeds***	
	RIT	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
2	100–171	1–54	172–179	55–71	**180**–201	72–96	202–350	97–99
3	100–185	1–52	186–192	53–67	**193**–210	68–91	211–350	92–99
4	100–191	1–40	192–203	41–66	**204**–219	67–90	220–350	91–99
5	100–195	1–32	196–206	33–57	**207**–224	58–88	225–350	89–99
6	100–203	1–37	204–212	38–59	**213**–226	60–85	227–350	86–99
7	100–209	1–43	210–218	44–64	**219**–233	65–89	234–350	90–99
8	100–214	1–47	215–222	48–66	**223**–235	67–87	236–350	88–99
Winter								
2	100–177	1–52	178–185	53–70	**186**–206	71–95	207–350	96–99
3	100–190	1–51	191–197	52–66	**198**–215	67–92	216–350	93–99
4	100–195	1–41	196–206	42–65	**207**–221	66–89	222–350	90–99
5	100–198	1–32	199–208	33–55	**209**–225	56–86	226–350	87–99
6	100–205	1–38	206–214	39–59	**215**–227	60–84	228–350	85–99
7	100–211	1–45	212–219	46–63	**220**–234	64–89	235–350	90–99
8	100–215	1–47	216–223	48–65	**224**–236	66–87	237–350	88–99
Spring								
2	100–182	1–52	183–189	53–67	**190**–208	68–93	209–350	94–99
3	100–194	1–52	195–200	53–64	**201**–216	65–89	217–350	90–99
4	100–198	1–42	199–208	43–64	**209**–222	65–87	223–350	88–99
5	100–201	1–35	202–210	36–55	**211**–226	56–85	227–350	86–99
6	100–207	1–39	208–215	40–58	**216**–228	59–84	229–350	85–99
7	100–212	1–45	213–220	46–63	**221**–235	64–88	236–350	89–99
8	100–216	1–47	217–224	48–65	**225**–237	66–87	238–350	88–99

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

Table 3.6. MAP Growth Cut Scores—Mathematics

MCA-III Mathematics								
Grade	***Does Not Meet***		***Partially Meets***		***Meets***		***Exceeds***	
3	301–339		340–349		**350**–365		366–399	
4	401–439		440–449		**450**–465		466–499	
5	501–539		540–549		**550**–562		563–599	
6	601–639		640–649		**650**–661		662–699	
7	701–739		740–749		**750**–759		760–799	
8	801–839		840–849		**850**–860		861–899	
MAP Growth Mathematics								
	Does Not Meet		***Partially Meets***		***Meets***		***Exceeds***	
Grade	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
2	100–167	1–37	168–177	38–62	**178**–197	63–94	198–350	95–99
3	100–180	1–41	181–188	42–61	**189**–203	62–89	204–350	90–99
4	100–194	1–44	195–203	45–66	**204**–218	67–91	219–350	92–99
5	100–206	1–51	207–218	52–77	**219**–234	78–95	235–350	96–99
6	100–211	1–53	212–221	54–76	**222**–237	77–95	238–350	96–99
7	100–215	1–46	216–229	47–76	**230**–246	77–95	247–350	96–99
8	100–220	1–47	221–232	48–71	**233**–248	72–92	249–350	93–99
Winter								
2	100–175	1–36	176–185	37–61	**186**–205	62–93	206–350	94–99
3	100–188	1–40	189–197	41–62	**198**–213	63–89	214–350	90–99
4	100–201	1–43	202–211	44–66	**212**–226	67–90	227–350	91–99
5	100–212	1–52	213–224	53–77	**225**–241	78–95	242–350	96–99
6	100–217	1–54	218–228	55–76	**229**–244	77–94	245–350	95–99
7	100–219	1–47	220–234	48–77	**235**–251	78–94	252–350	95–99
8	100–224	1–47	225–237	48–72	**238**–253	73–92	254–350	93–99
Spring								
2	100–182	1–38	183–191	39–60	**192**–209	61–91	210–350	92–99
3	100–195	1–42	196–203	43–60	**204**–218	61–87	219–350	88–99
4	100–207	1–44	208–216	45–64	**217**–231	65–88	232–350	89–99
5	100–216	1–51	217–228	52–75	**229**–245	76–94	246–350	95–99
6	100–221	1–53	222–232	54–74	**233**–248	75–93	249–350	94–99
7	100–222	1–47	223–236	48–74	**237**–253	75–93	254–350	94–99
8	100–227	1–47	228–239	48–70	**240**–255	71–90	256–350	91–99

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

3.4. Classification Accuracy

Table 3.7 presents the classification accuracy summary statistics, including the overall classification accuracy rates. These results indicate how well MAP Growth spring RIT scores predict proficiency on the MCA-III tests, providing insight into the predictive validity of MAP Growth. The overall classification accuracy rates range from 0.85 to 0.88 for reading and 0.89 to 0.90 for mathematics. These values suggest that the RIT cut scores are good at classifying students as proficient (*Meets the Standards* or higher) or not proficient (lower than *Meets the Standards*) on the MCA-III assessment.

Although the results show that MAP Growth scores can be used to accurately classify students as likely to be proficient on the MCA-III tests, there is a notable limitation to how these results should be used and interpreted. MCA-III 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 3.7. Classification Accuracy Results

Grade	N	Cut Score		Class. Accuracy	Rate		Sensitivity	Specificity	Precision	AUC
		MAP Growth	MCA-III		FP	FN				
Reading										
3	5,028	201	350	0.86	0.18	0.11	0.89	0.82	0.85	0.94
4	5,106	209	450	0.86	0.16	0.12	0.88	0.84	0.87	0.95
5	5,183	211	550	0.88	0.19	0.09	0.91	0.81	0.89	0.95
6	6,097	216	650	0.87	0.17	0.11	0.89	0.83	0.89	0.94
7	4,483	221	750	0.87	0.18	0.10	0.90	0.82	0.86	0.94
8	3,389	225	850	0.85	0.17	0.14	0.86	0.83	0.86	0.93
Mathematics										
3	4,981	202	350	0.90	0.17	0.07	0.93	0.83	0.91	0.96
4	5,036	212	450	0.90	0.17	0.06	0.94	0.83	0.90	0.96
5	5,396	226	550	0.89	0.15	0.08	0.92	0.85	0.87	0.96
6	5,621	230	650	0.90	0.12	0.08	0.92	0.88	0.88	0.97
7	4,068	235	750	0.90	0.12	0.08	0.92	0.88	0.89	0.97
8	3,355	236	850	0.90	0.12	0.09	0.91	0.88	0.90	0.96

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

3.5. Proficiency Projections

Table 3.8 and Table 3.9 present the estimated probability of achieving proficiency (*Meets the Standards* or higher) performance on the MCA-III 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 84% chance of reaching proficiency on the MCA-III test. “Prob.” indicates the probability of obtaining proficiency on the MCA-III test in the spring.

Table 3.8. Proficiency Projection Based on RIT Scores—Reading

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Meets	Prob.		*Meets*	Prob.		*Meets*	Prob.
2	5	190	142	No	<0.01	149	No	<0.01	153	No	<0.01
	10	190	148	No	<0.01	155	No	<0.01	159	No	<0.01
	15	190	152	No	<0.01	159	No	<0.01	164	No	<0.01
	20	190	156	No	0.01	162	No	0.01	167	No	<0.01
	25	190	159	No	0.02	165	No	0.01	170	No	<0.01
	30	190	161	No	0.04	168	No	0.03	173	No	<0.01
	35	190	163	No	0.06	170	No	0.05	175	No	<0.01
	40	190	166	No	0.09	172	No	0.07	177	No	<0.01
	45	190	168	No	0.13	175	No	0.11	180	No	<0.01
	50	190	170	No	0.19	177	No	0.17	182	No	0.01
	55	190	172	No	0.22	179	No	0.24	184	No	0.04
	60	190	174	No	0.29	181	No	0.27	186	No	0.13
	65	190	177	No	0.41	183	No	0.36	188	No	0.28
	70	190	179	No	0.46	186	Yes	0.5	191	Yes	0.61
	75	190	182	Yes	0.59	188	Yes	0.59	193	Yes	0.8
	80	190	184	Yes	0.67	191	Yes	0.68	196	Yes	0.96
	85	190	188	Yes	0.78	194	Yes	0.8	200	Yes	>0.99
	90	190	192	Yes	0.89	199	Yes	0.91	204	Yes	>0.99
	95	190	198	Yes	0.96	205	Yes	0.98	210	Yes	>0.99
3	5	201	155	No	<0.01	160	No	<0.01	164	No	<0.01
	10	201	161	No	<0.01	167	No	<0.01	171	No	<0.01
	15	201	166	No	<0.01	171	No	<0.01	175	No	<0.01
	20	201	169	No	0.01	175	No	0.01	179	No	<0.01
	25	201	172	No	0.02	178	No	0.02	182	No	<0.01
	30	201	175	No	0.04	180	No	0.03	184	No	<0.01
	35	201	178	No	0.07	183	No	0.06	187	No	<0.01
	40	201	180	No	0.11	185	No	0.08	189	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Meets	Prob.		*Meets*	Prob.		*Meets*	Prob.
	45	201	182	No	0.13	188	No	0.14	192	No	0.01
	50	201	185	No	0.22	190	No	0.2	194	No	0.02
	55	201	187	No	0.29	192	No	0.27	196	No	0.08
	60	201	189	No	0.37	194	No	0.32	198	No	0.2
	65	201	192	No	0.46	197	No	0.45	201	Yes	0.5
	70	201	194	Yes	0.54	199	Yes	0.55	203	Yes	0.72
	75	201	197	Yes	0.63	202	Yes	0.68	206	Yes	0.92
	80	201	200	Yes	0.75	205	Yes	0.76	209	Yes	0.99
	85	201	204	Yes	0.84	209	Yes	0.88	213	Yes	>0.99
	90	201	208	Yes	0.93	213	Yes	0.94	217	Yes	>0.99
	95	201	215	Yes	0.98	220	Yes	0.99	224	Yes	>0.99
	5	209	166	No	<0.01	170	No	<0.01	173	No	<0.01
	10	209	173	No	<0.01	177	No	<0.01	179	No	<0.01
	15	209	177	No	<0.01	181	No	<0.01	184	No	<0.01
	20	209	181	No	0.01	184	No	<0.01	187	No	<0.01
	25	209	184	No	0.02	187	No	0.01	190	No	<0.01
	30	209	186	No	0.03	190	No	0.03	193	No	<0.01
	35	209	189	No	0.06	193	No	0.05	195	No	<0.01
	40	209	191	No	0.1	195	No	0.08	198	No	<0.01
4	45	209	194	No	0.14	197	No	0.13	200	No	0.01
	50	209	196	No	0.2	199	No	0.19	202	No	0.02
	55	209	198	No	0.28	202	No	0.27	204	No	0.08
	60	209	200	No	0.36	204	No	0.35	207	No	0.28
	65	209	203	No	0.45	206	No	0.45	209	Yes	0.5
	70	209	205	Yes	0.55	209	Yes	0.6	211	Yes	0.72
	75	209	208	Yes	0.68	211	Yes	0.65	214	Yes	0.92
	80	209	211	Yes	0.76	214	Yes	0.77	217	Yes	0.99
	85	209	215	Yes	0.88	218	Yes	0.9	220	Yes	>0.99

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Meets	Prob.		*Meets*	Prob.		*Meets*	Prob.
	90	209	219	Yes	0.94	222	Yes	0.96	225	Yes	>0.99
	95	209	226	Yes	0.99	229	Yes	>0.99	231	Yes	>0.99
5	5	211	175	No	<0.01	178	No	<0.01	180	No	<0.01
	10	211	181	No	<0.01	184	No	<0.01	186	No	<0.01
	15	211	186	No	0.01	189	No	0.01	191	No	<0.01
	20	211	189	No	0.03	192	No	0.03	194	No	<0.01
	25	211	192	No	0.06	195	No	0.05	197	No	<0.01
	30	211	195	No	0.11	197	No	0.08	199	No	<0.01
	35	211	197	No	0.16	200	No	0.15	202	No	0.01
	40	211	199	No	0.2	202	No	0.22	204	No	0.02
	45	211	201	No	0.27	204	No	0.26	206	No	0.08
	50	211	204	No	0.4	206	No	0.35	208	No	0.2
	55	211	206	No	0.45	209	Yes	0.5	211	Yes	0.5
	60	211	208	Yes	0.55	211	Yes	0.55	213	Yes	0.72
	65	211	210	Yes	0.64	213	Yes	0.65	215	Yes	0.87
	70	211	213	Yes	0.73	215	Yes	0.74	217	Yes	0.96
	75	211	215	Yes	0.8	218	Yes	0.85	220	Yes	0.99
	80	211	218	Yes	0.89	221	Yes	0.92	223	Yes	>0.99
	85	211	222	Yes	0.94	224	Yes	0.96	226	Yes	>0.99
	90	211	226	Yes	0.98	228	Yes	0.99	230	Yes	>0.99
	95	211	232	Yes	>0.99	235	Yes	>0.99	237	Yes	>0.99
6	5	216	181	No	<0.01	183	No	<0.01	185	No	<0.01
	10	216	187	No	<0.01	189	No	<0.01	191	No	<0.01
	15	216	191	No	0.01	193	No	0.01	195	No	<0.01
	20	216	195	No	0.03	197	No	0.02	198	No	<0.01
	25	216	198	No	0.06	199	No	0.04	201	No	<0.01
	30	216	200	No	0.07	202	No	0.06	203	No	<0.01
	35	216	202	No	0.11	204	No	0.1	206	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Meets	Prob.		*Meets*	Prob.		*Meets*	Prob.
	40	216	205	No	0.2	206	No	0.16	208	No	0.01
	45	216	207	No	0.23	209	No	0.26	210	No	0.04
	50	216	209	No	0.31	211	No	0.31	212	No	0.13
	55	216	211	No	0.4	213	No	0.4	214	No	0.28
	60	216	213	Yes	0.5	215	Yes	0.5	216	Yes	0.5
	65	216	215	Yes	0.55	217	Yes	0.6	218	Yes	0.72
	70	216	218	Yes	0.69	219	Yes	0.69	221	Yes	0.92
	75	216	220	Yes	0.77	222	Yes	0.81	223	Yes	0.98
	80	216	223	Yes	0.86	225	Yes	0.9	226	Yes	>0.99
	85	216	226	Yes	0.93	228	Yes	0.95	229	Yes	>0.99
	90	216	231	Yes	0.98	232	Yes	0.98	233	Yes	>0.99
	95	216	237	Yes	>0.99	238	Yes	>0.99	239	Yes	>0.99
7	5	221	185	No	<0.01	186	No	<0.01	187	No	<0.01
	10	221	191	No	<0.01	192	No	<0.01	193	No	<0.01
	15	221	195	No	0.01	196	No	<0.01	197	No	<0.01
	20	221	198	No	0.01	200	No	0.01	201	No	<0.01
	25	221	201	No	0.03	202	No	0.02	203	No	<0.01
	30	221	204	No	0.06	205	No	0.04	206	No	<0.01
	35	221	206	No	0.08	207	No	0.07	208	No	<0.01
	40	221	208	No	0.12	210	No	0.14	211	No	<0.01
	45	221	210	No	0.18	212	No	0.16	213	No	0.01
	50	221	212	No	0.24	214	No	0.23	215	No	0.04
	55	221	214	No	0.28	216	No	0.31	217	No	0.13
	60	221	217	No	0.41	218	No	0.4	219	No	0.28
	65	221	219	Yes	0.5	220	Yes	0.5	221	Yes	0.5
	70	221	221	Yes	0.59	223	Yes	0.64	224	Yes	0.8
	75	221	224	Yes	0.72	225	Yes	0.73	226	Yes	0.92
	80	221	226	Yes	0.79	228	Yes	0.84	229	Yes	0.99

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Meets	Prob.		*Meets*	Prob.		*Meets*	Prob.
	85	221	230	Yes	0.9	231	Yes	0.91	232	Yes	>0.99
	90	221	234	Yes	0.96	235	Yes	0.97	237	Yes	>0.99
	95	221	240	Yes	0.99	241	Yes	0.99	243	Yes	>0.99
8	5	225	188	No	<0.01	189	No	<0.01	190	No	<0.01
	10	225	194	No	<0.01	195	No	<0.01	196	No	<0.01
	15	225	198	No	0.01	199	No	<0.01	200	No	<0.01
	20	225	201	No	0.01	203	No	0.01	203	No	<0.01
	25	225	204	No	0.03	205	No	0.02	206	No	<0.01
	30	225	207	No	0.04	208	No	0.04	209	No	<0.01
	35	225	209	No	0.07	210	No	0.06	211	No	<0.01
	40	225	211	No	0.11	213	No	0.1	213	No	<0.01
	45	225	214	No	0.15	215	No	0.14	216	No	0.01
	50	225	216	No	0.21	217	No	0.2	218	No	0.02
	55	225	218	No	0.29	219	No	0.28	220	No	0.08
	60	225	220	No	0.37	221	No	0.36	222	No	0.2
	65	225	222	No	0.45	223	No	0.45	224	No	0.39
	70	225	225	Yes	0.59	226	Yes	0.59	227	Yes	0.72
	75	225	227	Yes	0.67	228	Yes	0.68	229	Yes	0.87
	80	225	230	Yes	0.79	231	Yes	0.8	232	Yes	0.98
	85	225	233	Yes	0.87	235	Yes	0.9	236	Yes	>0.99
	90	225	238	Yes	0.96	239	Yes	0.96	240	Yes	>0.99
	95	225	244	Yes	0.99	245	Yes	0.99	246	Yes	>0.99

Table 3.9. Proficiency Projection 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	
				Meets	Prob.		*Meets*	Prob.		*Meets*	Prob.
2	5	192	147	No	<0.01	155	No	<0.01	161	No	<0.01
	10	192	153	No	<0.01	161	No	<0.01	167	No	<0.01
	15	192	157	No	0.01	165	No	0.01	171	No	<0.01
	20	192	160	No	0.03	168	No	0.02	174	No	<0.01
	25	192	162	No	0.04	171	No	0.03	177	No	<0.01
	30	192	165	No	0.07	173	No	0.06	179	No	<0.01
	35	192	167	No	0.11	175	No	0.09	181	No	<0.01
	40	192	169	No	0.16	177	No	0.14	183	No	0.01
	45	192	171	No	0.23	179	No	0.18	185	No	0.02
	50	192	173	No	0.31	181	No	0.25	187	No	0.08
	55	192	175	No	0.36	183	No	0.35	189	No	0.2
	60	192	177	No	0.45	185	No	0.45	192	Yes	0.5
	65	192	179	Yes	0.55	187	Yes	0.55	194	Yes	0.72
	70	192	181	Yes	0.64	189	Yes	0.6	196	Yes	0.87
	75	192	183	Yes	0.73	192	Yes	0.75	198	Yes	0.96
	80	192	186	Yes	0.8	194	Yes	0.82	201	Yes	0.99
	85	192	189	Yes	0.89	197	Yes	0.91	204	Yes	>0.99
	90	192	193	Yes	0.94	201	Yes	0.96	208	Yes	>0.99
	95	192	198	Yes	0.99	207	Yes	0.99	214	Yes	>0.99
3	5	204	158	No	<0.01	166	No	<0.01	171	No	<0.01
	10	204	164	No	<0.01	172	No	<0.01	177	No	<0.01
	15	204	168	No	<0.01	176	No	<0.01	181	No	<0.01
	20	204	171	No	0.01	179	No	0.01	185	No	<0.01
	25	204	174	No	0.03	182	No	0.02	188	No	<0.01
	30	204	176	No	0.05	184	No	0.04	190	No	<0.01
	35	204	178	No	0.08	186	No	0.06	193	No	<0.01
	40	204	180	No	0.13	189	No	0.13	195	No	0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Meets	Prob.		*Meets*	Prob.		*Meets*	Prob.
	45	204	182	No	0.19	191	No	0.2	197	No	0.02
	50	204	184	No	0.26	193	No	0.24	199	No	0.08
	55	204	186	No	0.35	195	No	0.34	201	No	0.2
	60	204	188	No	0.45	197	No	0.45	203	No	0.39
	65	204	190	Yes	0.55	199	Yes	0.55	206	Yes	0.72
	70	204	192	Yes	0.65	201	Yes	0.66	208	Yes	0.87
	75	204	195	Yes	0.78	204	Yes	0.8	211	Yes	0.98
	80	204	197	Yes	0.85	206	Yes	0.87	213	Yes	0.99
	85	204	200	Yes	0.92	210	Yes	0.94	217	Yes	>0.99
	90	204	204	Yes	0.97	214	Yes	0.98	221	Yes	>0.99
	95	204	210	Yes	0.99	220	Yes	>0.99	227	Yes	>0.99
4	5	217	171	No	<0.01	176	No	<0.01	180	No	<0.01
	10	217	177	No	<0.01	183	No	<0.01	187	No	<0.01
	15	217	181	No	<0.01	187	No	<0.01	191	No	<0.01
	20	217	184	No	0.01	190	No	<0.01	195	No	<0.01
	25	217	186	No	0.01	193	No	0.01	198	No	<0.01
	30	217	189	No	0.03	196	No	0.02	201	No	<0.01
	35	217	191	No	0.05	198	No	0.03	203	No	<0.01
	40	217	193	No	0.09	200	No	0.06	206	No	<0.01
	45	217	195	No	0.13	202	No	0.1	208	No	0.01
	50	217	197	No	0.19	204	No	0.16	210	No	0.02
	55	217	199	No	0.27	207	No	0.28	212	No	0.08
	60	217	201	No	0.35	209	No	0.33	215	No	0.28
	65	217	203	No	0.45	211	No	0.44	217	Yes	0.5
	70	217	205	Yes	0.55	213	Yes	0.56	220	Yes	0.8
	75	217	208	Yes	0.69	216	Yes	0.72	222	Yes	0.92
	80	217	210	Yes	0.77	219	Yes	0.84	225	Yes	0.99
	85	217	214	Yes	0.89	222	Yes	0.92	229	Yes	>0.99

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Meets	Prob.		*Meets*	Prob.		*Meets*	Prob.
	90	217	217	Yes	0.95	226	Yes	0.98	233	Yes	>0.99
	95	217	223	Yes	0.99	232	Yes	>0.99	240	Yes	>0.99
5	5	229	180	No	<0.01	183	No	<0.01	186	No	<0.01
	10	229	185	No	<0.01	189	No	<0.01	192	No	<0.01
	15	229	189	No	<0.01	194	No	<0.01	197	No	<0.01
	20	229	193	No	<0.01	197	No	<0.01	200	No	<0.01
	25	229	195	No	<0.01	200	No	<0.01	204	No	<0.01
	30	229	198	No	<0.01	203	No	<0.01	206	No	<0.01
	35	229	200	No	0.01	205	No	<0.01	209	No	<0.01
	40	229	202	No	0.01	207	No	0.01	211	No	<0.01
	45	229	204	No	0.03	210	No	0.02	214	No	<0.01
	50	229	206	No	0.05	212	No	0.03	216	No	<0.01
	55	229	208	No	0.08	214	No	0.06	218	No	<0.01
	60	229	210	No	0.12	216	No	0.1	221	No	0.01
	65	229	212	No	0.19	219	No	0.2	223	No	0.04
	70	229	215	No	0.3	221	No	0.28	226	No	0.2
	75	229	217	No	0.4	224	No	0.44	228	No	0.39
	80	229	220	Yes	0.55	226	Yes	0.56	232	Yes	0.8
	85	229	223	Yes	0.7	230	Yes	0.76	235	Yes	0.96
	90	229	227	Yes	0.85	234	Yes	0.9	240	Yes	>0.99
	95	229	233	Yes	0.97	240	Yes	0.98	246	Yes	>0.99
6	5	233	184	No	<0.01	187	No	<0.01	190	No	<0.01
	10	233	190	No	<0.01	194	No	<0.01	197	No	<0.01
	15	233	194	No	<0.01	198	No	<0.01	201	No	<0.01
	20	233	197	No	<0.01	201	No	<0.01	205	No	<0.01
	25	233	199	No	<0.01	204	No	<0.01	208	No	<0.01
	30	233	202	No	<0.01	207	No	<0.01	211	No	<0.01
	35	233	204	No	0.01	209	No	<0.01	213	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Meets	Prob.		*Meets*	Prob.		*Meets*	Prob.
	40	233	206	No	0.02	212	No	0.01	216	No	<0.01
	45	233	208	No	0.03	214	No	0.02	218	No	<0.01
	50	233	210	No	0.05	216	No	0.04	220	No	<0.01
	55	233	212	No	0.09	218	No	0.07	223	No	<0.01
	60	233	214	No	0.13	220	No	0.11	225	No	0.01
	65	233	216	No	0.19	223	No	0.21	227	No	0.04
	70	233	219	No	0.31	225	No	0.29	230	No	0.2
	75	233	221	No	0.45	228	No	0.45	233	Yes	0.5
	80	233	224	Yes	0.6	231	Yes	0.61	236	Yes	0.8
	85	233	227	Yes	0.73	234	Yes	0.75	239	Yes	0.96
	90	233	231	Yes	0.87	238	Yes	0.89	244	Yes	>0.99
	95	233	237	Yes	0.97	245	Yes	0.99	251	Yes	>0.99
7	5	237	189	No	<0.01	191	No	<0.01	192	No	<0.01
	10	237	195	No	<0.01	197	No	<0.01	199	No	<0.01
	15	237	199	No	<0.01	202	No	<0.01	204	No	<0.01
	20	237	203	No	<0.01	206	No	<0.01	208	No	<0.01
	25	237	206	No	<0.01	209	No	<0.01	211	No	<0.01
	30	237	208	No	<0.01	211	No	<0.01	214	No	<0.01
	35	237	211	No	0.01	214	No	<0.01	216	No	<0.01
	40	237	213	No	0.02	216	No	0.01	219	No	<0.01
	45	237	215	No	0.03	219	No	0.02	221	No	<0.01
	50	237	217	No	0.06	221	No	0.04	224	No	<0.01
	55	237	219	No	0.09	223	No	0.07	226	No	<0.01
	60	237	222	No	0.17	226	No	0.15	229	No	0.01
	65	237	224	No	0.23	228	No	0.22	231	No	0.04
	70	237	226	No	0.31	231	No	0.3	234	No	0.2
	75	237	229	No	0.45	233	No	0.4	237	Yes	0.5
	80	237	232	Yes	0.6	236	Yes	0.55	240	Yes	0.8

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Meets	Prob.		*Meets*	Prob.		*Meets*	Prob.
	85	237	235	Yes	0.73	240	Yes	0.74	244	Yes	0.98
	90	237	239	Yes	0.86	245	Yes	0.9	249	Yes	>0.99
	95	237	246	Yes	0.97	251	Yes	0.98	256	Yes	>0.99
8	5	240	192	No	<0.01	194	No	<0.01	196	No	<0.01
	10	240	199	No	<0.01	201	No	<0.01	203	No	<0.01
	15	240	203	No	<0.01	206	No	<0.01	208	No	<0.01
	20	240	207	No	<0.01	210	No	<0.01	212	No	<0.01
	25	240	210	No	<0.01	213	No	<0.01	215	No	<0.01
	30	240	212	No	0.01	216	No	<0.01	218	No	<0.01
	35	240	215	No	0.02	219	No	0.01	221	No	<0.01
	40	240	217	No	0.03	221	No	0.02	224	No	<0.01
	45	240	220	No	0.07	224	No	0.05	226	No	<0.01
	50	240	222	No	0.1	226	No	0.08	229	No	<0.01
	55	240	224	No	0.15	228	No	0.13	231	No	0.01
	60	240	227	No	0.25	231	No	0.23	234	No	0.04
	65	240	229	No	0.32	233	No	0.31	237	No	0.2
	70	240	232	No	0.45	236	No	0.45	239	No	0.39
	75	240	234	Yes	0.55	239	Yes	0.55	242	Yes	0.72
	80	240	237	Yes	0.68	242	Yes	0.69	246	Yes	0.96
	85	240	241	Yes	0.82	246	Yes	0.84	250	Yes	>0.99
	90	240	246	Yes	0.93	251	Yes	0.95	255	Yes	>0.99
	95	240	252	Yes	0.99	258	Yes	0.99	262	Yes	>0.99

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