Predicting Proficiency on the Maryland Comprehensive Assessment Program Based on NWEA MAP Growth Scores

November 2025

NWEA Psychometrics and Analytics

Linking Study Updates

Date	Description
2025-11	Conducted the linking study for grades 3–8 in mathematics and ELA/reading based on the 2025 norms and spring 2024 data.

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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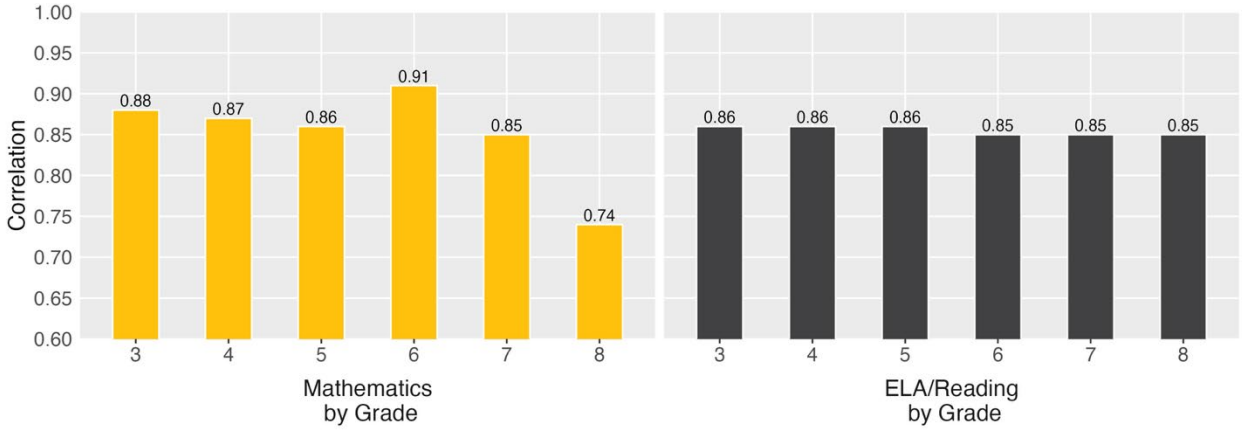
Executive Summary

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

The linking study is based on test scores from students in grades 3–8 for mathematics and English language arts (ELA) who took both the MAP Growth and MCAP assessments in Spring 2024. In total, this study included 72,416 students from 192 schools within 4 districts in Maryland.

Prior to initiating the linking study, NWEA's content team confirmed that the content standards used to construct the MAP Growth interim assessment were aligned with those of the MCAP summative assessment, thus warranting a connection. Further investigation into the relationship between the MAP Growth and MCAP assessments involved calculating correlation coefficients to confirm the alignment between the MAP Growth scores and the summative test scores of MCAP. A high positive correlation (e.g., ≥ 0.70) shows that students who perform well on one assessment also tend to perform well on the other, and vice versa, with 1.00 being a perfect positive correlation. As shown in Figure E.1, the correlations between the MAP Growth and MCAP test scores in all subjects and grades are higher than 0.70, indicating that MAP Growth is a good assessment for predicting performance on the MCAP spring summative assessment.

Figure E.1. Correlations Between MAP Growth and State Summative Assessment Scores



The equipercentile linking method (Kolen & Brennan, 2004) was used to produce the RIT cut scores for the spring administration that correspond to performance levels on the MCAP summative assessment for every subject and grade. MAP Growth cut scores for grade 2, as well as those for the fall and winter administrations of all grades, are also provided so that educators can track grade 2 students' progress on the MCAP tests by grade 3, alongside all other students, early in the year. These cut scores were derived from the spring cuts and the growth norms for the adjacent grades (i.e., grades 2 to 3), or fall and winter administrations to

the spring administration. While RIT cut scores were generated for every performance level on the MCAP summative assessment, Table E.1 presents the *Proficient Learner* cut scores that indicate the minimum score a student must get to be considered proficient for accountability purposes.

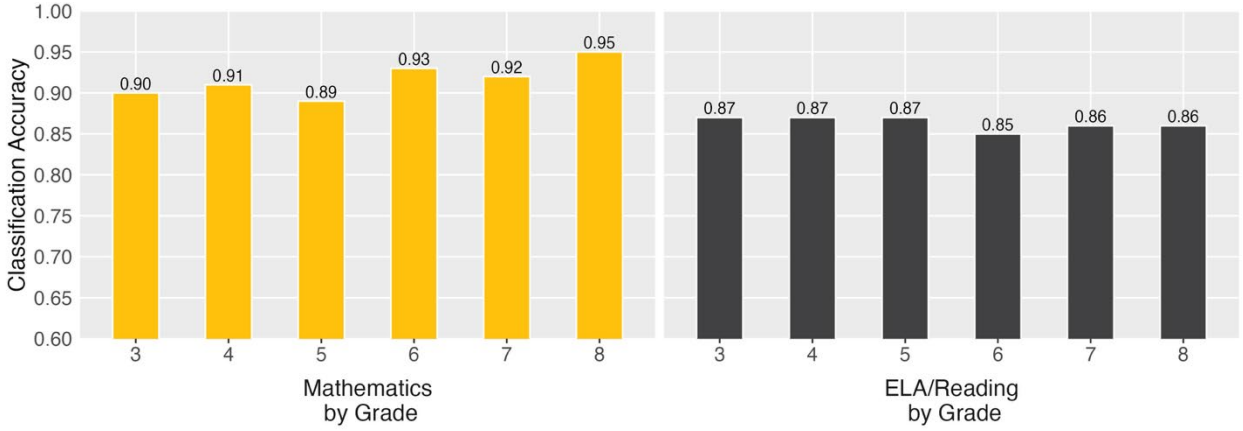
Table E.1. MAP Growth RIT Cut Scores Linked to MCAP *Proficient Learner* Cut Scores

Assessment		*Proficient Learner* Cut Scores by Grade						
		2	3	4	5	6	7	8
Mathematics								
MCAP Spring		–	750	750	750	750	750	750
MAP Growth Mathematics	Fall	185	194	211	221	230	235	240
	Winter	193	203	219	227	237	240	245
	Spring	198	209	224	231	241	242	247
ELA/Reading								
MCAP Spring		–	750	750	750	750	750	750
MAP Growth Reading	Fall	174	188	202	212	215	218	222
	Winter	180	193	205	215	216	219	223
	Spring	185	197	207	216	217	220	224

Educators can use these cut scores to determine whether students are on track for proficiency on the state assessment. For example, the *Proficient Learner* cut score on the grade 3 MCAP mathematics summative test is 750. A grade 3 student with a MAP Growth mathematics RIT score of 194 in the fall is likely to meet proficiency on the MCAP mathematics summative test in the spring, whereas a grade 3 student with a RIT score lower than 194 in the fall is in jeopardy of not meeting proficiency.

As further evidence that MAP Growth scores can be used to predict students' proficiency on the state tests, NWEA calculated classification accuracy statistics that show how well the RIT scores correctly classified, or predicted, students as proficient on the MCAP summative tests. For example, the grade 3 MAP Growth mathematics *Proficient Learner* cut score has a 0.90 accuracy rate, meaning it accurately predicted student performance on the state test for 90% of the sample. A high statistic indicates high accuracy. Overall, MAP Growth scores have a high accuracy rate of identifying student proficiency on the MCAP summative tests, as illustrated in Figure E.2.

Figure E.2. Accuracy of MAP Growth Classifications



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

1. Introduction

1.1. Purpose of the Study

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

This report presents findings from a linking study performed by NWEA aiming to statistically connect the Rasch Unit (RIT) scores obtained from the MAP Growth assessment with the results of the MCAP spring summative assessment. These assessments cover mathematics and ELA/reading for grades 3–8. The data utilized to generate this report are comprised of the MCAP test scores collected during Spring 2024. MAP Growth cut scores are also included for grade 2 so that educators can track early learners' progress toward proficiency on the MCAP summative tests by grade 3. Specifically, this report presents the following results:

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

1.2. Assessment Overview

The MCAP tests are Maryland's state summative assessment aligned to the Maryland College and Career Ready Standards. Based on their test scores, students are placed into one of four performance levels: *Beginning Learner*, *Developing Learner*, *Proficient Learner*, and *Distinguished Learner*. The *Proficient Learner* cut score demarks the minimum level of performance considered to be proficient for accountability purposes.

MAP Growth tests are an adaptive interim assessment aligned to state-specific content standards and administered in the fall, winter, and spring. Scores are reported on the RIT vertical scale with a range of 100 to 350. To aid the interpretation of scores, NWEA conducts norming studies of student and school performance on MAP Growth. Growth norms provide expected score gains across test administrations (e.g., the relative evaluation of a student's growth from fall to spring), which are used to conduct the linking studies. 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 2024 administration of the MAP Growth and MCAP summative assessments. Each student's state testing record was matched to their MAP Growth score based on the student's first and last names, date of birth, student ID, and other available identifying information. Only students who have scores on both the MAP Growth and MCAP summative assessments in Spring 2024 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's test-taking student population in terms of race, sex, and performance level. These variables were selected because they are known to be correlated with students' academic achievement and are often available in state summative assessment reports. The weighted sample will match the target population as closely as possible for the key demographics and performance characteristics defined by the state.

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

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

2.3. Descriptive Statistics

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

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

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

2.4. MAP Growth Cut Scores

MAP Growth cut scores that predict student achievement on the MCAP summative assessment are reported for grades 3–8 in mathematics and ELA/reading, as well as for grade 2 in mathematics and ELA/reading so that educators can track early learners' progress toward proficiency on the MCAP summative tests by grade 3. Percentile ranks based on the most recent NWEA norms are also provided. These are useful for understanding how students'

scores compare with peers nationwide and the relative rigor of a state's performance level designations for its summative assessment.

The equipercentile linking method (Kolen & Brennan, 2004) was used to identify the spring MAP Growth RIT scores for grades 3–8 in mathematics and ELA/reading that correspond to the MCAP spring summative performance level cut scores. The equipercentile linking procedure matches scores on the two scales that have the same percentile rank (i.e., the proportion of tests at or below each score). For example, let x represent a score on Test X (e.g., MCAP summative tests). 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 MCAP summative tests on the scale of MAP Growth, $P(x)$ is the percentile rank of a given score on the MCAP summative 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 to spring within the same grade or from spring of a lower grade to spring of the adjacent higher grade. This information was used to calculate the fall and winter cut scores for grades 3–8 in mathematics and ELA/reading. The equation below was used to determine the previous term'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 RIT score, and
- g is the expected growth from the previous RIT score (e.g., fall or winter) to the spring RIT score.

The most recent MAP Growth conditional growth norms were also used to calculate the fall, winter, and spring cuts for grade 2. Students do not begin taking the MCAP summative assessment until grade 3. Thus, 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 of grade 2 to spring of grade 3). The calculation of fall and winter cuts for grade 2 followed the same process as for the other grades. For example, the growth score from fall to spring in grade 2 was used to calculate the fall cuts for this grade.

2.5. Classification Accuracy

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

Table 2.1. Description of Classification Accuracy Summary Statistics

Statistic	Description	Interpretation
Overall Classification Accuracy Rate	(TP + TN) / (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
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.

2.6. Proficiency Projections

Given that all test scores contain measurement errors, reaching the *Proficient Learner* 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 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 MCAP summative tests based on a student's RIT scores from fall and winter:

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

where:

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

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

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

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

3. Results

3.1. Study Sample

Only students who have scores on both the MAP Growth and MCAP summative assessments in Spring 2024 were included in the study sample. The mathematics and ELA/reading data used in this study were collected from 192 schools within 4 districts in Maryland. Table 3.1 presents the distributions of students by race, sex, and performance level in the original unweighted study sample. Table 3.2 presents the distributions of the target population of students who took the MCAP tests. Since the original study sample is different from the target MCAP population, post-stratification weights were applied. Table 3.3 presents the demographic distributions of the sample after weighting, which are almost identical to the MCAP student population distributions.

Table 3.1. Linking Study Sample Demographics (Unweighted)

Demographic Subgroup		Percentage of Students in Each Subgroup by Grade (%)					
		3	4	5	6	7	8
Mathematics							
	Total N	11,243	11,562	7,990	12,195	9,190	4,410
Race	Asian	13.6	13.8	9.3	13.2	8.2	5.1
	Black/African American	20.9	20.7	24.8	20.5	22.9	26.3
	Hispanic/Latino of Any Race	34.3	33.6	42.7	31.4	37.3	50.2
	Other	7.0	7.1	6.7	7.3	6.8	5.7
	White	24.3	24.7	16.5	27.7	24.8	12.7
Sex	Female	49.7	48.2	51.7	48.0	49.7	49.3
	Male	50.3	51.8	48.3	52.0	50.3	50.7
Performance Level	*Beginning Learner*	19.2	16.2	19.8	27.0	43.1	50.1
	Developing Learner	30.3	40.6	61.4	44.3	41.9	47.3
	Proficient Learner	42.3	35.8	18.6	25.7	14.6	2.6
	Distinguished Learner	8.2	7.5	0.2	2.9	0.4	0.0
ELA/Reading							
	Total N	11,100	11,353	11,609	12,183	12,243	11,508
Race	Asian	13.4	13.6	13.7	13.5	13.3	14.0
	Black/African American	20.8	20.7	21.5	20.3	20.1	21.2
	Hispanic/Latino of Any Race	34.3	33.7	33.7	31.2	30.9	31.6
	Other	7.1	7.3	7.2	7.4	7.2	7.7
	White	24.4	24.8	23.8	27.5	28.5	25.6
Sex	Female	49.8	48.2	49.0	47.8	48.0	48.7
	Male	50.2	51.8	51.0	52.2	52.0	51.3
Performance Level	*Beginning Learner*	7.4	9.6	10.6	8.8	4.9	13.7
	Developing Learner	38.2	34.7	37.7	36.3	38.9	32.9
	Proficient Learner	47.5	47.7	45.2	44.9	46.9	48.5
	Distinguished Learner	7.0	8.0	6.5	10.0	9.3	4.9

Note. "Other" includes students identified as American Indian, Native Hawaiian, Two or More Races, or Unknown.

Table 3.2. Linking Study Population Demographics

Demographic Subgroup		Percentage of Students in Each Subgroup by Grade (%)					
		3	4	5	6	7	8
Mathematics							
	Total N	63,918	65,338	65,202	63,847	64,296	64,640
Race	Asian	6.8	6.9	7.0	7.1	7.1	6.9
	Black/African American	31.0	31.5	32.0	32.3	32.8	33.1
	Hispanic/Latino of Any Race	23.4	23.3	23.2	23.0	22.6	22.3
	Other	6.1	6.0	5.8	5.8	5.4	5.5
	White	32.7	32.3	32.1	31.8	32.1	32.2
Sex	Female	49.3	48.6	48.9	49.0	48.8	48.7
	Male	50.7	51.4	51.1	51.0	51.2	51.3
Performance Level	*Beginning Learner*	24.7	22.9	20.1	35.5	47.8	48.6
	Developing Learner	35.3	44.3	51.1	44.7	36.9	44.4
	Proficient Learner	35.7	28.8	27.0	18.4	14.3	6.9
	Distinguished Learner	4.3	4.0	1.7	1.5	1.0	0.0
ELA/Reading							
	Total N	63,770	65,202	65,076	63,840	64,432	64,826
Race	Asian	6.8	6.9	7.0	7.1	7.1	6.9
	Black/African American	31.1	31.6	32.0	32.4	32.8	33.2
	Hispanic/Latino of Any Race	23.2	23.2	23.0	22.9	22.5	22.2
	Other	6.1	6.0	5.8	5.8	5.5	5.5
	White	32.8	32.4	32.2	31.8	32.2	32.2
Sex	Female	49.3	48.6	48.9	49.0	48.8	48.6
	Male	50.7	51.4	51.1	51.0	51.2	51.4
Performance Level	*Beginning Learner*	9.1	12.0	14.2	11.0	6.3	17.1
	Developing Learner	44.4	38.7	41.6	41.1	45.1	36.6
	Proficient Learner	41.6	43.4	38.3	40.9	42.3	41.9
	Distinguished Learner	4.9	5.9	5.9	7.0	6.3	4.3

Note. "Other" includes students identified as American Indian, Native Hawaiian, Two or More Races, or Unknown.

Table 3.3. Linking Study Sample Demographics (Weighted)

Demographic Subgroup		Percentage of Students in Each Subgroup by Grade (%)					
		3	4	5	6	7	8
Mathematics							
	Total N	11,243	11,562	7,982	12,207	9,190	4,406
Race	Asian	6.8	6.9	7.0	7.1	7.1	6.9
	Black/African American	31.0	31.5	32.0	32.3	32.8	33.1
	Hispanic/Latino of Any Race	23.4	23.3	23.2	23.0	22.6	22.3
	Other	6.1	6.0	5.8	5.8	5.4	5.5
	White	32.7	32.3	32.1	31.8	32.1	32.2
Sex	Female	49.3	48.6	48.9	49.0	48.8	48.7

Demographic Subgroup		Percentage of Students in Each Subgroup by Grade (%)					
		3	4	5	6	7	8
	Male	50.7	51.4	51.1	51.0	51.2	51.3
Performance Level	*Beginning Learner*	24.7	22.9	20.1	35.5	47.8	48.6
	Developing Learner	35.3	44.3	51.2	44.7	36.9	44.4
	Proficient Learner	35.7	28.8	27.0	18.4	14.3	6.9
	Distinguished Learner	4.3	4.0	1.7	1.5	1.0	0.0
ELA/Reading							
	Total N	11,100	11,353	11,609	12,183	12,243	11,496
Race	Asian	6.8	6.9	6.9	7.1	7.1	6.9
	Black/African American	31.1	31.6	32.0	32.4	32.8	33.2
	Hispanic/Latino of Any Race	23.2	23.2	23.0	22.9	22.5	22.2
	Other	6.1	6.0	5.8	5.8	5.5	5.5
	White	32.8	32.4	32.2	31.8	32.2	32.2
Sex	Female	49.3	48.6	48.9	49.0	48.8	48.6
	Male	50.7	51.4	51.1	51.0	51.2	51.4
Performance Level	*Beginning Learner*	9.1	12.0	14.2	11.0	6.3	17.1
	Developing Learner	44.4	38.7	41.6	41.1	45.1	36.6
	Proficient Learner	41.6	43.4	38.3	40.9	42.3	41.9
	Distinguished Learner	4.9	5.9	5.9	7.0	6.3	4.3

Note. "Other" includes students identified as American Indian, Native Hawaiian, Two or More Races, or Unknown.

3.2. Descriptive Statistics

Table 3.4 presents descriptive statistics of the MAP Growth and MCAP summative test scores from Spring 2024, including the correlation coefficients (*r*) between them. The coefficients between the scores range from 0.74 to 0.91 for mathematics and 0.85 to 0.86 for ELA/reading. These values indicate a high positive correlation among the scores, which is important validity evidence for the claim that MAP Growth scores are good predictors of performance on the MCAP spring summative assessment.

Table 3.4. Descriptive Statistics of Test Scores

Grade	N	*r*	MCAP Summative				MAP Growth			
			Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
Mathematics										
3	11,243	0.88	745.3	25.7	650	850	203.9	18.2	123	273
4	11,562	0.87	741.9	19.8	650	850	213.8	19.3	128	286
5	7,982	0.86	739.3	16.1	650	798	217.3	18.6	131	279
6	12,207	0.91	734.6	17.4	671	850	221.9	20.2	148	297
7	9,190	0.85	728.4	19.3	650	801	221.9	18.5	144	311
8	4,406	0.74	725.9	14.8	650	774	219.6	17.8	155	305
ELA/Reading										
3	11,100	0.86	751.3	21.9	681	843	195.7	19.7	140	248
4	11,353	0.86	749.6	19.3	650	818	204.8	18.9	145	254
5	11,609	0.86	746.9	19	694	823	211.4	18.5	146	261

Grade	N	*r*	MCAP Summative				MAP Growth			
			Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
6	12,183	0.85	749	18.6	692	844	213.8	17.2	156	264
7	12,243	0.85	750.1	17.5	650	839	217.7	16.9	160	266
8	11,496	0.85	748.7	22.6	686	838	221.4	16.9	164	269

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

3.3. MAP Growth Cut Scores

Table 3.5 and Table 3.6 present the MCAP summative scale score ranges and the corresponding MAP Growth RIT cut scores and percentile ranges by content area and grade. Bold numbers indicate the cut scores considered to be at least proficient for accountability purposes. These tables can be used to predict a student's likely performance level based on the MCAP spring summative assessment when MAP Growth is taken in the fall and winter. For example, a grade 3 student who obtained a MAP Growth mathematics RIT score of 194 in the fall is likely to achieve the *Proficient Learner* performance on the MCAP summative mathematics test. A grade 3 student who obtained a MAP Growth mathematics RIT score of 203 in the winter is also likely to achieve the *Proficient Learner* performance on the MCAP spring summative mathematics test. The winter cut score is higher than the fall cut score because growth is expected between fall and winter as students receive more instruction during the school year.

Within this report, the cut scores for fall and winter are derived from the spring cuts and the typical growth scores from fall-to-spring or winter-to-spring. The typical growth scores are based on the default instructional weeks 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 substantially from the default ones, a student's expected performance level could be different from the projections presented in this report. Partners are therefore encouraged to use the projected performance level in students' score reports, since these reflect the specific instructional weeks set by partners.

Table 3.5. MAP Growth Cut Scores—Mathematics

MCAP Summative Mathematics								
Grade	***Beginning Learner***		***Developing Learner***		***Proficient Learner***		***Distinguished Learner***	
3	650–724		725–749		**750**–789		790–850	
4	650–724		725–749		**750**–777		778–850	
5	650–724		725–749		**750**–780		781–850	
6	650–724		725–749		**750**–774		775–850	
7	650–724		725–749		**750**–775		776–850	
8	650–724		725–749		**750**–778		779–850	
MAP Growth Mathematics								
Grade	***Beginning Learner***		***Developing Learner***		***Proficient Learner***		***Distinguished Learner***	
	RIT	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
2	100–160	1–21	161–184	22–77	**185**–214	78–98	215–350	99–99
3	100–175	1–29	176–193	30–73	**194**–217	74–98	218–350	99–99
4	100–185	1–23	186–210	24–80	**211**–228	81–97	229–350	98–99
5	100–192	1–20	193–220	21–81	**221**–244	82–98	245–350	99–99
6	100–200	1–27	201–229	28–88	**230**–251	89–98	252–350	99–99
7	100–212	1–39	213–234	40–84	**235**–257	85–98	258–350	99–99
8	100–213	1–32	214–239	33–83	**240**–350	84–99	NA	NA
Winter								
2	100–169	1–23	170–192	24–76	**193**–222	77–98	223–350	99–99
3	100–183	1–29	184–202	30–73	**203**–226	74–97	227–350	98–99
4	100–192	1–24	193–218	25–79	**219**–237	80–97	238–350	98–99
5	100–197	1–20	198–226	21–80	**227**–252	81–98	253–350	99–99
6	100–205	1–27	206–236	28–88	**237**–260	89–98	261–350	99–99
7	100–216	1–40	217–239	41–84	**240**–263	85–98	264–350	99–99
8	100–217	1–33	218–244	34–83	**245**–350	84–99	NA	NA
Spring								
2	100–176	1–25	177–197	26–73	**198**–224	74–98	225–350	99–99
3	100–190	1–31	191–208	32–71	**209**–231	72–96	232–350	97–99
4	100–198	1–26	199–223	27–77	**224**–242	78–96	243–350	97–99
5	100–201	1–21	202–230	22–78	**231**–255	79–97	256–350	98–99
6	100–210	1–30	211–240	31–86	**241**–263	87–98	264–350	99–99
7	100–219	1–41	220–241	42–82	**242**–264	83–97	265–350	98–99
8	100–220	1–34	221–246	35–81	**247**–350	82–99	NA	NA

Note. Bold numbers indicate the cut scores considered to be at least proficient for accountability purposes. Because there were no student records in the *Distinguished Learner* category for grade 8 mathematics statewide, MAP Growth RIT cut scores for this performance level could not be calculated from the available data.

Table 3.6. MAP Growth Cut Scores—ELA/Reading

MCAP Summative ELA/Reading				
Grade	***Beginning Learner***	***Developing Learner***	***Proficient Learner***	***Distinguished Learner***
3	650–724	725–749	**750**–789	790–850
4	650–724	725–749	**750**–778	779–850
5	650–724	725–749	**750**–776	777–850
6	650–724	725–749	**750**–776	777–850
7	650–724	725–749	**750**–777	778–850
8	650–724	725–749	**750**–787	788–850

MAP Growth ELA/Reading								
Grade	***Beginning Learner***		***Developing Learner***		***Proficient Learner***		***Distinguished Learner***	
	RIT	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
2	100–134	1–1	135–173	2–58	**174**–213	59–98	214–350	99–99
3	100–155	1–5	156–187	6–56	**188**–221	57–97	222–350	98–99
4	100–169	1–6	170–201	7–62	**202**–228	63–96	229–350	97–99
5	100–181	1–10	182–211	11–67	**212**–234	68–95	235–350	96–99
6	100–183	1–6	184–214	7–63	**215**–235	64–94	236–350	95–99
7	100–185	1–5	186–217	6–62	**218**–239	63–94	240–350	95–99
8	100–199	1–17	200–221	18–63	**222**–244	64–95	245–350	96–99
Winter								
2	100–141	1–1	142–179	2–57	**180**–218	58–98	219–350	99–99
3	100–161	1–5	162–192	6–56	**193**–224	57–96	225–350	97–99
4	100–174	1–7	175–204	8–61	**205**–229	62–95	230–350	96–99
5	100–185	1–11	186–214	12–68	**215**–235	69–95	236–350	96–99
6	100–186	1–7	187–215	8–61	**216**–236	62–93	237–350	94–99
7	100–187	1–5	188–218	6–61	**219**–240	62–94	241–350	95–99
8	100–200	1–16	201–222	17–63	**223**–245	64–95	246–350	96–99
Spring								
2	100–150	1–3	151–184	4–57	**185**–219	58–98	220–350	99–99
3	100–168	1–8	169–196	9–56	**197**–225	57–95	226–350	96–99
4	100–179	1–10	180–206	11–60	**207**–230	61–94	231–350	95–99
5	100–189	1–13	190–215	14–66	**216**–236	67–94	237–350	95–99
6	100–190	1–9	191–216	10–61	**217**–237	62–93	238–350	94–99
7	100–191	1–8	192–219	9–61	**220**–241	62–93	242–350	94–99
8	100–203	1–20	204–223	21–63	**224**–246	64–95	247–350	96–99

Note. 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 MCAP spring summative tests, providing insight into the predictive validity of MAP Growth. The overall classification accuracy rates range from 0.89 to 0.95 for mathematics and 0.85 to 0.87 for ELA/reading. These values suggest that the RIT cut scores are good at classifying students as proficient or not proficient on the MCAP summative assessments.

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

Table 3.7. Classification Accuracy Results

Grade	N	Cut Score		Class. Accuracy	Rate		Sensitivity	Specificity	Precision	AUC
		MAP Growth	MCAP		FP	FN				
Mathematics										
3	11,243	209	750	0.90	0.09	0.11	0.89	0.91	0.86	0.90
4	11,562	224	750	0.91	0.08	0.13	0.87	0.92	0.85	0.90
5	7,982	231	750	0.89	0.06	0.22	0.78	0.94	0.84	0.86
6	12,207	241	750	0.93	0.03	0.21	0.79	0.97	0.86	0.88
7	9,190	242	750	0.92	0.04	0.27	0.73	0.96	0.75	0.84
8	4,406	247	750	0.95	0.02	0.50	0.50	0.98	0.63	0.74
ELA/Reading										
3	11,100	197	750	0.87	0.18	0.07	0.93	0.82	0.82	0.87
4	11,353	207	750	0.87	0.16	0.10	0.90	0.84	0.85	0.87
5	11,609	216	750	0.87	0.13	0.13	0.87	0.87	0.84	0.87
6	12,183	217	750	0.85	0.14	0.15	0.85	0.86	0.84	0.85
7	12,243	220	750	0.86	0.14	0.13	0.87	0.86	0.85	0.86
8	11,496	224	750	0.86	0.14	0.13	0.87	0.86	0.84	0.86

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 on the MCAP summative tests based on RIT scores from fall, winter, or spring. Due to measurement error in all test scores, the *Proficient Learner* MAP Growth cuts do not guarantee that a student will reach proficiency on the MCAP summative tests. Instead, they indicate a 50% chance that a student will reach a particular performance level. Therefore, these projections further elucidate the *Proficient Learner* cut scores by providing the likelihood of reaching proficiency on the MCAP spring summative assessment at a given percentile throughout the year.

For example, a grade 3 student at percentile 85 who obtained a MAP Growth mathematics score of 200 in the fall has a 78% chance of reaching proficiency on the MCAP test in spring. Additionally, an educator can also use the table to estimate that a grade 3 student who obtained a MAP Growth mathematics score of 210 in the winter has an 80% probability of reaching proficiency on the MCAP mathematics spring summative assessment.

Table 3.8. Proficiency Projections Based on RIT Scores—Mathematics

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		Proficient	Prob.		Proficient	Prob.
2	5	198	147	No	<0.01	155	No	<0.01	161	No	<0.01
	10	198	153	No	<0.01	161	No	<0.01	167	No	<0.01
	15	198	157	No	<0.01	165	No	<0.01	171	No	<0.01
	20	198	160	No	<0.01	168	No	<0.01	174	No	<0.01
	25	198	162	No	0.01	171	No	<0.01	177	No	<0.01
	30	198	165	No	0.01	173	No	0.01	179	No	<0.01
	35	198	167	No	0.03	175	No	0.02	181	No	<0.01
	40	198	169	No	0.04	177	No	0.03	183	No	<0.01
	45	198	171	No	0.07	179	No	0.04	185	No	<0.01
	50	198	173	No	0.11	181	No	0.07	187	No	<0.01
	55	198	175	No	0.14	183	No	0.12	189	No	0.01
	60	198	177	No	0.20	185	No	0.18	192	No	0.04
	65	198	179	No	0.27	187	No	0.25	194	No	0.13
	70	198	181	No	0.36	189	No	0.30	196	No	0.28
	75	198	183	No	0.45	192	No	0.45	198	Yes	0.50
	80	198	186	Yes	0.55	194	Yes	0.55	201	Yes	0.80
	85	198	189	Yes	0.69	197	Yes	0.70	204	Yes	0.96
	90	198	193	Yes	0.80	201	Yes	0.82	208	Yes	>0.99
	95	198	198	Yes	0.93	207	Yes	0.96	214	Yes	>0.99
3	5	209	158	No	<0.01	166	No	<0.01	171	No	<0.01
	10	209	164	No	<0.01	172	No	<0.01	177	No	<0.01
	15	209	168	No	<0.01	176	No	<0.01	181	No	<0.01
	20	209	171	No	<0.01	179	No	<0.01	185	No	<0.01
	25	209	174	No	0.01	182	No	<0.01	188	No	<0.01
	30	209	176	No	0.01	184	No	0.01	190	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		Proficient	Prob.		Proficient	Prob.
	35	209	178	No	0.02	186	No	0.01	193	No	<0.01
	40	209	180	No	0.04	189	No	0.04	195	No	<0.01
	45	209	182	No	0.06	191	No	0.06	197	No	<0.01
	50	209	184	No	0.10	193	No	0.08	199	No	<0.01
	55	209	186	No	0.15	195	No	0.13	201	No	0.01
	60	209	188	No	0.22	197	No	0.20	203	No	0.04
	65	209	190	No	0.30	199	No	0.29	206	No	0.20
	70	209	192	No	0.40	201	No	0.39	208	No	0.39
	75	209	195	Yes	0.55	204	Yes	0.55	211	Yes	0.72
	80	209	197	Yes	0.65	206	Yes	0.66	213	Yes	0.87
	85	209	200	Yes	0.78	210	Yes	0.80	217	Yes	0.99
	90	209	204	Yes	0.90	214	Yes	0.92	221	Yes	>0.99
	95	209	210	Yes	0.97	220	Yes	0.99	227	Yes	>0.99
	5	224	171	No	<0.01	176	No	<0.01	180	No	<0.01
	10	224	177	No	<0.01	183	No	<0.01	187	No	<0.01
	15	224	181	No	<0.01	187	No	<0.01	191	No	<0.01
	20	224	184	No	<0.01	190	No	<0.01	195	No	<0.01
	25	224	186	No	<0.01	193	No	<0.01	198	No	<0.01
	30	224	189	No	<0.01	196	No	<0.01	201	No	<0.01
4	35	224	191	No	0.01	198	No	<0.01	203	No	<0.01
	40	224	193	No	0.01	200	No	0.01	206	No	<0.01
	45	224	195	No	0.02	202	No	0.01	208	No	<0.01
	50	224	197	No	0.04	204	No	0.02	210	No	<0.01
	55	224	199	No	0.07	207	No	0.06	212	No	<0.01
	60	224	201	No	0.11	209	No	0.08	215	No	0.01
	65	224	203	No	0.16	211	No	0.13	217	No	0.02

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		Proficient	Prob.		Proficient	Prob.
	70	224	205	No	0.23	213	No	0.20	220	No	0.13
	75	224	208	No	0.35	216	No	0.33	222	No	0.28
	80	224	210	No	0.45	219	Yes	0.50	225	Yes	0.61
	85	224	214	Yes	0.65	222	Yes	0.67	229	Yes	0.92
	90	224	217	Yes	0.77	226	Yes	0.84	233	Yes	0.99
	95	224	223	Yes	0.93	232	Yes	0.97	240	Yes	>0.99
5	5	231	180	No	<0.01	183	No	<0.01	186	No	<0.01
	10	231	185	No	<0.01	189	No	<0.01	192	No	<0.01
	15	231	189	No	<0.01	194	No	<0.01	197	No	<0.01
	20	231	193	No	<0.01	197	No	<0.01	200	No	<0.01
	25	231	195	No	<0.01	200	No	<0.01	204	No	<0.01
	30	231	198	No	<0.01	203	No	<0.01	206	No	<0.01
	35	231	200	No	<0.01	205	No	<0.01	209	No	<0.01
	40	231	202	No	0.01	207	No	<0.01	211	No	<0.01
	45	231	204	No	0.01	210	No	0.01	214	No	<0.01
	50	231	206	No	0.03	212	No	0.02	216	No	<0.01
	55	231	208	No	0.05	214	No	0.03	218	No	<0.01
	60	231	210	No	0.08	216	No	0.06	221	No	<0.01
	65	231	212	No	0.12	219	No	0.13	223	No	0.01
	70	231	215	No	0.22	221	No	0.20	226	No	0.08
	75	231	217	No	0.30	224	No	0.33	228	No	0.20
	80	231	220	No	0.45	226	No	0.44	232	Yes	0.61
	85	231	223	Yes	0.60	230	Yes	0.67	235	Yes	0.87
	90	231	227	Yes	0.78	234	Yes	0.84	240	Yes	0.99
	95	231	233	Yes	0.95	240	Yes	0.97	246	Yes	>0.99
6	5	241	184	No	<0.01	187	No	<0.01	190	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		Proficient	Prob.		Proficient	Prob.
	10	241	190	No	<0.01	194	No	<0.01	197	No	<0.01
	15	241	194	No	<0.01	198	No	<0.01	201	No	<0.01
	20	241	197	No	<0.01	201	No	<0.01	205	No	<0.01
	25	241	199	No	<0.01	204	No	<0.01	208	No	<0.01
	30	241	202	No	<0.01	207	No	<0.01	211	No	<0.01
	35	241	204	No	<0.01	209	No	<0.01	213	No	<0.01
	40	241	206	No	<0.01	212	No	<0.01	216	No	<0.01
	45	241	208	No	<0.01	214	No	<0.01	218	No	<0.01
	50	241	210	No	<0.01	216	No	<0.01	220	No	<0.01
	55	241	212	No	0.01	218	No	<0.01	223	No	<0.01
	60	241	214	No	0.02	220	No	0.01	225	No	<0.01
	65	241	216	No	0.03	223	No	0.03	227	No	<0.01
	70	241	219	No	0.07	225	No	0.05	230	No	<0.01
	75	241	221	No	0.13	228	No	0.11	233	No	0.01
	80	241	224	No	0.23	231	No	0.21	236	No	0.08
	85	241	227	No	0.36	234	No	0.34	239	No	0.28
	90	241	231	Yes	0.55	238	Yes	0.55	244	Yes	0.80
	95	241	237	Yes	0.81	245	Yes	0.86	251	Yes	>0.99
7	5	242	189	No	<0.01	191	No	<0.01	192	No	<0.01
	10	242	195	No	<0.01	197	No	<0.01	199	No	<0.01
	15	242	199	No	<0.01	202	No	<0.01	204	No	<0.01
	20	242	203	No	<0.01	206	No	<0.01	208	No	<0.01
	25	242	206	No	<0.01	209	No	<0.01	211	No	<0.01
	30	242	208	No	<0.01	211	No	<0.01	214	No	<0.01
	35	242	211	No	<0.01	214	No	<0.01	216	No	<0.01
	40	242	213	No	<0.01	216	No	<0.01	219	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		Proficient	Prob.		Proficient	Prob.
	45	242	215	No	0.01	219	No	<0.01	221	No	<0.01
	50	242	217	No	0.01	221	No	0.01	224	No	<0.01
	55	242	219	No	0.03	223	No	0.02	226	No	<0.01
	60	242	222	No	0.06	226	No	0.04	229	No	<0.01
	65	242	224	No	0.09	228	No	0.07	231	No	<0.01
	70	242	226	No	0.14	231	No	0.12	234	No	0.01
	75	242	229	No	0.23	233	No	0.18	237	No	0.08
	80	242	232	No	0.36	236	No	0.30	240	No	0.28
	85	242	235	Yes	0.50	240	Yes	0.50	244	Yes	0.72
	90	242	239	Yes	0.69	245	Yes	0.74	249	Yes	0.98
	95	242	246	Yes	0.91	251	Yes	0.93	256	Yes	>0.99
8	5	247	192	No	<0.01	194	No	<0.01	196	No	<0.01
	10	247	199	No	<0.01	201	No	<0.01	203	No	<0.01
	15	247	203	No	<0.01	206	No	<0.01	208	No	<0.01
	20	247	207	No	<0.01	210	No	<0.01	212	No	<0.01
	25	247	210	No	<0.01	213	No	<0.01	215	No	<0.01
	30	247	212	No	<0.01	216	No	<0.01	218	No	<0.01
	35	247	215	No	<0.01	219	No	<0.01	221	No	<0.01
	40	247	217	No	<0.01	221	No	<0.01	224	No	<0.01
	45	247	220	No	0.01	224	No	0.01	226	No	<0.01
	50	247	222	No	0.02	226	No	0.01	229	No	<0.01
	55	247	224	No	0.03	228	No	0.02	231	No	<0.01
	60	247	227	No	0.07	231	No	0.05	234	No	<0.01
	65	247	229	No	0.10	233	No	0.08	237	No	<0.01
	70	247	232	No	0.18	236	No	0.16	239	No	0.01
	75	247	234	No	0.25	239	No	0.23	242	No	0.08

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		Proficient	Prob.		Proficient	Prob.
	80	247	237	No	0.37	242	No	0.35	246	No	0.39
	85	247	241	Yes	0.55	246	Yes	0.55	250	Yes	0.80
	90	247	246	Yes	0.75	251	Yes	0.77	255	Yes	0.99
	95	247	252	Yes	0.92	258	Yes	0.95	262	Yes	>0.99

Note. Prob. = Probability.

Table 3.9. Proficiency Projections Based on RIT Scores—ELA/Reading

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		Proficient	Prob.		Proficient	Prob.
2	5	185	142	No	<0.01	149	No	<0.01	153	No	<0.01
	10	185	148	No	0.01	155	No	<0.01	159	No	<0.01
	15	185	152	No	0.02	159	No	0.01	164	No	<0.01
	20	185	156	No	0.05	162	No	0.03	167	No	<0.01
	25	185	159	No	0.07	165	No	0.05	170	No	<0.01
	30	185	161	No	0.11	168	No	0.09	173	No	<0.01
	35	185	163	No	0.16	170	No	0.14	175	No	<0.01
	40	185	166	No	0.22	172	No	0.20	177	No	0.01
	45	185	168	No	0.29	175	No	0.27	180	No	0.08
	50	185	170	No	0.37	177	No	0.36	182	No	0.20
	55	185	172	No	0.41	179	No	0.45	184	No	0.39
	60	185	174	Yes	0.50	181	Yes	0.50	186	Yes	0.61
	65	185	177	Yes	0.63	183	Yes	0.59	188	Yes	0.80
	70	185	179	Yes	0.67	186	Yes	0.73	191	Yes	0.96
	75	185	182	Yes	0.78	188	Yes	0.80	193	Yes	0.99
	80	185	184	Yes	0.84	191	Yes	0.86	196	Yes	>0.99
	85	185	188	Yes	0.91	194	Yes	0.93	200	Yes	>0.99
	90	185	192	Yes	0.96	199	Yes	0.97	204	Yes	>0.99
	95	185	198	Yes	0.99	205	Yes	>0.99	210	Yes	>0.99
3	5	197	155	No	<0.01	160	No	<0.01	164	No	<0.01
	10	197	161	No	<0.01	167	No	<0.01	171	No	<0.01
	15	197	166	No	0.02	171	No	0.01	175	No	<0.01
	20	197	169	No	0.03	175	No	0.03	179	No	<0.01
	25	197	172	No	0.06	178	No	0.05	182	No	<0.01
	30	197	175	No	0.09	180	No	0.08	184	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		Proficient	Prob.		Proficient	Prob.
	35	197	178	No	0.16	183	No	0.14	187	No	<0.01
	40	197	180	No	0.22	185	No	0.17	189	No	0.01
	45	197	182	No	0.25	188	No	0.27	192	No	0.08
	50	197	185	No	0.37	190	No	0.36	194	No	0.20
	55	197	187	No	0.46	192	No	0.45	196	No	0.39
	60	197	189	Yes	0.54	194	Yes	0.50	198	Yes	0.61
	65	197	192	Yes	0.63	197	Yes	0.64	201	Yes	0.87
	70	197	194	Yes	0.71	199	Yes	0.73	203	Yes	0.96
	75	197	197	Yes	0.78	202	Yes	0.83	206	Yes	0.99
	80	197	200	Yes	0.87	205	Yes	0.88	209	Yes	>0.99
	85	197	204	Yes	0.93	209	Yes	0.95	213	Yes	>0.99
	90	197	208	Yes	0.97	213	Yes	0.98	217	Yes	>0.99
	95	197	215	Yes	>0.99	220	Yes	>0.99	224	Yes	>0.99
4	5	207	166	No	<0.01	170	No	<0.01	173	No	<0.01
	10	207	173	No	<0.01	177	No	<0.01	179	No	<0.01
	15	207	177	No	0.01	181	No	<0.01	184	No	<0.01
	20	207	181	No	0.02	184	No	0.01	187	No	<0.01
	25	207	184	No	0.04	187	No	0.02	190	No	<0.01
	30	207	186	No	0.05	190	No	0.05	193	No	<0.01
	35	207	189	No	0.10	193	No	0.08	195	No	<0.01
	40	207	191	No	0.14	195	No	0.13	198	No	0.01
	45	207	194	No	0.20	197	No	0.19	200	No	0.02
	50	207	196	No	0.28	199	No	0.27	202	No	0.08
	55	207	198	No	0.36	202	No	0.35	204	No	0.20
	60	207	200	No	0.45	204	No	0.45	207	Yes	0.50
	65	207	203	Yes	0.55	206	Yes	0.55	209	Yes	0.72

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		Proficient	Prob.		Proficient	Prob.
	70	207	205	Yes	0.64	209	Yes	0.69	211	Yes	0.87
	75	207	208	Yes	0.76	211	Yes	0.73	214	Yes	0.98
	80	207	211	Yes	0.83	214	Yes	0.84	217	Yes	>0.99
	85	207	215	Yes	0.92	218	Yes	0.93	220	Yes	>0.99
	90	207	219	Yes	0.96	222	Yes	0.98	225	Yes	>0.99
	95	207	226	Yes	0.99	229	Yes	>0.99	231	Yes	>0.99
5	5	216	175	No	<0.01	178	No	<0.01	180	No	<0.01
	10	216	181	No	<0.01	184	No	<0.01	186	No	<0.01
	15	216	186	No	<0.01	189	No	<0.01	191	No	<0.01
	20	216	189	No	0.01	192	No	0.01	194	No	<0.01
	25	216	192	No	0.01	195	No	0.01	197	No	<0.01
	30	216	195	No	0.03	197	No	0.02	199	No	<0.01
	35	216	197	No	0.06	200	No	0.05	202	No	<0.01
	40	216	199	No	0.07	202	No	0.08	204	No	<0.01
	45	216	201	No	0.11	204	No	0.10	206	No	<0.01
	50	216	204	No	0.20	206	No	0.15	208	No	0.01
	55	216	206	No	0.23	209	No	0.26	211	No	0.08
	60	216	208	No	0.31	211	No	0.30	213	No	0.20
	65	216	210	No	0.40	213	No	0.40	215	No	0.39
	70	216	213	Yes	0.50	215	Yes	0.50	217	Yes	0.61
	75	216	215	Yes	0.60	218	Yes	0.65	220	Yes	0.87
	80	216	218	Yes	0.73	221	Yes	0.78	223	Yes	0.98
	85	216	222	Yes	0.84	224	Yes	0.88	226	Yes	>0.99
	90	216	226	Yes	0.93	228	Yes	0.95	230	Yes	>0.99
	95	216	232	Yes	0.99	235	Yes	0.99	237	Yes	>0.99
6	5	217	181	No	<0.01	183	No	<0.01	185	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		Proficient	Prob.		Proficient	Prob.
	10	217	187	No	<0.01	189	No	<0.01	191	No	<0.01
	15	217	191	No	0.01	193	No	<0.01	195	No	<0.01
	20	217	195	No	0.02	197	No	0.02	198	No	<0.01
	25	217	198	No	0.04	199	No	0.03	201	No	<0.01
	30	217	200	No	0.06	202	No	0.05	203	No	<0.01
	35	217	202	No	0.09	204	No	0.08	206	No	<0.01
	40	217	205	No	0.16	206	No	0.13	208	No	0.01
	45	217	207	No	0.20	209	No	0.22	210	No	0.02
	50	217	209	No	0.27	211	No	0.26	212	No	0.08
	55	217	211	No	0.36	213	No	0.35	214	No	0.20
	60	217	213	No	0.45	215	No	0.45	216	No	0.39
	65	217	215	Yes	0.50	217	Yes	0.55	218	Yes	0.61
	70	217	218	Yes	0.64	219	Yes	0.65	221	Yes	0.87
	75	217	220	Yes	0.73	222	Yes	0.78	223	Yes	0.96
	80	217	223	Yes	0.84	225	Yes	0.87	226	Yes	0.99
	85	217	226	Yes	0.91	228	Yes	0.94	229	Yes	>0.99
	90	217	231	Yes	0.97	232	Yes	0.98	233	Yes	>0.99
	95	217	237	Yes	>0.99	238	Yes	>0.99	239	Yes	>0.99
7	5	220	185	No	<0.01	186	No	<0.01	187	No	<0.01
	10	220	191	No	<0.01	192	No	<0.01	193	No	<0.01
	15	220	195	No	0.01	196	No	0.01	197	No	<0.01
	20	220	198	No	0.02	200	No	0.02	201	No	<0.01
	25	220	201	No	0.04	202	No	0.03	203	No	<0.01
	30	220	204	No	0.08	205	No	0.06	206	No	<0.01
	35	220	206	No	0.10	207	No	0.09	208	No	<0.01
	40	220	208	No	0.15	210	No	0.16	211	No	0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		Proficient	Prob.		Proficient	Prob.
	45	220	210	No	0.21	212	No	0.20	213	No	0.02
	50	220	212	No	0.28	214	No	0.27	215	No	0.08
	55	220	214	No	0.32	216	No	0.36	217	No	0.20
	60	220	217	No	0.45	218	No	0.45	219	No	0.39
	65	220	219	Yes	0.55	220	Yes	0.55	221	Yes	0.61
	70	220	221	Yes	0.64	223	Yes	0.69	224	Yes	0.87
	75	220	224	Yes	0.76	225	Yes	0.77	226	Yes	0.96
	80	220	226	Yes	0.82	228	Yes	0.86	229	Yes	0.99
	85	220	230	Yes	0.92	231	Yes	0.93	232	Yes	>0.99
	90	220	234	Yes	0.97	235	Yes	0.97	237	Yes	>0.99
	95	220	240	Yes	0.99	241	Yes	>0.99	243	Yes	>0.99
8	5	224	188	No	<0.01	189	No	<0.01	190	No	<0.01
	10	224	194	No	<0.01	195	No	<0.01	196	No	<0.01
	15	224	198	No	0.01	199	No	<0.01	200	No	<0.01
	20	224	201	No	0.02	203	No	0.02	203	No	<0.01
	25	224	204	No	0.04	205	No	0.02	206	No	<0.01
	30	224	207	No	0.06	208	No	0.05	209	No	<0.01
	35	224	209	No	0.09	210	No	0.08	211	No	<0.01
	40	224	211	No	0.13	213	No	0.12	213	No	<0.01
	45	224	214	No	0.18	215	No	0.17	216	No	0.01
	50	224	216	No	0.25	217	No	0.24	218	No	0.04
	55	224	218	No	0.33	219	No	0.32	220	No	0.13
	60	224	220	No	0.41	221	No	0.41	222	No	0.28
	65	224	222	Yes	0.50	223	Yes	0.50	224	Yes	0.50
	70	224	225	Yes	0.63	226	Yes	0.64	227	Yes	0.80
	75	224	227	Yes	0.71	228	Yes	0.72	229	Yes	0.92

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		Proficient	Prob.		Proficient	Prob.
	80	224	230	Yes	0.82	231	Yes	0.83	232	Yes	0.99
	85	224	233	Yes	0.89	235	Yes	0.92	236	Yes	>0.99
	90	224	238	Yes	0.96	239	Yes	0.97	240	Yes	>0.99
	95	224	244	Yes	0.99	245	Yes	>0.99	246	Yes	>0.99

Note. Prob. = Probability.

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