Predicting Performance on the Arkansas ACT Aspire Summative Assessments Based on NWEA MAP Growth Scores

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NWEA Psychometrics and Analytics

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Linking Study Updates

Date	Description
2020-07	Conducted a linking study for grades 3–10 in mathematics and reading based on the 2020 norms and Spring 2018 data.
2025-07	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 Arkansas ACT Aspire summative assessment in grades 3–10 reading and mathematics, NWEA® conducted a linking study using Spring 2018 data to derive Rasch Unit (RIT) cut scores on the MAP® Growth™ assessments that correspond to the ACT Aspire performance levels. With this information, educators can identify students at risk of failing to meet state proficiency standards early in the year and provide tailored educational interventions. The linking study has been updated since the previous version published in July 2020 to incorporate the most recent 2025 NWEA MAP Growth norms (NWEA, 2025).

Table E.1 presents the ACT Aspire *Ready* performance level cut scores and the corresponding MAP Growth RIT cut scores that allow teachers to identify students who are on track for proficiency on the state summative test and those who are not. For example, the *Ready* cut score on the ACT Aspire grade 3 reading test is 415. A grade 3 student with a MAP Growth reading RIT score of 196 in the fall is likely to meet proficiency on the ACT Aspire reading test in the spring, whereas a grade 3 student with a MAP Growth reading RIT score lower than 196 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 ACT Aspire test by grade 3.

Table E.1. MAP Growth Cut Scores for ACT Aspire Proficiency

Assessment		*Ready* Cut Scores by Grade								
		2	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Reading										
ACT Aspire Spring			415	417	420	421	423	424	425	428
MAP Growth	Fall	183	196	204	214	218	223	224	227	232
	Winter	189	201	207	216	219	224	225	228	233
	Spring	193	204	209	217	220	225	226	229	234
Mathematics										
ACT Aspire Spring			413	416	418	420	422	425	428	432
MAP Growth	Fall	176	187	203	213	215	224	232	245	253
	Winter	184	196	211	219	221	228	236	246	254
	Spring	190	202	216	223	225	231	239	247	255

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. Partners should therefore reference their MAP Growth score reports instead.

E.1. Assessment Overview

The ACT Aspire grades 3–10 reading and mathematics tests are Arkansas' state summative assessments aligned to the ACT College Career Readiness Standards (ACT CCRS). Based on their test scores, students are placed into one of four performance levels: *In Need of Support*, *Close*, *Ready,* and *Exceeding.* These tests are used to measure progress toward college and career readiness and to provide evidence of student achievement in reading and mathematics for various test score uses, such as meeting the requirements of the state's accountability program. The *Ready* cut score demarks the minimum level of achievement considered to be proficient. MAP Growth tests are adaptive interim assessments aligned to state-specific content standards and administered in the fall, winter, and spring. Scores are reported on the RIT vertical scale with a range of 100–350.

E.2. Linking Methods

Based on scores from the Spring 2018 test administration, the equipercentile linking method was used to identify the spring MAP Growth scores that correspond to the spring ACT Aspire performance 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 ACT Aspire assessments in Spring 2018 were included in the study sample. Table E.2 presents the weighted numbers of Arkansas students from 7 districts and 75 schools who were included in the linking study. The linking study sample is voluntary and can only include student scores from partners who share their data. Also, not all students in a state take MAP Growth. The sample may therefore not represent the general student population as well as it should. To ensure that the linking study sample represents the state student population in terms of race, sex, and performance level, weighting (i.e., a statistical method that matches the distributions of the variables of interest to those of the target population) was applied to the sample. As a result, the RIT cuts derived from the study sample can be generalized to any student from the target population. All analyses in this study 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.

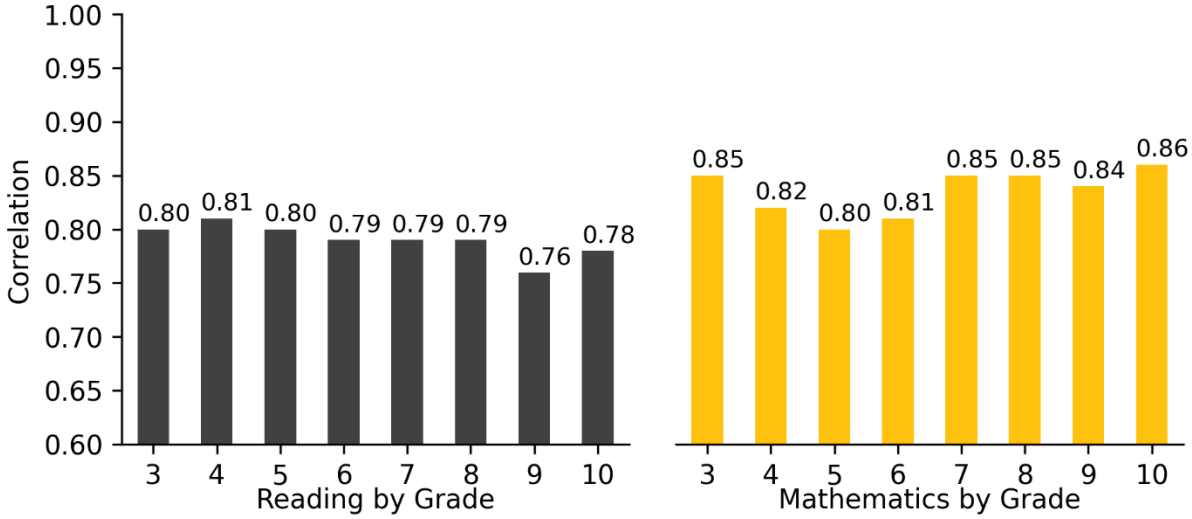
Table E.2. Linking Study Sample

Grade	# Students	
	Reading	Mathematics
3	4,082	4,077
4	3,985	3,887
5	4,074	4,092
6	3,485	3,832
7	3,472	3,442
8	2,257	2,199
9	2,287	1,963
10	1,998	1,756

E.4. Test Score Relationships

Correlations between MAP Growth RIT scores and ACT Aspire scores range from 0.76 to 0.86 across both content areas, as shown in Figure E.1. These values indicate a strong relationship among the scores, which is important validity evidence for the claim that MAP Growth scores are good predictors of performance on the ACT Aspire assessments.

Figure E.1. Correlations Between MAP Growth and ACT Aspire

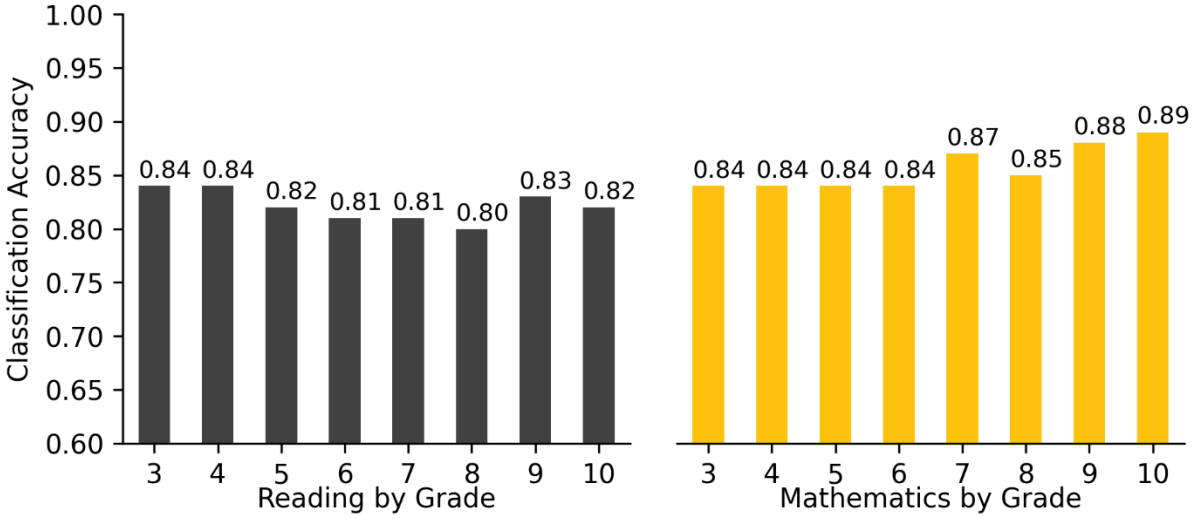


E.5. Accuracy of MAP Growth Classifications

Figure E.2 presents the classification accuracy statistics that show the proportion of students correctly classified by their RIT scores as proficient or not proficient on the ACT Aspire tests.[2] For example, the MAP Growth reading grade 3 *Ready* cut score has a 0.84 accuracy rate, meaning it accurately classified student achievement on the state test for 84% of the sample. The results range from 0.80 to 0.89 across both content areas, indicating that RIT scores have a high accuracy rate of identifying student proficiency on the ACT Aspire tests.

[2] The classification accuracy calculations for the mathematics spring cuts were based on the concorded cut scores.

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 ACT Aspire grades 3–10 reading and mathematics summative assessments with Rasch Unit (RIT) scores from the MAP Growth assessments taken during the Spring 2018 term. The linking study has been updated since the previous version published in July 2020 to incorporate the most recent 2025 NWEA MAP Growth norms (NWEA, 2025). In this updated study report, MAP Growth cut scores for grade 2 are also included so that educators can track early learners' progress toward proficiency on the ACT Aspire 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 ACT Aspire performance 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 ACT Aspire tests
5. The probability of achieving grade-level proficiency on the ACT Aspire assessment based on MAP Growth RIT scores from fall, winter, and spring using the 2025 norms

1.2. Assessment Overview

The ACT Aspire grades 3–10 reading and mathematics summative assessments are aligned to the ACT College and Career Readiness Standards (ACT CCRS). Each assessment has three cut scores (i.e., the minimum score a student must get on a test to be placed in a certain performance level) that distinguish between the following performance levels: *In Need of Support*, *Close*, *Ready,* and *Exceeding*. The *Ready* 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 2018 administrations of the MAP Growth and ACT Aspire assessments. NWEA requested that Arkansas 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 Arkansas 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 ACT Aspire assessments in Spring 2018 were included in the study sample.

2.2. Post-Stratification Weighting

Post-stratification weights were applied to the calculations to ensure that the linking study sample represented the state population in terms of race, sex, and performance level. These variables were selected because they are correlated with the student's academic achievement within this study and are often provided in the data for the state population. The weighted sample matches the target population as closely as possible 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 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. 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 ACT Aspire performance level cut scores. MAP Growth fall and winter cut scores that predict proficiency on the spring ACT Aspire 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 MAP Growth test scores. This is useful information for understanding (1) how student scores compare with peers nationwide and (2) the relative rigor of a state's performance level designations for its summative assessment.

The MAP Growth spring cut scores could be calculated using the equipercentile linking method because that data are directly connected to the ACT Aspire 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 students at or below each score). For example, let x represent a score on Test X (e.g., ACT Aspire). 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 ACT Aspire tests on the scale of MAP Growth, $P(x)$ is the percentile rank of a given score on the ACT Aspire 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 3–10. 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 (e.g., fall or winter) to the spring RIT.

The 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 ACT Aspire 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 above 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.

2.4. Classification Accuracy

The degree to which MAP Growth predicts student proficiency status on the ACT Aspire 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 (*Ready* or *Exceeding*) or not proficient (*In Need of Support* or *Close*). Table 2.1 describes the classification accuracy statistics provided in this report (Pommerich et al., 2004). The results are based on the Spring 2018 MAP Growth and ACT Aspire data for the *Ready* 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 *Ready* 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 ACT Aspire tests based on a student's RIT scores from fall and winter:

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

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 *Ready* 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 *Ready* proficiency on the ACT Aspire tests based on their spring RIT score (RIT_{Spring}):

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

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 ACT Aspire assessments in Spring 2018 were included in the study sample. Data used in this study were collected from 7 districts and 75 schools in Arkansas. Table 3.1 presents the demographic distributions of race, sex, and performance level in the original unweighted study sample. Table 3.2 presents the distributions of the student population who took the Spring 2018 ACT Aspire tests (ACT, 2018). Since the unweighted data are different from the general ACT Aspire 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 ACT Aspire 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	9	10
Reading									
	Total N	4,078	3,985	4,078	3,482	3,475	2,268	2,287	1,996
Race	AI/AN	0.6	1.1	1.0	1.2	0.9	1.0	0.9	1.2
	Asian/PI	3.5	2.7	3.2	2.4	2.7	3.3	3.3	2.9
	Black	5.5	5.3	4.9	4.8	4.9	5.5	6.0	6.3
	Hispanic	24.4	24.8	25.2	22.6	19.7	10.8	12.1	10.8
	Other	7.3	7.5	6.9	7.1	6.6	3.1	3.8	3.6
	White	58.7	58.6	58.8	61.9	65.2	76.3	73.9	75.2
Sex	Female	48.3	50.5	48.0	48.4	48.6	49.2	47.4	49.8
	Male	51.7	49.5	52.0	51.6	51.4	50.8	52.6	50.2
Performance Level	*In Need of Support*	35.6	22.6	30.8	23.8	21.5	15.4	25.0	28.5
	Close	22.7	25.9	25.2	22.6	29.3	21.4	23.6	26.4
	Ready	21.7	30.2	23.7	25.2	34.5	34.8	26.3	29.5
	Exceeding	20.0	21.2	20.3	28.4	14.7	28.4	25.1	15.6
Mathematics									
	Total N	4,081	3,887	4,092	3,828	3,439	2,199	1,963	1,754
Race	AI/AN	0.7	1.1	1.0	1.2	0.9	1.1	1.1	1.1
	Asian/PI	3.5	2.7	3.2	2.4	2.7	3.7	3.3	1.9
	Black	5.5	5.3	4.9	4.7	4.9	5.0	6.2	6.6
	Hispanic	24.3	24.0	25.1	24.7	19.7	8.9	10.1	9.0
	Other	7.2	7.5	6.9	7.2	6.8	3.7	3.9	3.4
	White	58.8	59.4	58.8	59.8	65.0	77.6	75.4	78.1
Sex	Female	48.2	50.6	48.1	48.5	48.3	49.2	48.2	49.8
	Male	51.8	49.4	51.9	51.5	51.7	50.8	51.8	50.2
Performance Level	*In Need of Support*	10.9	5.9	5.3	5.0	14.7	16.1	27.7	33.6
	Close	22.8	29.2	33.6	26.1	24.0	22.0	22.6	23.3
	Ready	38.1	43.3	41.8	42.5	28.1	25.7	23.6	22.1

Demographic Subgroup		% Students by Grade							
		3	4	5	6	7	8	9	10
	Exceeding	28.2	21.5	19.3	26.4	33.2	36.1	26.1	21.1

Note. AI/AN = American Indian/Alaskan Native; PI = Pacific Islander.

Table 3.2. Spring 2018 ACT Aspire Student Population Demographics

Demographic Subgroup		% Students by Grade							
		3	4	5	6	7	8	9	10
Reading									
	Total N	37,072	38,014	38,004	35,514	35,727	35,706	36,065	35,200
Race	AI/AN	1.8	1.8	2.0	1.9	1.7	1.9	2.0	1.9
	Asian/PI	1.9	1.8	1.7	1.7	1.8	1.9	1.7	1.8
	Black	18.5	19.2	18.4	17.7	18.0	17.7	17.9	17.7
	Hispanic	11.9	11.6	11.8	11.7	10.9	11.2	11.2	11.2
	Other	2.9	2.6	2.5	2.4	2.5	2.4	2.6	2.4
	White	63.2	63.1	63.7	64.5	65.0	64.8	64.6	65.0
Sex	Female	48.5	49.1	49.2	48.9	48.8	49.3	48.3	49.4
	Male	51.5	50.9	50.8	51.1	51.2	50.7	51.7	50.6
Performance Level	*In Need of Support*	39.6	28.7	35.8	32.8	31.0	25.4	37.0	40.6
	Close	22.7	27.2	26.1	22.2	29.1	23.5	24.9	25.5
	Ready	20.5	26.0	21.9	23.1	30.1	31.6	20.5	23.8
	Exceeding	17.3	18.1	16.1	22.0	9.7	19.0	17.6	10.2
Mathematics									
	Total N	37,071	38,010	38,005	35,509	35,727	35,704	36,061	35,206
Race	AI/AN	1.8	1.8	2.0	1.9	1.7	1.9	2.0	1.9
	Asian/PI	1.9	1.8	1.7	1.7	1.8	1.9	1.7	1.8
	Black	18.5	19.2	18.4	17.7	18.0	17.7	17.9	17.8
	Hispanic	11.9	11.6	11.8	11.7	10.9	11.2	11.2	11.2
	Other	2.9	2.6	2.5	2.4	2.5	2.4	2.6	2.4
	White	63.2	63.1	63.7	64.5	65.0	64.8	64.6	65.0
Sex	Female	48.5	49.1	49.2	48.9	48.8	49.3	48.3	49.4
	Male	51.5	50.9	50.8	51.1	51.2	50.7	51.7	50.6
Performance Level	*In Need of Support*	14.1	9.5	10.0	10.0	21.5	27.1	43.4	49.1
	Close	26.5	38.0	40.0	33.6	31.2	26.5	22.9	22.3
	Ready	36.9	37.9	37.9	37.6	25.1	22.4	18.1	16.5
	Exceeding	22.4	14.6	12.1	18.9	22.3	24.0	15.6	12.2

Note. AI/AN = American Indian/Alaskan Native; PI = Pacific Islander.

Table 3.3. Linking Study Sample Demographics (Weighted)

Demographic Subgroup		% Students by Grade							
		3	4	5	6	7	8	9	10
Reading									
	Total N	4,082	3,985	4,074	3,485	3,472	2,257	2,287	1,998
Race	AI/AN	1.8	1.8	2.0	1.9	1.7	2.0	2.0	1.9
	Asian/PI	1.9	1.8	1.7	1.7	1.8	1.9	1.7	1.8
	Black	18.5	19.2	18.4	17.7	18.0	17.7	17.9	17.8
	Hispanic	11.9	11.6	11.8	11.7	10.9	11.2	11.2	11.2
	Other	2.9	2.6	2.5	2.4	2.5	2.4	2.6	2.4
	White	63.1	63.0	63.6	64.6	65.1	64.8	64.6	64.9
Sex	Female	48.5	49.1	49.2	48.9	48.8	49.3	48.3	49.4
	Male	51.5	50.9	50.8	51.1	51.2	50.7	51.7	50.6
Performance Level	*In Need of Support*	39.6	28.7	35.8	32.8	31.0	25.5	37.0	40.6
	Close	22.7	27.2	26.1	22.2	29.1	23.6	24.9	25.5
	Ready	20.5	26.0	21.9	23.1	30.1	31.8	20.5	23.8
	Exceeding	17.3	18.1	16.1	22.0	9.7	19.1	17.6	10.2
Mathematics									
	Total N	4,077	3,887	4,092	3,832	3,442	2,199	1,963	1,756
Race	AI/AN	1.8	1.8	2.0	2.0	1.7	2.0	2.0	1.9
	Asian/PI	1.9	1.8	1.7	1.7	1.8	1.9	1.7	1.8
	Black	18.5	19.2	18.4	17.7	18.0	17.7	17.9	17.8
	Hispanic	11.9	11.6	11.8	11.7	10.9	11.2	11.2	11.2
	Other	2.9	2.6	2.5	2.4	2.5	2.4	2.6	2.4
	White	63.1	63.0	63.6	64.5	65.1	64.8	64.6	64.9
Sex	Female	48.5	49.1	49.2	48.9	48.8	49.2	48.3	49.4
	Male	51.5	50.9	50.8	51.1	51.2	50.8	51.7	50.6
Performance Level	*In Need of Support*	14.1	9.5	10.0	10.0	21.5	27.1	43.4	49.1
	Close	26.5	38.0	40.0	33.6	31.2	26.5	22.9	22.3
	Ready	36.9	37.9	37.9	37.6	25.1	22.4	18.1	16.5
	Exceeding	22.4	14.6	12.1	18.9	22.3	24.0	15.6	12.2

Note. AI/AN = American Indian/Alaskan Native; PI = Pacific Islander.

3.2. Descriptive Statistics

Table 3.4 presents descriptive statistics of the MAP Growth and ACT Aspire test scores from Spring 2018, including the correlation coefficients (*r*) between them. The correlation coefficients between the scores range from 0.76 to 0.81 for reading and 0.80 to 0.86 for mathematics. These values indicate a strong relationship among the scores, which is important validity evidence for the claim that MAP Growth scores are good predictors of performance on the ACT Aspire assessments.

Table 3.4. Descriptive Statistics of Test Scores

Grade	N	*r*	ACT Aspire				MAP Growth			
			Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
Reading										
3	4,082	0.80	412.9	5.5	400	429	195.5	17.0	140	241
4	3,985	0.81	415.5	6.2	400	431	202.7	16.9	144	246
5	4,074	0.80	417.4	6.5	400	434	209.9	16.2	146	255
6	3,485	0.79	419.4	6.7	401	436	214.5	16.1	145	260
7	3,472	0.79	420.2	6.6	404	438	218.2	16.2	150	261
8	2,257	0.79	422.8	7.3	400	440	220.7	16.1	151	262
9	2,287	0.76	421.9	7.9	405	442	221.5	17.5	152	265
10	1,998	0.78	423.5	7.9	402	442	223.8	18.0	150	269
Mathematics										
3	4,077	0.85	413.3	4.3	400	429	199.9	14.3	139	242
4	3,887	0.82	416.1	4.4	402	440	209.8	15.5	146	266
5	4,092	0.80	418.0	5.4	403	446	217.3	17.3	143	275
6	3,832	0.81	420.7	5.6	402	448	222.4	16.8	149	277
7	3,442	0.85	421.9	7.5	401	445	226.8	17.8	148	291
8	2,199	0.85	424.6	8.2	406	456	232.1	19.3	150	303
9	1,963	0.84	424.6	8.4	407	458	234.2	20.2	155	299
10	1,756	0.86	426.5	8.6	406	454	237.3	20.1	156	295

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

3.3. MAP Growth Cut Scores

Table 3.5 and Table 3.6 present the ACT Aspire scale score ranges and the corresponding MAP Growth RIT cut scores and percentile ranges by content area and grade. These tables can be used to predict a student's likely performance level on the ACT Aspire 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 196 in the fall is likely to reach *Ready* proficiency on the ACT Aspire reading test. A grade 3 student who obtained a MAP Growth reading RIT score of 201 in the winter is also likely to reach *Ready* proficiency on the ACT Aspire. 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 performance level could be different from the generic projection presented in this document. Partners are therefore encouraged to use the projected performance level in students' profile, classroom, and grade reports in the NWEA reporting system since they reflect the specific instructional weeks set by partners.

Table 3.5. MAP Growth Cut Scores—Reading

ACT Aspire Reading								
Grade	***In Need of Support***		***Close***		***Ready***		***Exceeding***	
3	400–410		411–414		**415**–418		419–429	
4	400–411		412–416		**417**–421		422–431	
5	400–414		415–419		**420**–424		425–434	
6	400–415		416–420		**421**–425		426–436	
7	400–416		417–422		**423**–428		429–438	
8	400–417		418–423		**424**–429		430–440	
9	400–418		419–424		**425**–430		431–442	
10	400–421		422–427		**428**–433		434–442	
MAP Growth Reading								
Grade	***In Need of Support***		***Close***		***Ready***		***Exceeding***	
	RIT	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
2	100–167	1–44	168–182	45–76	**183**–195	77–93	196–350	94–99
3	100–183	1–47	184–195	48–72	**196**–206	73–88	207–350	89–99
4	100–188	1–34	189–203	35–66	**204**–214	67–85	215–350	86–99
5	100–201	1–45	202–213	46–71	**214**–223	72–87	224–350	88–99
6	100–204	1–40	205–217	41–69	**218**–226	70–85	227–350	86–99
7	100–209	1–43	210–222	44–73	**223**–234	74–90	235–350	91–99
8	100–210	1–38	211–223	39–68	**224**–235	69–87	236–350	88–99
9	100–215	1–49	216–226	50–71	**227**–236	72–86	237–350	87–99
10	100–220	1–56	221–231	57–78	**232**–242	79–91	243–350	92–99
Winter								
2	100–174	1–45	175–188	46–75	**189**–201	76–92	202–350	93–99
3	100–188	1–47	189–200	48–72	**201**–210	73–87	211–350	88–99
4	100–192	1–35	193–206	36–65	**207**–217	66–84	218–350	85–99
5	100–204	1–46	205–215	47–70	**216**–224	71–85	225–350	86–99
6	100–206	1–40	207–218	41–68	**219**–227	69–84	228–350	85–99
7	100–211	1–45	212–223	46–72	**224**–235	73–90	236–350	91–99
8	100–211	1–38	212–224	39–67	**225**–236	68–87	237–350	88–99
9	100–216	1–50	217–227	51–72	**228**–237	73–87	238–350	88–99
10	100–221	1–57	222–232	58–78	**233**–243	79–91	244–350	92–99
Spring								
2	100–179	1–45	180–192	46–73	**193**–203	74–89	204–350	90–99
3	100–192	1–47	193–203	48–70	**204**–212	71–84	213–350	85–99
4	100–195	1–36	196–208	37–64	**209**–218	65–82	219–350	83–99
5	100–206	1–46	207–216	47–68	**217**–225	69–84	226–350	85–99
6	100–208	1–42	209–219	43–67	**220**–228	68–84	229–350	85–99
7	100–212	1–45	213–224	46–72	**225**–236	73–89	237–350	90–99
8	100–213	1–40	214–225	41–67	**226**–237	68–87	238–350	88–99
9	100–217	1–51	218–228	52–73	**229**–238	74–87	239–350	88–99
10	100–222	1–59	223–233	60–79	**234**–244	80–92	245–350	93–99

Note. Cut scores for fall and winter are derived from the spring cuts and growth scores based on the typical instructional weeks. Bold numbers indicate the cut scores considered to be at least proficient for accountability purposes.

Table 3.6. MAP Growth Cut Scores—Mathematics

ACT Aspire Mathematics				
Grade	***In Need of Support***	***Close***	***Ready***	***Exceeding***
3	400–408	409–412	**413**–416	417–434
4	400–410	411–415	**416**–420	421–440
5	400–411	412–417	**418**–423	424–446
6	400–413	414–419	**420**–425	426–451
7	400–415	416–421	**422**–427	428–453
8	400–418	419–424	**425**–430	431–456
9	400–421	422–427	**428**–433	434–460
10	400–425	426–431	**432**–437	438–460

MAP Growth Mathematics								
Grade	***In Need of Support***		***Close***		***Ready***		***Exceeding***	
	RIT	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
2	100–157	1–16	158–175	17–57	**176**–191	58–88	192–350	89–99
3	100–172	1–23	173–186	24–57	**187**–199	58–84	200–350	85–99
4	100–181	1–16	182–202	17–64	**203**–218	65–91	219–350	92–99
5	100–189	1–15	190–212	16–65	**213**–229	66–92	230–350	93–99
6	100–194	1–16	195–214	17–61	**215**–230	62–89	231–350	90–99
7	100–208	1–31	209–223	32–64	**224**–237	65–88	238–350	89–99
8	100–217	1–40	218–231	41–70	**232**–244	71–88	245–350	89–99
9	100–230	1–63	231–244	64–86	**245**–255	87–95	256–350	96–99
10	100–238	1–73	239–252	74–91	**253**–264	92–97	265–350	98–99
Winter								
2	100–165	1–16	166–183	17–56	**184**–200	57–89	201–350	90–99
3	100–180	1–23	181–195	24–57	**196**–208	58–83	209–350	84–99
4	100–188	1–17	189–210	18–64	**211**–226	65–90	227–350	91–99
5	100–193	1–14	194–218	15–65	**219**–235	66–91	236–350	92–99
6	100–199	1–17	200–220	18–60	**221**–237	61–89	238–350	90–99
7	100–212	1–32	213–227	33–64	**228**–242	65–87	243–350	88–99
8	100–221	1–41	222–235	42–69	**236**–249	70–88	250–350	89–99
9	100–232	1–61	233–245	62–83	**246**–256	84–93	257–350	94–99
10	100–240	1–71	241–253	72–88	**254**–265	89–96	266–350	97–99
Spring								
2	100–173	1–19	174–189	20–55	**190**–204	56–85	205–350	86–99
3	100–187	1–25	188–201	26–56	**202**–214	57–81	215–350	82–99
4	100–194	1–19	195–215	20–62	**216**–231	63–88	232–350	89–99
5	103–198	1–17	199–222	18–64	**223**–239	65–89	240–350	90–99
6	102–204	1–19	205–224	20–59	**225**–241	60–87	242–350	88–99
7	105–215	1–33	216–230	34–63	**231**–244	64–85	245–350	86–99

MAP Growth Mathematics								
Grade	*In Need of Support*		*Close*		*Ready*		*Exceeding*	
	RIT	Percentile	RIT	Percentile	RIT	Percentile	RIT	Percentile
8	105–224	1–41	225–238	42–68	**239**–251	69–86	252–350	87–99
9	100–233	1–59	234–246	60–80	**247**–257	81–91	258–350	92–99
10	100–241	1–67	242–254	68–85	**255**–266	86–94	267–350	95–99

Note. Cut scores for fall and winter are derived from the spring cuts and growth scores based on the typical instructional weeks. 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 ACT Aspire tests, providing insight into the predictive validity of MAP Growth. The overall classification accuracy rates range from 0.80 to 0.84 for reading and 0.84 to 0.89 for mathematics. These values suggest that the RIT cut scores are good at classifying students as proficient or not proficient on the ACT Aspire assessment.

Although the results show that MAP Growth scores can be used to accurately classify students as likely to be proficient on the ACT Aspire tests, there is a notable limitation to how these results should be used and interpreted. ACT Aspire 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	ACT Aspire		FP	FN				
Reading										
3	4,082	204	415	0.84	0.11	0.26	0.74	0.89	0.81	0.92
4	3,985	209	417	0.84	0.12	0.21	0.79	0.88	0.83	0.93
5	4,074	217	420	0.82	0.13	0.25	0.75	0.87	0.78	0.90
6	3,485	220	421	0.81	0.14	0.24	0.76	0.86	0.82	0.90
7	3,472	225	423	0.81	0.14	0.26	0.74	0.86	0.78	0.90
8	2,257	226	424	0.80	0.13	0.28	0.72	0.87	0.85	0.89
9	2,287	229	425	0.83	0.13	0.24	0.76	0.87	0.78	0.91
10	1,998	234	428	0.82	0.12	0.29	0.71	0.88	0.76	0.91
Mathematics										
3	4,077	200	413	0.84	0.15	0.16	0.84	0.85	0.89	0.93
4	3,887	211	416	0.84	0.17	0.14	0.86	0.83	0.84	0.92
5	4,092	220	418	0.84	0.13	0.19	0.81	0.87	0.86	0.92
6	3,832	222	420	0.84	0.19	0.14	0.86	0.81	0.86	0.91
7	3,442	229	422	0.87	0.15	0.12	0.88	0.85	0.84	0.94
8	2,199	235	425	0.85	0.15	0.15	0.85	0.85	0.83	0.93
9	1,963	244	428	0.88	0.08	0.20	0.80	0.92	0.83	0.95
10	1,756	251	432	0.89	0.05	0.26	0.74	0.95	0.85	0.95

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 *Ready* performance on the ACT Aspire tests based on RIT scores from fall, winter, or spring. For example, a grade 3 student who obtained a MAP Growth reading score of 197 in the fall has a 50% chance of reaching *Ready* proficiency or higher on the ACT Aspire test. “Prob.” indicates the probability of obtaining proficient status on the ACT Aspire 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	
				Ready	Prob.		*Ready*	Prob.		*Ready*	Prob.
2	5	193	142	No	<0.01	149	No	<0.01	153	No	<0.01
	10	193	148	No	<0.01	155	No	<0.01	159	No	<0.01
	15	193	152	No	<0.01	159	No	<0.01	164	No	<0.01
	20	193	156	No	0.01	162	No	<0.01	167	No	<0.01
	25	193	159	No	0.01	165	No	<0.01	170	No	<0.01
	30	193	161	No	0.02	168	No	0.01	173	No	<0.01
	35	193	163	No	0.03	170	No	0.02	175	No	<0.01
	40	193	166	No	0.05	172	No	0.04	177	No	<0.01
	45	193	168	No	0.07	175	No	0.06	180	No	<0.01
	50	193	170	No	0.11	177	No	0.09	182	No	<0.01
	55	193	172	No	0.13	179	No	0.14	184	No	0.01
	60	193	174	No	0.19	181	No	0.17	186	No	0.02
	65	193	177	No	0.29	183	No	0.24	188	No	0.08
	70	193	179	No	0.33	186	No	0.36	191	No	0.28
	75	193	182	No	0.46	188	No	0.45	193	Yes	0.5
	80	193	184	Yes	0.54	191	Yes	0.55	196	Yes	0.8
	85	193	188	Yes	0.67	194	Yes	0.68	200	Yes	0.98
	90	193	192	Yes	0.81	199	Yes	0.83	204	Yes	>0.99
	95	193	198	Yes	0.93	205	Yes	0.95	210	Yes	>0.99
3	5	204	155	No	<0.01	160	No	<0.01	164	No	<0.01
	10	204	161	No	<0.01	167	No	<0.01	171	No	<0.01
	15	204	166	No	<0.01	171	No	<0.01	175	No	<0.01
	20	204	169	No	<0.01	175	No	<0.01	179	No	<0.01
	25	204	172	No	0.01	178	No	0.01	182	No	<0.01
	30	204	175	No	0.02	180	No	0.01	184	No	<0.01
	35	204	178	No	0.04	183	No	0.03	187	No	<0.01
	40	204	180	No	0.06	185	No	0.04	189	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Ready	Prob.		*Ready*	Prob.		*Ready*	Prob.
	45	204	182	No	0.07	188	No	0.08	192	No	<0.01
	50	204	185	No	0.13	190	No	0.12	194	No	<0.01
	55	204	187	No	0.18	192	No	0.17	196	No	0.01
	60	204	189	No	0.25	194	No	0.2	198	No	0.04
	65	204	192	No	0.33	197	No	0.32	201	No	0.2
	70	204	194	No	0.41	199	No	0.41	203	No	0.39
	75	204	197	Yes	0.5	202	Yes	0.55	206	Yes	0.72
	80	204	200	Yes	0.63	205	Yes	0.64	209	Yes	0.92
	85	204	204	Yes	0.75	209	Yes	0.8	213	Yes	0.99
	90	204	208	Yes	0.87	213	Yes	0.88	217	Yes	>0.99
	95	204	215	Yes	0.96	220	Yes	0.98	224	Yes	>0.99
4	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
	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	
				Ready	Prob.		*Ready*	Prob.		*Ready*	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	217	175	No	<0.01	178	No	<0.01	180	No	<0.01
	10	217	181	No	<0.01	184	No	<0.01	186	No	<0.01
	15	217	186	No	<0.01	189	No	<0.01	191	No	<0.01
	20	217	189	No	0.01	192	No	<0.01	194	No	<0.01
	25	217	192	No	0.01	195	No	0.01	197	No	<0.01
	30	217	195	No	0.03	197	No	0.01	199	No	<0.01
	35	217	197	No	0.04	200	No	0.04	202	No	<0.01
	40	217	199	No	0.06	202	No	0.06	204	No	<0.01
	45	217	201	No	0.09	204	No	0.08	206	No	<0.01
	50	217	204	No	0.16	206	No	0.12	208	No	0.01
	55	217	206	No	0.2	209	No	0.22	211	No	0.04
	60	217	208	No	0.27	211	No	0.26	213	No	0.13
	65	217	210	No	0.36	213	No	0.35	215	No	0.28
	70	217	213	No	0.45	215	No	0.45	217	Yes	0.5
	75	217	215	Yes	0.55	218	Yes	0.6	220	Yes	0.8
	80	217	218	Yes	0.69	221	Yes	0.74	223	Yes	0.96
	85	217	222	Yes	0.8	224	Yes	0.85	226	Yes	0.99
	90	217	226	Yes	0.91	228	Yes	0.94	230	Yes	>0.99
	95	217	232	Yes	0.98	235	Yes	0.99	237	Yes	>0.99
6	5	220	181	No	<0.01	183	No	<0.01	185	No	<0.01
	10	220	187	No	<0.01	189	No	<0.01	191	No	<0.01
	15	220	191	No	<0.01	193	No	<0.01	195	No	<0.01
	20	220	195	No	0.01	197	No	0.01	198	No	<0.01
	25	220	198	No	0.02	199	No	0.01	201	No	<0.01
	30	220	200	No	0.03	202	No	0.02	203	No	<0.01
	35	220	202	No	0.04	204	No	0.04	206	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Ready	Prob.		*Ready*	Prob.		*Ready*	Prob.
	40	220	205	No	0.09	206	No	0.06	208	No	<0.01
	45	220	207	No	0.11	209	No	0.13	210	No	<0.01
	50	220	209	No	0.16	211	No	0.16	212	No	0.01
	55	220	211	No	0.23	213	No	0.22	214	No	0.04
	60	220	213	No	0.31	215	No	0.31	216	No	0.13
	65	220	215	No	0.36	217	No	0.4	218	No	0.28
	70	220	218	Yes	0.5	219	Yes	0.5	221	Yes	0.61
	75	220	220	Yes	0.6	222	Yes	0.65	223	Yes	0.8
	80	220	223	Yes	0.73	225	Yes	0.78	226	Yes	0.96
	85	220	226	Yes	0.84	228	Yes	0.87	229	Yes	0.99
	90	220	231	Yes	0.94	232	Yes	0.95	233	Yes	>0.99
	95	220	237	Yes	0.99	238	Yes	0.99	239	Yes	>0.99
7	5	225	185	No	<0.01	186	No	<0.01	187	No	<0.01
	10	225	191	No	<0.01	192	No	<0.01	193	No	<0.01
	15	225	195	No	<0.01	196	No	<0.01	197	No	<0.01
	20	225	198	No	<0.01	200	No	<0.01	201	No	<0.01
	25	225	201	No	0.01	202	No	0.01	203	No	<0.01
	30	225	204	No	0.02	205	No	0.01	206	No	<0.01
	35	225	206	No	0.03	207	No	0.03	208	No	<0.01
	40	225	208	No	0.05	210	No	0.06	211	No	<0.01
	45	225	210	No	0.08	212	No	0.07	213	No	<0.01
	50	225	212	No	0.12	214	No	0.11	215	No	<0.01
	55	225	214	No	0.15	216	No	0.16	217	No	0.01
	60	225	217	No	0.24	218	No	0.23	219	No	0.04
	65	225	219	No	0.32	220	No	0.31	221	No	0.13
	70	225	221	No	0.41	223	No	0.45	224	No	0.39
	75	225	224	Yes	0.55	225	Yes	0.55	226	Yes	0.61
	80	225	226	Yes	0.64	228	Yes	0.69	229	Yes	0.87

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Ready	Prob.		*Ready*	Prob.		*Ready*	Prob.
	85	225	230	Yes	0.79	231	Yes	0.8	232	Yes	0.98
	90	225	234	Yes	0.9	235	Yes	0.91	237	Yes	>0.99
	95	225	240	Yes	0.98	241	Yes	0.98	243	Yes	>0.99
8	5	226	188	No	<0.01	189	No	<0.01	190	No	<0.01
	10	226	194	No	<0.01	195	No	<0.01	196	No	<0.01
	15	226	198	No	<0.01	199	No	<0.01	200	No	<0.01
	20	226	201	No	0.01	203	No	0.01	203	No	<0.01
	25	226	204	No	0.02	205	No	0.01	206	No	<0.01
	30	226	207	No	0.04	208	No	0.03	209	No	<0.01
	35	226	209	No	0.06	210	No	0.05	211	No	<0.01
	40	226	211	No	0.09	213	No	0.08	213	No	<0.01
	45	226	214	No	0.13	215	No	0.12	216	No	<0.01
	50	226	216	No	0.18	217	No	0.17	218	No	0.01
	55	226	218	No	0.25	219	No	0.24	220	No	0.04
	60	226	220	No	0.33	221	No	0.32	222	No	0.13
	65	226	222	No	0.41	223	No	0.41	224	No	0.28
	70	226	225	Yes	0.55	226	Yes	0.55	227	Yes	0.61
	75	226	227	Yes	0.63	228	Yes	0.64	229	Yes	0.8
	80	226	230	Yes	0.75	231	Yes	0.76	232	Yes	0.96
	85	226	233	Yes	0.85	235	Yes	0.88	236	Yes	>0.99
	90	226	238	Yes	0.94	239	Yes	0.95	240	Yes	>0.99
	95	226	244	Yes	0.99	245	Yes	0.99	246	Yes	>0.99
9	5	229	186	No	<0.01	187	No	<0.01	187	No	<0.01
	10	229	193	No	<0.01	194	No	<0.01	194	No	<0.01
	15	229	197	No	<0.01	198	No	<0.01	198	No	<0.01
	20	229	201	No	0.01	201	No	<0.01	202	No	<0.01
	25	229	204	No	0.01	205	No	0.01	205	No	<0.01
	30	229	207	No	0.02	207	No	0.02	208	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Ready	Prob.		*Ready*	Prob.		*Ready*	Prob.
	35	229	209	No	0.03	210	No	0.03	210	No	<0.01
	40	229	212	No	0.06	212	No	0.04	213	No	<0.01
	45	229	214	No	0.09	214	No	0.07	215	No	<0.01
	50	229	216	No	0.13	217	No	0.12	217	No	<0.01
	55	229	218	No	0.18	219	No	0.17	219	No	<0.01
	60	229	221	No	0.27	221	No	0.23	222	No	0.02
	65	229	223	No	0.34	224	No	0.34	224	No	0.08
	70	229	226	No	0.46	226	No	0.42	227	No	0.28
	75	229	228	Yes	0.54	229	Yes	0.54	230	Yes	0.61
	80	229	231	Yes	0.66	232	Yes	0.66	233	Yes	0.87
	85	229	235	Yes	0.79	236	Yes	0.8	236	Yes	0.98
	90	229	239	Yes	0.89	240	Yes	0.9	241	Yes	>0.99
	95	229	246	Yes	0.97	247	Yes	0.98	247	Yes	>0.99
10	5	234	188	No	<0.01	188	No	<0.01	188	No	<0.01
	10	234	195	No	<0.01	195	No	<0.01	195	No	<0.01
	15	234	199	No	<0.01	199	No	<0.01	200	No	<0.01
	20	234	203	No	<0.01	203	No	<0.01	203	No	<0.01
	25	234	206	No	0.01	206	No	<0.01	206	No	<0.01
	30	234	208	No	0.01	209	No	0.01	209	No	<0.01
	35	234	211	No	0.02	211	No	0.01	211	No	<0.01
	40	234	213	No	0.03	214	No	0.03	214	No	<0.01
	45	234	215	No	0.05	216	No	0.04	216	No	<0.01
	50	234	218	No	0.09	218	No	0.06	218	No	<0.01
	55	234	220	No	0.12	220	No	0.09	221	No	<0.01
	60	234	222	No	0.17	223	No	0.16	223	No	<0.01
	65	234	225	No	0.25	225	No	0.21	225	No	0.01
	70	234	227	No	0.31	228	No	0.31	228	No	0.04
	75	234	230	No	0.42	230	No	0.38	231	No	0.2

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Ready	Prob.		*Ready*	Prob.		*Ready*	Prob.
	80	234	233	Yes	0.54	233	Yes	0.5	234	Yes	0.5
	85	234	236	Yes	0.65	237	Yes	0.66	237	Yes	0.8
	90	234	241	Yes	0.81	241	Yes	0.79	242	Yes	0.99
	95	234	247	Yes	0.93	248	Yes	0.94	248	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	
				Ready	Prob.		*Ready*	Prob.		*Ready*	Prob.
2	5	190	147	No	<0.01	155	No	<0.01	161	No	<0.01
	10	190	153	No	0.01	161	No	<0.01	167	No	<0.01
	15	190	157	No	0.02	165	No	0.01	171	No	<0.01
	20	190	160	No	0.04	168	No	0.03	174	No	<0.01
	25	190	162	No	0.07	171	No	0.06	177	No	<0.01
	30	190	165	No	0.11	173	No	0.09	179	No	<0.01
	35	190	167	No	0.16	175	No	0.14	181	No	0.01
	40	190	169	No	0.23	177	No	0.21	183	No	0.02
	45	190	171	No	0.31	179	No	0.25	185	No	0.08
	50	190	173	No	0.4	181	No	0.35	187	No	0.2
	55	190	175	No	0.45	183	No	0.45	189	No	0.39
	60	190	177	Yes	0.55	185	Yes	0.55	192	Yes	0.72
	65	190	179	Yes	0.64	187	Yes	0.65	194	Yes	0.87
	70	190	181	Yes	0.73	189	Yes	0.7	196	Yes	0.96
	75	190	183	Yes	0.8	192	Yes	0.82	198	Yes	0.99
	80	190	186	Yes	0.86	194	Yes	0.88	201	Yes	>0.99
	85	190	189	Yes	0.93	197	Yes	0.94	204	Yes	>0.99
	90	190	193	Yes	0.97	201	Yes	0.98	208	Yes	>0.99
	95	190	198	Yes	0.99	207	Yes	>0.99	214	Yes	>0.99
3	5	202	158	No	<0.01	166	No	<0.01	171	No	<0.01
	10	202	164	No	<0.01	172	No	<0.01	177	No	<0.01
	15	202	168	No	0.01	176	No	<0.01	181	No	<0.01
	20	202	171	No	0.02	179	No	0.01	185	No	<0.01
	25	202	174	No	0.05	182	No	0.04	188	No	<0.01
	30	202	176	No	0.08	184	No	0.06	190	No	<0.01
	35	202	178	No	0.13	186	No	0.11	193	No	0.01
	40	202	180	No	0.19	189	No	0.2	195	No	0.02

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Ready	Prob.		*Ready*	Prob.		*Ready*	Prob.
	45	202	182	No	0.26	191	No	0.29	197	No	0.08
	50	202	184	No	0.35	193	No	0.34	199	No	0.2
	55	202	186	No	0.45	195	No	0.45	201	No	0.39
	60	202	188	Yes	0.55	197	Yes	0.55	203	Yes	0.61
	65	202	190	Yes	0.65	199	Yes	0.66	206	Yes	0.87
	70	202	192	Yes	0.74	201	Yes	0.76	208	Yes	0.96
	75	202	195	Yes	0.85	204	Yes	0.87	211	Yes	0.99
	80	202	197	Yes	0.9	206	Yes	0.92	213	Yes	>0.99
	85	202	200	Yes	0.95	210	Yes	0.96	217	Yes	>0.99
	90	202	204	Yes	0.99	214	Yes	0.99	221	Yes	>0.99
	95	202	210	Yes	>0.99	220	Yes	>0.99	227	Yes	>0.99
4	5	216	171	No	<0.01	176	No	<0.01	180	No	<0.01
	10	216	177	No	<0.01	183	No	<0.01	187	No	<0.01
	15	216	181	No	<0.01	187	No	<0.01	191	No	<0.01
	20	216	184	No	0.01	190	No	<0.01	195	No	<0.01
	25	216	186	No	0.02	193	No	0.01	198	No	<0.01
	30	216	189	No	0.04	196	No	0.02	201	No	<0.01
	35	216	191	No	0.07	198	No	0.04	203	No	<0.01
	40	216	193	No	0.11	200	No	0.08	206	No	<0.01
	45	216	195	No	0.16	202	No	0.13	208	No	0.01
	50	216	197	No	0.23	204	No	0.2	210	No	0.04
	55	216	199	No	0.31	207	No	0.33	212	No	0.13
	60	216	201	No	0.4	209	No	0.39	215	No	0.39
	65	216	203	Yes	0.5	211	Yes	0.5	217	Yes	0.61
	70	216	205	Yes	0.6	213	Yes	0.61	220	Yes	0.87
	75	216	208	Yes	0.73	216	Yes	0.76	222	Yes	0.96
	80	216	210	Yes	0.81	219	Yes	0.87	225	Yes	0.99
	85	216	214	Yes	0.91	222	Yes	0.94	229	Yes	>0.99

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Ready	Prob.		*Ready*	Prob.		*Ready*	Prob.
	90	216	217	Yes	0.96	226	Yes	0.98	233	Yes	>0.99
	95	216	223	Yes	0.99	232	Yes	>0.99	240	Yes	>0.99
5	5	223	180	No	<0.01	183	No	<0.01	186	No	<0.01
	10	223	185	No	<0.01	189	No	<0.01	192	No	<0.01
	15	223	189	No	<0.01	194	No	<0.01	197	No	<0.01
	20	223	193	No	<0.01	197	No	<0.01	200	No	<0.01
	25	223	195	No	0.01	200	No	<0.01	204	No	<0.01
	30	223	198	No	0.03	203	No	0.01	206	No	<0.01
	35	223	200	No	0.05	205	No	0.02	209	No	<0.01
	40	223	202	No	0.08	207	No	0.04	211	No	<0.01
	45	223	204	No	0.12	210	No	0.1	214	No	0.01
	50	223	206	No	0.19	212	No	0.16	216	No	0.02
	55	223	208	No	0.26	214	No	0.24	218	No	0.08
	60	223	210	No	0.35	216	No	0.33	221	No	0.28
	65	223	212	No	0.45	219	Yes	0.5	223	Yes	0.5
	70	223	215	Yes	0.6	221	Yes	0.61	226	Yes	0.8
	75	223	217	Yes	0.7	224	Yes	0.76	228	Yes	0.92
	80	223	220	Yes	0.81	226	Yes	0.84	232	Yes	0.99
	85	223	223	Yes	0.9	230	Yes	0.94	235	Yes	>0.99
	90	223	227	Yes	0.96	234	Yes	0.98	240	Yes	>0.99
	95	223	233	Yes	>0.99	240	Yes	>0.99	246	Yes	>0.99
6	5	225	184	No	<0.01	187	No	<0.01	190	No	<0.01
	10	225	190	No	<0.01	194	No	<0.01	197	No	<0.01
	15	225	194	No	<0.01	198	No	<0.01	201	No	<0.01
	20	225	197	No	0.01	201	No	<0.01	205	No	<0.01
	25	225	199	No	0.02	204	No	0.01	208	No	<0.01
	30	225	202	No	0.05	207	No	0.04	211	No	<0.01
	35	225	204	No	0.09	209	No	0.05	213	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Ready	Prob.		*Ready*	Prob.		*Ready*	Prob.
	40	225	206	No	0.13	212	No	0.11	216	No	0.01
	45	225	208	No	0.19	214	No	0.17	218	No	0.02
	50	225	210	No	0.27	216	No	0.25	220	No	0.08
	55	225	212	No	0.36	218	No	0.34	223	No	0.28
	60	225	214	No	0.45	220	No	0.45	225	Yes	0.5
	65	225	216	Yes	0.55	223	Yes	0.61	227	Yes	0.72
	70	225	219	Yes	0.69	225	Yes	0.71	230	Yes	0.92
	75	225	221	Yes	0.81	228	Yes	0.83	233	Yes	0.99
	80	225	224	Yes	0.89	231	Yes	0.91	236	Yes	>0.99
	85	225	227	Yes	0.95	234	Yes	0.96	239	Yes	>0.99
	90	225	231	Yes	0.98	238	Yes	0.99	244	Yes	>0.99
	95	225	237	Yes	>0.99	245	Yes	>0.99	251	Yes	>0.99
7	5	231	189	No	<0.01	191	No	<0.01	192	No	<0.01
	10	231	195	No	<0.01	197	No	<0.01	199	No	<0.01
	15	231	199	No	<0.01	202	No	<0.01	204	No	<0.01
	20	231	203	No	<0.01	206	No	<0.01	208	No	<0.01
	25	231	206	No	0.01	209	No	0.01	211	No	<0.01
	30	231	208	No	0.03	211	No	0.01	214	No	<0.01
	35	231	211	No	0.06	214	No	0.03	216	No	<0.01
	40	231	213	No	0.09	216	No	0.06	219	No	<0.01
	45	231	215	No	0.14	219	No	0.12	221	No	<0.01
	50	231	217	No	0.2	221	No	0.18	224	No	0.02
	55	231	219	No	0.27	223	No	0.26	226	No	0.08
	60	231	222	No	0.4	226	No	0.4	229	No	0.28
	65	231	224	Yes	0.5	228	Yes	0.5	231	Yes	0.5
	70	231	226	Yes	0.6	231	Yes	0.6	234	Yes	0.8
	75	231	229	Yes	0.73	233	Yes	0.7	237	Yes	0.96
	80	231	232	Yes	0.83	236	Yes	0.82	240	Yes	0.99

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Ready	Prob.		*Ready*	Prob.		*Ready*	Prob.
	85	231	235	Yes	0.91	240	Yes	0.93	244	Yes	>0.99
	90	231	239	Yes	0.97	245	Yes	0.98	249	Yes	>0.99
	95	231	246	Yes	>0.99	251	Yes	>0.99	256	Yes	>0.99
8	5	239	192	No	<0.01	194	No	<0.01	196	No	<0.01
	10	239	199	No	<0.01	201	No	<0.01	203	No	<0.01
	15	239	203	No	<0.01	206	No	<0.01	208	No	<0.01
	20	239	207	No	<0.01	210	No	<0.01	212	No	<0.01
	25	239	210	No	0.01	213	No	<0.01	215	No	<0.01
	30	239	212	No	0.01	216	No	0.01	218	No	<0.01
	35	239	215	No	0.03	219	No	0.02	221	No	<0.01
	40	239	217	No	0.04	221	No	0.03	224	No	<0.01
	45	239	220	No	0.08	224	No	0.07	226	No	<0.01
	50	239	222	No	0.13	226	No	0.1	229	No	<0.01
	55	239	224	No	0.18	228	No	0.16	231	No	0.01
	60	239	227	No	0.28	231	No	0.26	234	No	0.08
	65	239	229	No	0.37	233	No	0.35	237	No	0.28
	70	239	232	Yes	0.5	236	Yes	0.5	239	Yes	0.5
	75	239	234	Yes	0.59	239	Yes	0.6	242	Yes	0.8
	80	239	237	Yes	0.72	242	Yes	0.74	246	Yes	0.98
	85	239	241	Yes	0.85	246	Yes	0.87	250	Yes	>0.99
	90	239	246	Yes	0.95	251	Yes	0.96	255	Yes	>0.99
	95	239	252	Yes	0.99	258	Yes	>0.99	262	Yes	>0.99
9	5	247	196	No	<0.01	196	No	<0.01	194	No	<0.01
	10	247	202	No	<0.01	203	No	<0.01	202	No	<0.01
	15	247	207	No	0.01	207	No	<0.01	207	No	<0.01
	20	247	210	No	0.02	211	No	<0.01	211	No	<0.01
	25	247	213	No	0.03	214	No	0.01	215	No	<0.01
	30	247	216	No	0.04	217	No	0.01	218	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Ready	Prob.		*Ready*	Prob.		*Ready*	Prob.
	35	247	218	No	0.05	220	No	0.02	221	No	<0.01
	40	247	220	No	0.06	222	No	0.03	223	No	<0.01
	45	247	223	No	0.08	225	No	0.05	226	No	<0.01
	50	247	225	No	0.11	227	No	0.07	229	No	<0.01
	55	247	227	No	0.14	230	No	0.09	231	No	<0.01
	60	247	229	No	0.15	232	No	0.12	234	No	<0.01
	65	247	232	No	0.2	235	No	0.18	237	No	<0.01
	70	247	234	No	0.25	237	No	0.23	240	No	0.02
	75	247	237	No	0.29	240	No	0.31	243	No	0.13
	80	247	240	No	0.37	243	No	0.4	247	Yes	0.5
	85	247	243	No	0.45	247	Yes	0.53	251	Yes	0.87
	90	247	248	Yes	0.58	252	Yes	0.69	256	Yes	0.99
	95	247	254	Yes	0.73	259	Yes	0.86	263	Yes	>0.99
10	5	255	196	No	<0.01	196	No	<0.01	195	No	<0.01
	10	255	203	No	<0.01	204	No	<0.01	203	No	<0.01
	15	255	208	No	0.01	208	No	<0.01	208	No	<0.01
	20	255	211	No	0.01	212	No	<0.01	213	No	<0.01
	25	255	214	No	0.01	216	No	<0.01	216	No	<0.01
	30	255	217	No	0.02	219	No	0.01	220	No	<0.01
	35	255	220	No	0.03	222	No	0.01	223	No	<0.01
	40	255	222	No	0.04	224	No	0.02	226	No	<0.01
	45	255	224	No	0.05	227	No	0.02	229	No	<0.01
	50	255	227	No	0.07	229	No	0.03	231	No	<0.01
	55	255	229	No	0.08	232	No	0.05	234	No	<0.01
	60	255	232	No	0.11	235	No	0.07	237	No	<0.01
	65	255	234	No	0.14	237	No	0.1	240	No	<0.01
	70	255	237	No	0.17	240	No	0.14	243	No	<0.01
	75	255	239	No	0.2	243	No	0.2	246	No	0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Ready	Prob.		*Ready*	Prob.		*Ready*	Prob.
	80	255	242	No	0.24	246	No	0.27	250	No	0.08
	85	255	246	No	0.33	250	No	0.38	254	No	0.39
	90	255	251	No	0.45	255	Yes	0.53	260	Yes	0.92
	95	255	257	Yes	0.6	263	Yes	0.76	268	Yes	>0.99

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