Predicting Performance on Arizona's Academic Standards Assessment (AASA) Based on NWEA MAP Growth Scores

July 2025

NWEA Psychometrics and Analytics

Linking Study Updates

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

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Executive Summary

To predict student achievement on Arizona's Academic Standards Assessment (AASA) in grades 3–8 English language arts (ELA) and mathematics (previously referred to as AzM2), NWEA® conducted a linking study using Spring 2019 data to derive Rasch Unit (RIT) cut scores on the MAP® Growth™ assessments that correspond to the AASA 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 its previous version published in July 2020 to reflect the new name for the state assessments, AASA, and to incorporate the most recent 2025 NWEA MAP Growth norms (NWEA, 2025).

Table E.1 presents the AASA *Proficient* 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 *Proficient* cut score on the AASA grade 3 ELA test is 2509. A grade 3 student with a MAP Growth reading RIT score of 193 in the fall is likely to meet proficiency on the AASA ELA test in the spring, whereas a grade 3 student with a MAP Growth reading RIT score lower than 193 in the fall is in jeopardy of not meeting proficiency. MAP Growth cut scores for grade 2 are also provided so that educators can track early learners' progress toward proficiency on the AASA test by grade 3. These cut scores were derived based on the grade 3 cuts and the 2025 NWEA growth norms for the adjacent grade (i.e., grades 2 to 3).

Table E.1. MAP Growth Cut Scores for AASA Proficiency

Assessment		*Proficient* Cut Scores by Grade						
		2	3	4	5	6	7	8
ELA/Reading								
AASA Spring		–	2509	2523	2543	2553	2561	2572
MAP Growth	Fall	180	193	200	207	217	221	225
	Winter	186	198	204	209	218	222	226
	Spring	190	201	206	211	219	223	227
Mathematics								
AASA Spring		–	3531	3562	3595	3629	3652	3673
MAP Growth	Fall	182	192	206	216	222	231	237
	Winter	191	201	214	222	229	236	242
	Spring	196	207	219	226	233	238	244

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

E.1. Assessment Overview
The AASA grades 3–8 ELA and mathematics tests are Arizona's state summative assessments aligned to the Arizona ELA and Mathematics Standards adopted in 2016. Based on their test scores, students are placed into one of four performance levels: *Minimally Proficient*, *Partially*

Proficient, *Proficient*, and *Highly Proficient*. These tests are used to provide evidence of student achievement in ELA and mathematics for various test score uses, such as informing the state's accountability measures. The *Proficient* 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 2019 test administration, the equipercentile linking method was used to identify the spring MAP Growth scores that correspond to the spring AASA 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 AASA assessments in Spring 2019 were included in the study sample. Table E.2 presents the weighted numbers of Arizona students from 11 districts and 37 schools who were included in the linking study. The linking study sample is voluntary and can only include student scores from partners who share their data. Also, not all students in a state take MAP Growth. The sample may therefore not represent the general student population as well as it should. To ensure that the linking study sample represents the state student population in terms of race, sex, and performance level, weighting (i.e., a statistical method that matches the distributions of the variables of interest to those of the target population) was applied to the sample. As a result, the RIT cuts derived from the study sample can be generalized to any student from the target population. All analyses in this study for grades 3–8 were conducted based on the weighted sample.

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[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	
	ELA/Reading	Mathematics
3	2,726	2,725
4	2,687	2,690
5	2,772	2,801
6	2,736	2,892
7	2,365	2,513
8	2,078	1,998

E.4. Test Score Relationships

Correlations between MAP Growth RIT scores and AASA scores range from 0.83 to 0.91 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 AASA assessments.

Figure E.1. Correlations Between MAP Growth and AASA
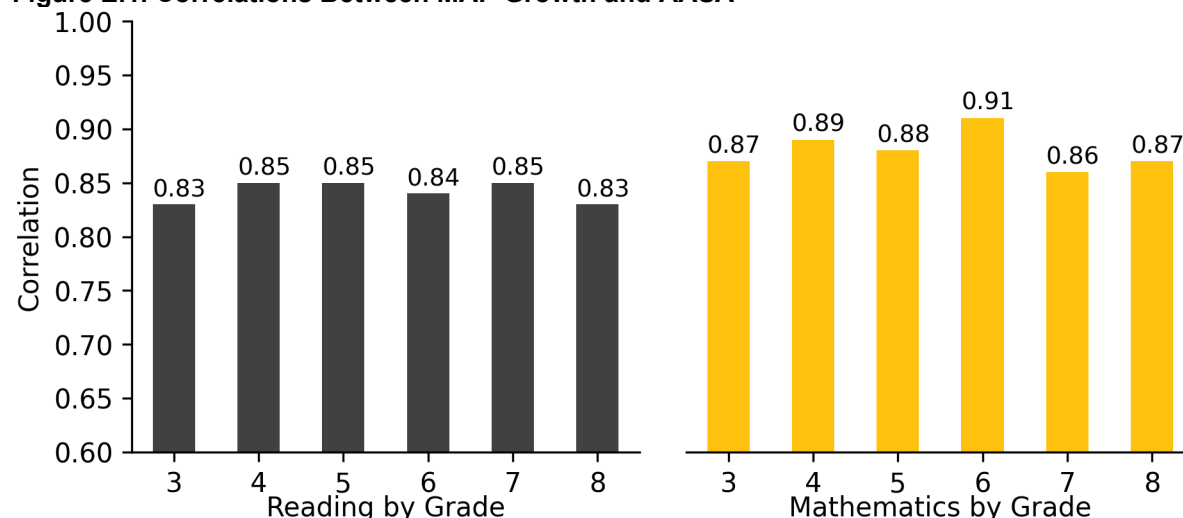
E.5. Accuracy of MAP Growth Classifications

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 AASA tests.[2] For example, the MAP Growth reading grade 3 *Proficient* cut score has a 0.85 accuracy rate, meaning it accurately classified student achievement on the state test for 85% of the sample. The results range from 0.85 to 0.89 across both content areas, indicating that RIT scores have a high accuracy rate of identifying student proficiency on the AASA tests.

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[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
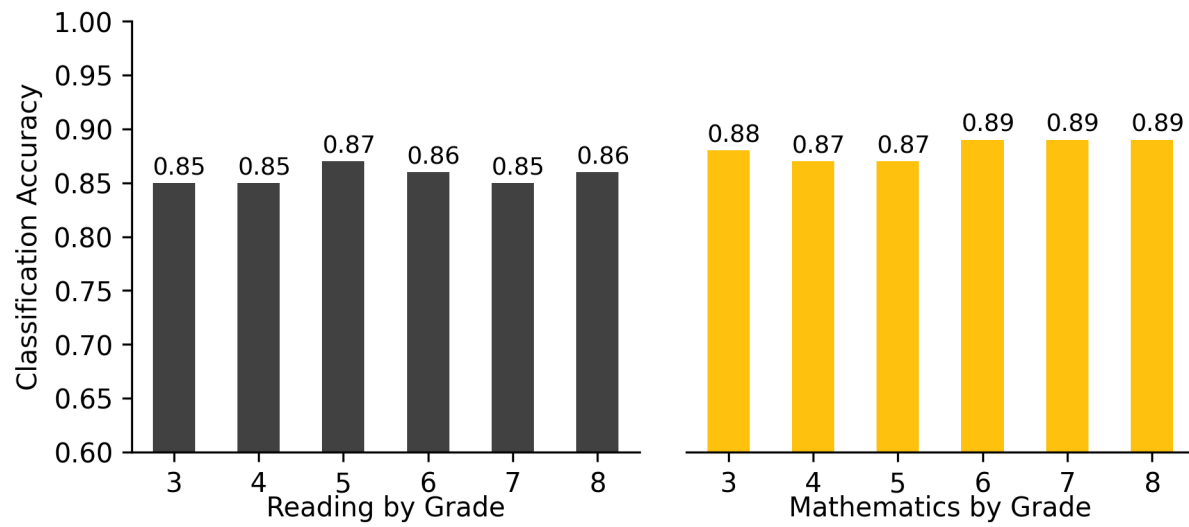
1. Introduction

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 in July 2020 to statistically connect the scores of Arizona's Academic Standards Assessment (AASA) in grades 3–8 English language arts (ELA) and mathematics with Rasch Unit (RIT) scores from the MAP Growth assessments taken during the Spring 2019 term. The linking study has been updated to incorporate the new 2025 NWEA MAP Growth norms (NWEA, 2025). Beginning in 2021–2022, the assessment was renamed from Arizona's Statewide Achievement Assessment (AzM2) to AASA. The assessment is still aligned to the same 2016 standards and has the same cut scores. In this study, MAP Growth cut scores are also included for grade 2 so that educators can track early learners' progress toward proficiency on the AASA 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 AASA 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 AASA tests
5. The probability of achieving grade-level proficiency on the AASA tests based on MAP Growth RIT scores from fall, winter, and spring using the 2025 norms

1.2. Assessment Overview

The AASA grades 3–8 ELA and mathematics summative assessments are aligned to the Arizona ELA and Mathematics Standards. Each assessment has three cut scores (i.e., the minimum score a student must get on a test to be placed in a certain performance level) that distinguish between the following performance levels: *Minimally Proficient*, *Partially Proficient*, *Proficient*, and *Highly Proficient*. The *Proficient* cut score demarks the minimum level of performance considered to be proficient for accountability purposes.

MAP Growth interim assessments from NWEA are computer adaptive and aligned to state-specific content standards. Scores are reported on the RIT vertical scale with a range of 100–350. Each content area has its own scale. To aid the interpretation of scores, NWEA periodically conducts norming studies of student and school performance on MAP Growth. Achievement status norms show how well a student performed on the MAP Growth test compared with students in the norming group by associating the student's performance on the MAP Growth test, expressed as a RIT score, with a percentile ranking. Growth norms provide expected score gains across test administrations (e.g., the relative evaluation of a student's growth from fall to spring). The most recent norms study was conducted in 2025 (NWEA, 2025).

2. Methods

2.1. Data Collection

This linking study is based on data from the Spring 2019 administrations of the MAP Growth and AASA assessments. NWEA requested that Arizona 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 Arizona 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 AASA assessments in Spring 2019 were included in the study sample.

2.2. Post-Stratification Weighting

Post-stratification weights were applied to the calculations to ensure that the linking study sample represented the state population in terms of race, sex, and 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 AASA performance level cut scores. Spring cuts for grade 2 were derived based on the cuts for grade 3 and the 2025 NWEA growth norms. RIT fall and winter cut scores that predict proficiency on the spring AASA test were then projected using the 2025 growth norms. Percentile ranks are also provided that show how a nationally representative sample of students in the same grade scored on MAP Growth for each administration, which is an important interpretation of RIT test scores. This is useful 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 for grades 3–8 could be calculated using the equipercentile linking method because that data are directly connected to the AASA spring data used in the study. The equipercentile linking procedure matches scores on the two scales that have the same percentile rank (i.e., the proportion of tests at or below each score). For example, let x represent a score on Test X (e.g., AASA). Its equipercentile equivalent score on Test Y (e.g., MAP Growth), $ey(x)$, 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 AASA tests on the scale of MAP Growth, $P(x)$ is the percentile rank of a given score on the AASA tests, and G^{-1} is the inverse of the percentile rank function for MAP Growth that indicates the score on MAP Growth corresponding to a given percentile. Polynomial loglinear pre-smoothing was applied to reduce irregularities of the score distributions and equipercentile linking curve.

The MAP Growth conditional growth norms provide students' expected score gains across terms, such as growth from fall or winter to spring within the same grade or from spring of a lower grade to the spring of the adjacent higher grade. This information can be used to calculate the fall and winter cut scores for grades 3–8 and the fall, winter, and spring cut scores for grade 2. The equation below was used to determine the previous term's or grade's MAP Growth score needed to reach the spring cut score, considering the expected growth associated with the previous RIT score:

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

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

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

2.4. Classification Accuracy

The degree to which MAP Growth predicts student proficiency status on the AASA tests can be described using classification accuracy statistics based on the MAP Growth spring cut scores that show the proportion of students correctly classified by their RIT scores as proficient (*Proficient* or *Highly Proficient*) or not proficient (*Minimally Proficient* or *Partially Proficient*). Table 2.1 describes the classification accuracy statistics provided in this report (Pommerich et al., 2004). The results are based on the Spring 2019 MAP Growth and AASA data for the *Proficient* 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
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

Statistic	Description	Interpretation
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 *Proficient* 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 AASA based on a student's RIT scores from fall, winter, and spring. The equation below was used to calculate the probability of a student achieving *Proficient* on the AASA based on their fall or winter RIT score:

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

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 *Proficient* 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 *Proficient* on the AASA based on their spring RIT score (RIT_{Spring}):

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

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

3. Results

3.1. Study Sample

Only students who took both the MAP Growth and AASA assessments in Spring 2019 were included in the study sample. Data used in this study were collected from 11 districts and 37 schools in Arizona. 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 2019 AASA tests (ADE, 2019). Since the unweighted data are different from the general AASA 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 AASA 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
ELA/Reading							
	Total N	2,726	2,687	2,772	2,736	2,389	2,099
Race	AI/AN	2.7	3.3	2.2	8.0	9.2	9.1
	Asian	3.3	2.8	3.6	3.4	2.8	3.4
	Black	7.6	7.3	7.2	6.7	5.0	5.9
	Hispanic	21.3	21.6	22.9	21.3	25.7	29.1
	Other	0.2	0.1	0.2	0.2	0.1	0.1
	Two or More Races	8.4	8.7	8.1	7.7	6.9	6.1
	White	56.5	56.3	55.9	52.6	50.2	46.3
Sex	Female	50.8	48.9	50.7	50.9	50.7	51.2
	Male	49.2	51.1	49.3	49.1	49.3	48.8
Performance Level	*Minimally Proficient*	30.0	24.7	18.7	25.7	30.7	31.9
	Partially Proficient	14.7	13.4	18.7	23.0	19.8	22.0
	Proficient	38.4	44.0	36.8	40.8	36.8	31.3
	Highly Proficient	16.8	17.9	25.8	10.5	12.7	14.8
Mathematics							
	Total N	2,725	2,690	2,773	2,892	2,513	1,998
Race	AI/AN	2.7	3.3	2.2	7.7	8.8	8.1
	Asian	3.3	2.8	3.6	3.4	2.7	3.3
	Black	7.7	7.3	7.2	7.1	5.3	7.1
	Hispanic	21.2	21.7	22.8	23.6	27.6	30.3
	Other	0.2	0.1	0.2	0.2	0.1	0.1
	Two or More Races	8.3	8.6	8.2	7.4	6.7	6.6
	White	56.5	56.2	56.0	50.7	48.9	44.6
Sex	Female	50.7	48.9	50.8	50.7	50.7	51.0
	Male	49.3	51.1	49.2	49.3	49.3	49.0
Performance Level	*Minimally Proficient*	15.6	18.6	17.7	28.2	35.8	37.1
	Partially Proficient	27.1	25.4	23.1	22.7	18.8	20.4

Demographic Subgroup		% Students by Grade					
		3	4	5	6	7	8
	Proficient	40.4	39.7	39.5	29.0	24.2	22.0
	Highly Proficient	16.8	16.4	19.8	20.1	21.2	20.5

Note. AI/AN = American Indian/Alaskan Native.

Table 3.2. Spring 2019 AASA Student Population Demographics

Demographic Subgroup		% Students by Grade					
		3	4	5	6	7	8
ELA							
	Total N	82,653	86,612	90,098	90,089	88,492	86,517
Race	AI/AN	4.3	4.4	4.4	4.3	4.5	4.5
	Asian	2.9	3.0	2.9	2.8	2.9	2.9
	Black	5.5	5.6	5.4	5.4	5.5	5.4
	Hispanic	46.2	46.4	47.2	46.4	46.0	45.5
	Other	0.4	0.4	0.4	0.4	0.4	0.4
	Two or More Races	4.0	3.6	3.6	3.7	3.3	3.2
	White	36.6	36.6	36.2	37.0	37.4	38.2
Sex	Female	49.1	48.6	49.1	49.1	49.1	49.4
	Male	50.9	51.4	50.9	50.9	50.9	50.6
Performance Level	*Minimally Proficient*	40.0	34.0	28.0	34.0	39.0	40.0
	Partially Proficient	14.0	15.0	20.0	24.0	19.0	21.0
	Proficient	32.0	37.0	32.0	34.0	31.0	25.0
	Highly Proficient	14.0	14.0	20.0	8.0	10.0	13.0
Mathematics							
	Total N	83,042	86,827	90,178	90,156	88,603	77,402
Race	AI/AN	4.3	4.4	4.4	4.4	4.5	4.9
	Asian	2.9	3.0	2.9	2.8	2.8	2.2
	Black	5.6	5.6	5.4	5.4	5.5	5.7
	Hispanic	46.3	46.4	47.2	46.4	46.1	46.7
	Other	0.4	0.4	0.4	0.4	0.4	0.4
	Two or More Races	4.0	3.6	3.6	3.7	3.3	3.2
	White	36.6	36.6	36.1	37.0	37.4	37.0
Sex	Female	49.0	48.5	49.1	49.1	49.1	49.3
	Male	51.0	51.5	50.9	50.9	50.9	50.7
Performance Level	*Minimally Proficient*	23.0	27.0	27.0	38.0	44.0	48.0
	Partially Proficient	26.0	25.0	27.0	21.0	18.0	20.0
	Proficient	33.0	33.0	31.0	24.0	20.0	19.0
	Highly Proficient	18.0	15.0	16.0	17.0	18.0	13.0

Note. AI/AN = American Indian/Alaskan Native.

Table 3.3. Linking Study Sample Demographics (Weighted)

Demographic Subgroup		% Students by Grade					
		3	**4**	**5**	**6**	**7**	**8**
ELA/Reading							
	Total N	2,726	2,687	2,772	2,736	2,365	2,078
Race	AI/AN	4.3	4.4	4.4	4.3	4.5	4.5
	Asian	2.9	3.0	2.9	2.8	2.9	2.9
	Black	5.5	5.6	5.4	5.4	5.5	5.4
	Hispanic	46.3	46.4	47.2	46.4	46.0	45.5
	Other	0.4	0.4	0.4	0.4	0.4	0.4
	Two or More Races	4.0	3.6	3.6	3.7	3.3	3.2
	White	36.6	36.6	36.1	37.0	37.4	38.2
Sex	Female	49.1	48.6	49.1	49.1	49.1	49.4
	Male	50.9	51.4	50.9	50.9	50.9	50.6
Performance Level	*Minimally Proficient*	40.0	34.0	28.0	34.0	39.4	40.4
	Partially Proficient	14.0	15.0	20.0	24.0	19.2	21.2
	Proficient	32.0	37.0	32.0	34.0	31.3	25.3
	Highly Proficient	14.0	14.0	20.0	8.0	10.1	13.1
Mathematics							
	Total N	2,725	2,690	2,801	2,892	2,513	1,998
Race	AI/AN	4.3	4.4	4.4	4.4	4.5	4.9
	Asian	2.9	3.0	2.9	2.8	2.8	2.2
	Black	5.6	5.6	5.4	5.4	5.5	5.7
	Hispanic	46.3	46.4	47.2	46.4	46.1	46.7
	Other	0.4	0.4	0.4	0.4	0.4	0.4
	Two or More Races	4.0	3.6	3.6	3.7	3.3	3.2
	White	36.6	36.6	36.1	36.9	37.4	37.0
Sex	Female	49.0	48.5	49.1	49.1	49.1	49.3
	Male	51.0	51.5	50.9	50.9	50.9	50.7
Performance Level	*Minimally Proficient*	23.0	27.0	26.7	38.0	44.0	48.0
	Partially Proficient	26.0	25.0	26.7	21.0	18.0	20.0
	Proficient	33.0	33.0	30.7	24.0	20.0	19.0
	Highly Proficient	18.0	15.0	15.8	17.0	18.0	13.0

Note. AI/AN = American Indian/Alaskan Native.

3.2. Descriptive Statistics

Table 3.4 presents descriptive statistics of the MAP Growth and AASA test scores from Spring 2019, including the correlation coefficients (r) between them. The correlation coefficients between the scores range from 0.83 to 0.85 for ELA/reading and 0.86 to 0.91 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 AASA assessments.

Table 3.4. Descriptive Statistics of Test Scores

Grade	N	r	AASA				MAP Growth			
			Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
ELA/Reading										
3	2,726	0.83	2506.0	29.9	2425	2605	197.5	15.8	148	237
4	2,687	0.85	2523.2	31.9	2432	2610	203.4	16.5	147	252
5	2,772	0.85	2541.7	36.9	2451	2629	209.0	16.3	144	261
6	2,736	0.84	2545.9	32.0	2462	2641	213.3	16.4	159	259
7	2,365	0.85	2552.4	34.0	2447	2648	216.8	16.5	158	260
8	2,078	0.83	2560.3	35.1	2463	2658	220.7	15.8	162	266
Mathematics										
3	2,725	0.87	3526.5	42.4	3395	3605	202.9	14.3	152	246
4	2,690	0.89	3557.1	44.3	3435	3645	211.5	16.9	137	256
5	2,801	0.88	3587.8	42.3	3478	3688	218.7	18.9	142	287
6	2,892	0.91	3617.0	43.3	3512	3722	223.0	19.6	146	286
7	2,513	0.86	3637.7	41.4	3529	3739	227.6	19.3	159	286
8	1,998	0.87	3655.9	39.6	3566	3776	229.8	19.8	161	293

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

3.3. MAP Growth Cut Scores

Table 3.5 and Table 3.6 present the AASA 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 AASA spring assessment when MAP Growth is taken in the fall, winter, or spring. For example, a grade 3 student who obtained a MAP Growth reading RIT score of 193 in the fall is likely to reach *Proficient* on the AASA ELA test. A grade 3 student who obtained a MAP Growth reading RIT score of 198 in the winter is also likely to reach *Proficient* on the AASA. 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—ELA/Reading

AASA ELA			
Grade	*Minimally Proficient*	*Partially Proficient*	*Proficient*	*Highly Proficient*
3	2395–2496	2497–2508	**2509**–2540	2541–2605
4	2400–2509	2510–2522	**2523**–2558	2559–2610
5	2419–2519	2520–2542	**2543**–2577	2578–2629
6	2431–2531	2532–2552	**2553**–2596	2597–2641
7	2438–2542	2543–2560	**2561**–2599	2600–2648
8	2448–2550	2551–2571	**2572**–2603	2604–2658

MAP Growth Reading								
Grade	*Minimally Proficient*		*Partially Proficient*		*Proficient*		*Highly Proficient*	
	RIT	Percentile	RIT	Percentile	RIT	Percentile	RIT	Percentile
Fall								
2	100–171	1–54	172–179	55–71	**180**–197	72–94	198–350	95–99
3	100–185	1–52	186–192	53–67	**193**–207	68–89	208–350	90–99
4	100–191	1–40	192–199	41–58	**200**–216	59–87	217–350	88–99
5	100–195	1–32	196–206	33–57	**207**–220	58–83	221–350	84–99
6	100–204	1–40	205–216	41–67	**217**–232	68–91	233–350	92–99
7	100–211	1–48	212–220	49–69	**221**–234	70–90	235–350	91–99
8	100–216	1–52	217–224	53–70	**225**–236	71–88	237–350	89–99
Winter								
2	100–177	1–52	178–185	53–70	**186**–203	71–93	204–350	94–99
3	100–190	1–51	191–197	52–66	**198**–212	67–89	213–350	90–99
4	100–195	1–41	196–203	42–59	**204**–218	60–85	219–350	86–99
5	100–198	1–32	199–208	33–55	**209**–221	56–81	222–350	82–99
6	100–206	1–40	207–217	41–66	**218**–233	67–91	234–350	92–99
7	100–213	1–50	214–221	51–68	**222**–235	69–90	236–350	91–99
8	100–217	1–52	218–225	53–69	**226**–237	70–88	238–350	89–99
Spring								
2	100–182	1–52	183–189	53–67	**190**–205	68–91	206–350	92–99
3	100–194	1–52	195–200	53–64	**201**–213	65–86	214–350	87–99
4	100–198	1–42	199–205	43–58	**206**–219	59–83	220–350	84–99
5	100–201	1–35	202–210	36–55	**211**–222	56–79	223–350	80–99
6	100–208	1–42	209–218	43–65	**219**–234	66–91	235–350	92–99
7	100–214	1–49	215–222	50–67	**223**–236	68–89	237–350	90–99
8	100–218	1–52	219–226	53–69	**227**–238	70–88	239–350	89–99

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

Table 3.6. MAP Growth Cut Scores—Mathematics

	AASA Mathematics						
Grade	*Minimally Proficient*		*Partially Proficient*		*Proficient*		*Highly Proficient*
3	3395–3494		3495–3530		**3531**–3572		3573–3605
4	3435–3529		3530–3561		**3562**–3605		3606–3645
5	3478–3562		3563–3594		**3595**–3634		3635–3688
6	3512–3601		3602–3628		**3629**–3662		3663–3722
7	3529–3628		3629–3651		**3652**–3679		3680–3739
8	3566–3649		3650–3672		**3673**–3704		3705–3776

	MAP Growth Mathematics							
Grade	*Minimally Proficient*		*Partially Proficient*		*Proficient*		*Highly Proficient*	
	RIT	Percentile	RIT	Percentile	RIT	Percentile	RIT	Percentile
Fall								
2	100–167	1–37	168–181	38–71	**182**–199	72–95	200–350	96–99
3	100–180	1–41	181–191	42–69	**192**–206	70–92	207–350	93–99
4	100–193	1–41	194–205	42–70	**206**–220	71–92	221–350	93–99
5	100–200	1–36	201–215	37–72	**216**–230	73–93	231–350	94–99
6	100–210	1–51	211–221	52–76	**222**–234	77–93	235–350	94–99
7	100–220	1–58	221–230	59–78	**231**–241	79–92	242–350	93–99
8	100–226	1–60	227–236	61–78	**237**–249	79–93	250–350	94–99
Winter								
2	100–175	1–36	176–190	37–72	**191**–207	73–95	208–350	96–99
3	100–188	1–40	189–200	41–69	**201**–215	70–91	216–350	92–99
4	100–200	1–41	201–213	42–70	**214**–228	71–92	229–350	93–99
5	100–206	1–38	207–221	39–71	**222**–237	72–92	238–350	93–99
6	100–216	1–51	217–228	52–76	**229**–241	77–92	242–350	93–99
7	100–224	1–58	225–235	59–78	**236**–246	79–91	247–350	92–99
8	100–230	1–59	231–241	60–79	**242**–254	80–92	255–350	93–99
Spring								
2	100–182	1–38	183–195	39–69	**196**–211	70–93	212–350	94–99
3	100–195	1–42	196–206	43–67	**207**–220	68–89	221–350	90–99
4	100–206	1–42	207–218	43–68	**219**–233	69–90	234–350	91–99
5	103–210	1–38	211–225	39–70	**226**–241	71–91	242–350	92–99
6	102–220	1–50	221–232	51–74	**233**–245	75–91	246–350	92–99
7	105–227	1–58	228–237	59–76	**238**–248	77–89	249–350	90–99
8	105–233	1–59	234–243	60–76	**244**–256	77–91	257–350	92–99

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

3.4. Classification Accuracy

Table 3.7 presents the classification accuracy summary statistics, including the overall classification accuracy rates. These results indicate how well MAP Growth spring RIT scores predict proficiency on the AASA tests, providing insight into the predictive validity of MAP Growth. The overall classification accuracy rates range from 0.85 to 0.87 for ELA and 0.87 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 AASA assessment.

Although the results show that MAP Growth scores can be used to accurately classify students as likely to be proficient on the AASA tests, there is a notable limitation to how these results should be used and interpreted. AASA 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	AASA		FP	FN				
ELA/Reading										
3	2,726	201	2509	0.85	0.14	0.15	0.85	0.86	0.83	0.93
4	2,687	206	2523	0.85	0.13	0.16	0.84	0.87	0.87	0.93
5	2,772	211	2543	0.87	0.17	0.10	0.90	0.83	0.85	0.94
6	2,736	219	2553	0.86	0.12	0.17	0.83	0.88	0.83	0.93
7	2,365	223	2561	0.85	0.13	0.19	0.81	0.87	0.82	0.93
8	2,078	227	2572	0.86	0.11	0.19	0.81	0.89	0.82	0.93
Mathematics										
3	2,725	205	3531	0.88	0.12	0.13	0.87	0.88	0.89	0.95
4	2,690	214	3562	0.87	0.13	0.12	0.88	0.87	0.86	0.95
5	2,801	223	3595	0.87	0.10	0.16	0.84	0.90	0.88	0.95
6	2,892	230	3629	0.89	0.08	0.15	0.85	0.92	0.88	0.96
7	2,513	236	3652	0.89	0.09	0.14	0.86	0.91	0.85	0.95
8	1,998	240	3673	0.89	0.09	0.16	0.84	0.91	0.81	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 *Proficient* performance on the AASA tests based on RIT scores from fall, winter, or spring. For example, a grade 3 student who obtained a MAP Growth reading score of 200 in the fall has a 75% chance of reaching *Proficient* or higher on the AASA test. "Prob." indicates the probability of obtaining proficient status on the AASA tests in the spring.

Table 3.8. Proficiency Projection Based on RIT Scores—ELA/Reading

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

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
	45	201	182	No	0.13	188	No	0.14	192	No	0.01
	50	201	185	No	0.22	190	No	0.2	194	No	0.02
	55	201	187	No	0.29	192	No	0.27	196	No	0.08
	60	201	189	No	0.37	194	No	0.32	198	No	0.2
	65	201	192	No	0.46	197	No	0.45	201	Yes	0.5
	70	201	194	Yes	0.54	199	Yes	0.55	203	Yes	0.72
	75	201	197	Yes	0.63	202	Yes	0.68	206	Yes	0.92
	80	201	200	Yes	0.75	205	Yes	0.76	209	Yes	0.99
	85	201	204	Yes	0.84	209	Yes	0.88	213	Yes	>0.99
	90	201	208	Yes	0.93	213	Yes	0.94	217	Yes	>0.99
	95	201	215	Yes	0.98	220	Yes	0.99	224	Yes	>0.99
	5	206	166	No	<0.01	170	No	<0.01	173	No	<0.01
	10	206	173	No	<0.01	177	No	<0.01	179	No	<0.01
	15	206	177	No	0.01	181	No	0.01	184	No	<0.01
	20	206	181	No	0.02	184	No	0.01	187	No	<0.01
	25	206	184	No	0.05	187	No	0.03	190	No	<0.01
	30	206	186	No	0.06	190	No	0.07	193	No	<0.01
	35	206	189	No	0.12	193	No	0.1	195	No	<0.01
	40	206	191	No	0.17	195	No	0.16	198	No	0.01
4	45	206	194	No	0.24	197	No	0.23	200	No	0.04
	50	206	196	No	0.32	199	No	0.31	202	No	0.13
	55	206	198	No	0.41	202	No	0.4	204	No	0.28
	60	206	200	Yes	0.5	204	Yes	0.5	207	Yes	0.61
	65	206	203	Yes	0.59	206	Yes	0.6	209	Yes	0.8
	70	206	205	Yes	0.68	209	Yes	0.73	211	Yes	0.92
	75	206	208	Yes	0.8	211	Yes	0.77	214	Yes	0.99
	80	206	211	Yes	0.86	214	Yes	0.87	217	Yes	>0.99
	85	206	215	Yes	0.94	218	Yes	0.95	220	Yes	>0.99

Grade	Start Percentile	Spring Cut	Fall RIT	Fall Projected Proficiency		Winter RIT	Winter Projected Proficiency		Spring RIT	Spring Projected Proficiency	
				Proficient	Prob.		Proficient	Prob.		Proficient	Prob.
	90	206	219	Yes	0.97	222	Yes	0.98	225	Yes	>0.99
	95	206	226	Yes	>0.99	229	Yes	>0.99	231	Yes	>0.99
5	5	211	175	No	<0.01	178	No	<0.01	180	No	<0.01
	10	211	181	No	<0.01	184	No	<0.01	186	No	<0.01
	15	211	186	No	0.01	189	No	0.01	191	No	<0.01
	20	211	189	No	0.03	192	No	0.03	194	No	<0.01
	25	211	192	No	0.06	195	No	0.05	197	No	<0.01
	30	211	195	No	0.11	197	No	0.08	199	No	<0.01
	35	211	197	No	0.16	200	No	0.15	202	No	0.01
	40	211	199	No	0.2	202	No	0.22	204	No	0.02
	45	211	201	No	0.27	204	No	0.26	206	No	0.08
	50	211	204	No	0.4	206	No	0.35	208	No	0.2
	55	211	206	No	0.45	209	Yes	0.5	211	Yes	0.5
	60	211	208	Yes	0.55	211	Yes	0.55	213	Yes	0.72
	65	211	210	Yes	0.64	213	Yes	0.65	215	Yes	0.87
	70	211	213	Yes	0.73	215	Yes	0.74	217	Yes	0.96
	75	211	215	Yes	0.8	218	Yes	0.85	220	Yes	0.99
	80	211	218	Yes	0.89	221	Yes	0.92	223	Yes	>0.99
	85	211	222	Yes	0.94	224	Yes	0.96	226	Yes	>0.99
	90	211	226	Yes	0.98	228	Yes	0.99	230	Yes	>0.99
	95	211	232	Yes	>0.99	235	Yes	>0.99	237	Yes	>0.99
6	5	219	181	No	<0.01	183	No	<0.01	185	No	<0.01
	10	219	187	No	<0.01	189	No	<0.01	191	No	<0.01
	15	219	191	No	<0.01	193	No	<0.01	195	No	<0.01
	20	219	195	No	0.01	197	No	0.01	198	No	<0.01
	25	219	198	No	0.03	199	No	0.02	201	No	<0.01
	30	219	200	No	0.03	202	No	0.03	203	No	<0.01
	35	219	202	No	0.06	204	No	0.05	206	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.
	40	219	205	No	0.11	206	No	0.08	208	No	<0.01
	45	219	207	No	0.14	209	No	0.16	210	No	0.01
	50	219	209	No	0.2	211	No	0.19	212	No	0.02
	55	219	211	No	0.27	213	No	0.26	214	No	0.08
	60	219	213	No	0.36	215	No	0.35	216	No	0.2
	65	219	215	No	0.4	217	No	0.45	218	No	0.39
	70	219	218	Yes	0.55	219	Yes	0.55	221	Yes	0.72
	75	219	220	Yes	0.64	222	Yes	0.69	223	Yes	0.87
	80	219	223	Yes	0.77	225	Yes	0.81	226	Yes	0.98
	85	219	226	Yes	0.86	228	Yes	0.9	229	Yes	>0.99
	90	219	231	Yes	0.96	232	Yes	0.96	233	Yes	>0.99
	95	219	237	Yes	0.99	238	Yes	0.99	239	Yes	>0.99
7	5	223	185	No	<0.01	186	No	<0.01	187	No	<0.01
	10	223	191	No	<0.01	192	No	<0.01	193	No	<0.01
	15	223	195	No	<0.01	196	No	<0.01	197	No	<0.01
	20	223	198	No	0.01	200	No	0.01	201	No	<0.01
	25	223	201	No	0.02	202	No	0.01	203	No	<0.01
	30	223	204	No	0.04	205	No	0.03	206	No	<0.01
	35	223	206	No	0.05	207	No	0.04	208	No	<0.01
	40	223	208	No	0.08	210	No	0.09	211	No	<0.01
	45	223	210	No	0.12	212	No	0.11	213	No	<0.01
	50	223	212	No	0.18	214	No	0.16	215	No	0.01
	55	223	214	No	0.21	216	No	0.23	217	No	0.04
	60	223	217	No	0.32	218	No	0.31	219	No	0.13
	65	223	219	No	0.41	220	No	0.4	221	No	0.28
	70	223	221	Yes	0.5	223	Yes	0.55	224	Yes	0.61
	75	223	224	Yes	0.64	225	Yes	0.64	226	Yes	0.8
	80	223	226	Yes	0.72	228	Yes	0.77	229	Yes	0.96

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.
	85	223	230	Yes	0.85	231	Yes	0.86	232	Yes	0.99
	90	223	234	Yes	0.94	235	Yes	0.94	237	Yes	>0.99
	95	223	240	Yes	0.99	241	Yes	0.99	243	Yes	>0.99
8	5	227	188	No	<0.01	189	No	<0.01	190	No	<0.01
	10	227	194	No	<0.01	195	No	<0.01	196	No	<0.01
	15	227	198	No	<0.01	199	No	<0.01	200	No	<0.01
	20	227	201	No	0.01	203	No	0.01	203	No	<0.01
	25	227	204	No	0.02	205	No	0.01	206	No	<0.01
	30	227	207	No	0.03	208	No	0.02	209	No	<0.01
	35	227	209	No	0.04	210	No	0.04	211	No	<0.01
	40	227	211	No	0.07	213	No	0.06	213	No	<0.01
	45	227	214	No	0.11	215	No	0.1	216	No	<0.01
	50	227	216	No	0.15	217	No	0.14	218	No	0.01
	55	227	218	No	0.21	219	No	0.2	220	No	0.02
	60	227	220	No	0.29	221	No	0.28	222	No	0.08
	65	227	222	No	0.37	223	No	0.36	224	No	0.2
	70	227	225	Yes	0.5	226	Yes	0.5	227	Yes	0.5
	75	227	227	Yes	0.59	228	Yes	0.59	229	Yes	0.72
	80	227	230	Yes	0.71	231	Yes	0.72	232	Yes	0.92
	85	227	233	Yes	0.82	235	Yes	0.86	236	Yes	0.99
	90	227	238	Yes	0.93	239	Yes	0.94	240	Yes	>0.99
	95	227	244	Yes	0.98	245	Yes	0.99	246	Yes	>0.99

Table 3.9. Proficiency Projection Based on RIT Scores—Mathematics

Grade	Start Percentile	Spring Cut	Fall RIT	Fall Projected Proficiency — Proficient	Fall Projected Proficiency — Prob.	Winter RIT	Winter Projected Proficiency — Proficient	Winter Projected Proficiency — Prob.	Spring RIT	Spring Projected Proficiency — Proficient	Spring Projected Proficiency — Prob.
	5	196	147	No	<0.01	155	No	<0.01	161	No	<0.01
	10	196	153	No	<0.01	161	No	<0.01	167	No	<0.01
	15	196	157	No	<0.01	165	No	<0.01	171	No	<0.01
	20	196	160	No	0.01	168	No	<0.01	174	No	<0.01
	25	196	162	No	0.01	171	No	0.01	177	No	<0.01
	30	196	165	No	0.03	173	No	0.02	179	No	<0.01
	35	196	167	No	0.04	175	No	0.03	181	No	<0.01
	40	196	169	No	0.07	177	No	0.06	183	No	<0.01
	45	196	171	No	0.11	179	No	0.07	185	No	<0.01
2	50	196	173	No	0.16	181	No	0.12	187	No	0.01
	55	196	175	No	0.2	183	No	0.18	189	No	0.02
	60	196	177	No	0.27	185	No	0.25	192	No	0.13
	65	196	179	No	0.36	187	No	0.35	194	No	0.28
	70	196	181	No	0.45	189	No	0.4	196	Yes	0.5
	75	196	183	Yes	0.55	192	Yes	0.55	198	Yes	0.72
	80	196	186	Yes	0.64	194	Yes	0.65	201	Yes	0.92
	85	196	189	Yes	0.77	197	Yes	0.79	204	Yes	0.99
	90	196	193	Yes	0.86	201	Yes	0.88	208	Yes	>0.99
	95	196	198	Yes	0.96	207	Yes	0.98	214	Yes	>0.99
	5	207	158	No	<0.01	166	No	<0.01	171	No	<0.01
	10	207	164	No	<0.01	172	No	<0.01	177	No	<0.01
	15	207	168	No	<0.01	176	No	<0.01	181	No	<0.01
3	20	207	171	No	<0.01	179	No	<0.01	185	No	<0.01
	25	207	174	No	0.01	182	No	0.01	188	No	<0.01
	30	207	176	No	0.02	184	No	0.01	190	No	<0.01
	35	207	178	No	0.04	186	No	0.03	193	No	<0.01
	40	207	180	No	0.06	189	No	0.06	195	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	207	182	No	0.1	191	No	0.11	197	No	<0.01
	50	207	184	No	0.15	193	No	0.13	199	No	0.01
	55	207	186	No	0.22	195	No	0.2	201	No	0.04
	60	207	188	No	0.3	197	No	0.29	203	No	0.13
	65	207	190	No	0.4	199	No	0.39	206	No	0.39
	70	207	192	Yes	0.5	201	Yes	0.5	208	Yes	0.61
	75	207	195	Yes	0.65	204	Yes	0.66	211	Yes	0.87
	80	207	197	Yes	0.74	206	Yes	0.76	213	Yes	0.96
	85	207	200	Yes	0.85	210	Yes	0.87	217	Yes	>0.99
	90	207	204	Yes	0.94	214	Yes	0.95	221	Yes	>0.99
	95	207	210	Yes	0.99	220	Yes	0.99	227	Yes	>0.99
	5	219	171	No	<0.01	176	No	<0.01	180	No	<0.01
	10	219	177	No	<0.01	183	No	<0.01	187	No	<0.01
	15	219	181	No	<0.01	187	No	<0.01	191	No	<0.01
	20	219	184	No	<0.01	190	No	<0.01	195	No	<0.01
	25	219	186	No	0.01	193	No	<0.01	198	No	<0.01
	30	219	189	No	0.02	196	No	0.01	201	No	<0.01
	35	219	191	No	0.03	198	No	0.02	203	No	<0.01
	40	219	193	No	0.05	200	No	0.03	206	No	<0.01
4	45	219	195	No	0.09	202	No	0.06	208	No	<0.01
	50	219	197	No	0.13	204	No	0.1	210	No	0.01
	55	219	199	No	0.19	207	No	0.2	212	No	0.02
	60	219	201	No	0.27	209	No	0.24	215	No	0.13
	65	219	203	No	0.35	211	No	0.33	217	No	0.28
	70	219	205	No	0.45	213	No	0.44	220	Yes	0.61
	75	219	208	Yes	0.6	216	Yes	0.61	222	Yes	0.8
	80	219	210	Yes	0.69	219	Yes	0.76	225	Yes	0.96
	85	219	214	Yes	0.84	222	Yes	0.87	229	Yes	>0.99

Grade	Start Percentile	Spring Cut	Fall RIT	Fall Projected Proficiency Proficient	Prob.	Winter RIT	Winter Projected Proficiency Proficient	Prob.	Spring RIT	Spring Projected Proficiency Proficient	Prob.
	90	219	217	Yes	0.91	226	Yes	0.96	233	Yes	>0.99
	95	219	223	Yes	0.98	232	Yes	0.99	240	Yes	>0.99
5	5	226	180	No	<0.01	183	No	<0.01	186	No	<0.01
	10	226	185	No	<0.01	189	No	<0.01	192	No	<0.01
	15	226	189	No	<0.01	194	No	<0.01	197	No	<0.01
	20	226	193	No	<0.01	197	No	<0.01	200	No	<0.01
	25	226	195	No	<0.01	200	No	<0.01	204	No	<0.01
	30	226	198	No	0.01	203	No	<0.01	206	No	<0.01
	35	226	200	No	0.02	205	No	0.01	209	No	<0.01
	40	226	202	No	0.04	207	No	0.02	211	No	<0.01
	45	226	204	No	0.06	210	No	0.04	214	No	<0.01
	50	226	206	No	0.1	212	No	0.08	216	No	<0.01
	55	226	208	No	0.15	214	No	0.13	218	No	0.01
	60	226	210	No	0.22	216	No	0.2	221	No	0.08
	65	226	212	No	0.3	219	No	0.33	223	No	0.2
	70	226	215	No	0.45	221	No	0.44	226	Yes	0.5
	75	226	217	Yes	0.55	224	Yes	0.61	228	Yes	0.72
	80	226	220	Yes	0.7	226	Yes	0.72	232	Yes	0.96
	85	226	223	Yes	0.81	230	Yes	0.87	235	Yes	0.99
	90	226	227	Yes	0.92	234	Yes	0.96	240	Yes	>0.99
	95	226	233	Yes	0.99	240	Yes	0.99	246	Yes	>0.99
6	5	233	184	No	<0.01	187	No	<0.01	190	No	<0.01
	10	233	190	No	<0.01	194	No	<0.01	197	No	<0.01
	15	233	194	No	<0.01	198	No	<0.01	201	No	<0.01
	20	233	197	No	<0.01	201	No	<0.01	205	No	<0.01
	25	233	199	No	<0.01	204	No	<0.01	208	No	<0.01
	30	233	202	No	<0.01	207	No	<0.01	211	No	<0.01
	35	233	204	No	0.01	209	No	<0.01	213	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
				Fall			**Winter**			**Spring**	
			Fall RIT	**Projected Proficiency**		Winter RIT	**Projected Proficiency**		Spring RIT	**Projected Proficiency**	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
	40	233	206	No	0.02	212	No	0.01	216	No	<0.01
	45	233	208	No	0.03	214	No	0.02	218	No	<0.01
	50	233	210	No	0.05	216	No	0.04	220	No	<0.01
	55	233	212	No	0.09	218	No	0.07	223	No	<0.01
	60	233	214	No	0.13	220	No	0.11	225	No	0.01
	65	233	216	No	0.19	223	No	0.21	227	No	0.04
	70	233	219	No	0.31	225	No	0.29	230	No	0.2
	75	233	221	No	0.45	228	No	0.45	233	Yes	0.5
	80	233	224	Yes	0.6	231	Yes	0.61	236	Yes	0.8
	85	233	227	Yes	0.73	234	Yes	0.75	239	Yes	0.96
	90	233	231	Yes	0.87	238	Yes	0.89	244	Yes	>0.99
	95	233	237	Yes	0.97	245	Yes	0.99	251	Yes	>0.99
7	5	238	189	No	<0.01	191	No	<0.01	192	No	<0.01
	10	238	195	No	<0.01	197	No	<0.01	199	No	<0.01
	15	238	199	No	<0.01	202	No	<0.01	204	No	<0.01
	20	238	203	No	<0.01	206	No	<0.01	208	No	<0.01
	25	238	206	No	<0.01	209	No	<0.01	211	No	<0.01
	30	238	208	No	<0.01	211	No	<0.01	214	No	<0.01
	35	238	211	No	0.01	214	No	<0.01	216	No	<0.01
	40	238	213	No	0.01	216	No	0.01	219	No	<0.01
	45	238	215	No	0.03	219	No	0.02	221	No	<0.01
	50	238	217	No	0.04	221	No	0.03	224	No	<0.01
	55	238	219	No	0.07	223	No	0.06	226	No	<0.01
	60	238	222	No	0.14	226	No	0.12	229	No	0.01
	65	238	224	No	0.2	228	No	0.18	231	No	0.02
	70	238	226	No	0.27	231	No	0.26	234	No	0.13
	75	238	229	No	0.4	233	No	0.35	237	No	0.39
	80	238	232	Yes	0.55	236	Yes	0.5	240	Yes	0.72

Grade	Start Percentile	Spring Cut	Fall	Fall Projected Proficiency		Winter	Winter Projected Proficiency		Spring	Spring Projected Proficiency	
			Fall RIT	Proficient	Prob.	Winter RIT	Proficient	Prob.	Spring RIT	Proficient	Prob.
	85	238	235	Yes	0.69	240	Yes	0.7	244	Yes	0.96
	90	238	239	Yes	0.83	245	Yes	0.88	249	Yes	>0.99
	95	238	246	Yes	0.97	251	Yes	0.98	256	Yes	>0.99
8	5	244	192	No	<0.01	194	No	<0.01	196	No	<0.01
	10	244	199	No	<0.01	201	No	<0.01	203	No	<0.01
	15	244	203	No	<0.01	206	No	<0.01	208	No	<0.01
	20	244	207	No	<0.01	210	No	<0.01	212	No	<0.01
	25	244	210	No	<0.01	213	No	<0.01	215	No	<0.01
	30	244	212	No	<0.01	216	No	<0.01	218	No	<0.01
	35	244	215	No	0.01	219	No	<0.01	221	No	<0.01
	40	244	217	No	0.01	221	No	0.01	224	No	<0.01
	45	244	220	No	0.03	224	No	0.02	226	No	<0.01
	50	244	222	No	0.04	226	No	0.03	229	No	<0.01
	55	244	224	No	0.07	228	No	0.05	231	No	<0.01
	60	244	227	No	0.13	231	No	0.1	234	No	<0.01
	65	244	229	No	0.18	233	No	0.16	237	No	0.02
	70	244	232	No	0.28	236	No	0.26	239	No	0.08
	75	244	234	No	0.37	239	No	0.35	242	No	0.28
	80	244	237	Yes	0.5	242	Yes	0.5	246	Yes	0.72
	85	244	241	Yes	0.68	246	Yes	0.69	250	Yes	0.96
	90	244	246	Yes	0.85	251	Yes	0.87	255	Yes	>0.99
	95	244	252	Yes	0.96	258	Yes	0.98	262	Yes	>0.99

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