Linking Study Report: Predicting Performance on the Kansas Assessment Program (KAP) based on NWEA MAP Growth Scores

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NWEA Psychometric Solutions

nwea

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Executive Summary

To predict student achievement on the Kansas Assessment Program (KAP) in Grades 3–8 English Language Arts (ELA) and Mathematics, 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 KAP performance levels. With this information, educators can identify students at risk of failing to meet state proficiency standards early in the year and provide tailored educational interventions. The linking study has been updated since the previous version published in February 2016 to incorporate the new 2020 NWEA MAP Growth norms (Thum & Kuhfeld, 2020).

Table E.1 presents the KAP *Level 3* 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 *Level 3* cut score on the KAP Grade 3 ELA test is 300. A Grade 3 student with a MAP Growth Reading RIT score of 193 in the fall is likely to meet proficiency on the KAP 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 educators can track early learners' progress toward proficiency on the KAP test by Grade 3. These cut scores were derived based on the Grade 3 cuts and the 2020 NWEA growth norms for the adjacent grade (e.g., Grades 2 to 3).

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

Assessment		*Level 3* Cut Scores						
		2	**3**	**4**	**5**	**6**	**7**	**8**
ELA/Reading								
KAP Spring		–	300	300	300	300	300	300
MAP Growth	Fall	181	193	200	210	218	224	231
	Winter	189	200	206	214	221	226	232
	Spring	193	203	208	216	222	227	233
Mathematics								
KAP Spring		–	300	300	300	300	300	300
MAP Growth	Fall	179	192	207	219	225	232	242
	Winter	188	199	214	225	230	236	245
	Spring	193	204	218	229	233	239	247

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 the specific instructional weeks set by partners.

E.1. Assessment Overview

The KAP Grades 3–8 ELA and Mathematics tests are Kansas' state summative assessments aligned to the Kansas College and Career Ready Standards (KCCRS). Based on their test scores, students are placed into one of four performance levels: *Level 1*, *Level 2*, *Level 3*, and *Level 4*. These tests are used to provide evidence of student achievement in ELA and mathematics for various test score uses such as meeting the requirements of the state's accountability program. The *Level 3* 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 KAP performance level cut scores. Spring cuts for Grade 2 were derived based on the cuts for Grade 3 and the 2020 NWEA growth norms. MAP Growth fall and winter cut scores that predict proficiency on the spring KAP test were then projected using the 2020 NWEA growth norms that provide expected score gains across test administrations.

E.3. Student Sample

Only students who took both the MAP Growth and KAP assessments in Spring 2019 were included in the study sample. Table E.2 presents the weighted number of Kansas students from 14 districts and 87 schools who were included in the linking study. The linking study sample is voluntary and can only include student scores from partners who share their data. Also, not all students in a state take MAP Growth. The sample may therefore not represent the general student population as well as it should. To ensure that the linking study sample represents the state student population in terms of race, sex, and performance level, weighting (i.e., a statistical method that matches the distributions of the variables of interest to those of the target population) was applied to the sample. As a result, the RIT cuts derived from the study sample can be generalized to any student from the target population. All analyses in this study for Grades 3–8 were conducted based on the weighted sample.

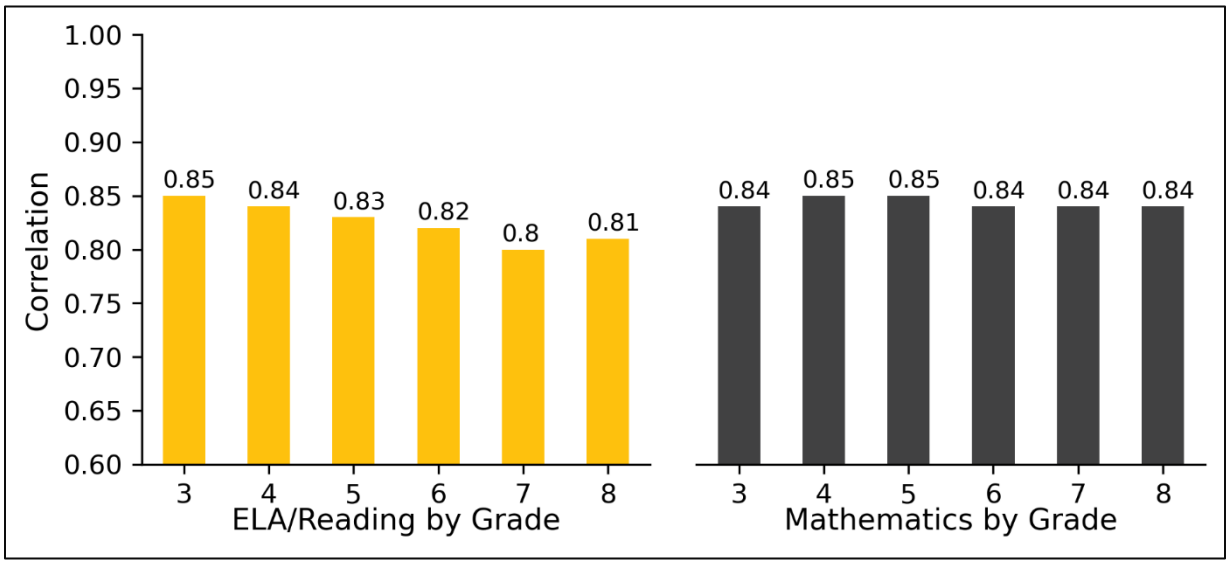
Table E.2. Linking Study Sample

	#Students	
Grade	ELA/Reading	Mathematics
3	3,324	3,331
4	3,357	3,324
5	3,448	3,327
6	3,522	3,557
7	3,473	3,502
8	3,211	3,168

E.4. Test Score Relationships

Correlations between MAP Growth RIT scores and KAP scores range from 0.80 to 0.85 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 KAP assessments.

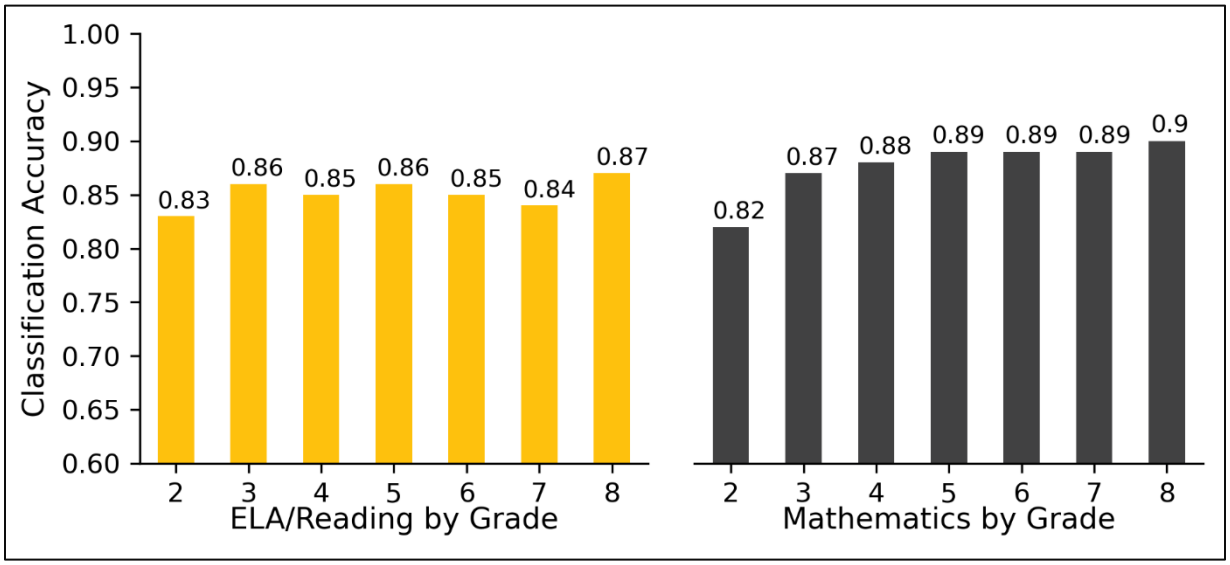
Figure E.1. Correlations between MAP Growth and KAP Test Scores



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 KAP tests. For example, the MAP Growth Reading Grade 3 *Level 3* cut score has a 0.86 accuracy rate, meaning it accurately classified student achievement on the state test for 86% of the sample. The results range from 0.82 to 0.90 across both content areas, indicating that RIT scores have a high accuracy rate of identifying student proficiency on the KAP tests.

Figure E.2. Accuracy of MAP Growth Classifications



1. Introduction

1.1. Purpose of the Study

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

This document presents results from a linking study conducted by NWEA in December 2020 to statistically connect the scores of the Kansas Assessment Program (KAP) Grades 3–8 English Language Arts (ELA) and Mathematics assessments with Rasch Unit (RIT) scores from the MAP Growth assessments taken during the Spring 2019 term. The linking study has been updated since the previous version published in February 2016 to incorporate the new 2020 NWEA MAP Growth norms (Thum & Kuhfeld, 2020). In this updated study, MAP Growth cut scores are also included for Grade 2 so educators can track early learners' progress toward proficiency on the KAP 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 KAP performance levels using the equipercentile linking procedure for the spring results and the 2020 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 KAP tests
5. The probability of achieving grade-level proficiency on the KAP assessment based on MAP Growth RIT scores from fall, winter, and spring using the 2020 norms

1.2. Assessment Overview

The KAP Grades 3–8 ELA and Mathematics summative assessments are aligned to the Kansas College and Career Ready Standards (KCCRS). 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: *Level 1*, *Level 2*, *Level 3*, and *Level 4*. The *Level 3* cut score demarks the minimum level of performance considered to be proficient for accountability purposes.

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

2. Methods

2.1. Data Collection

This linking study is based on data from the Spring 2019 administrations of the MAP Growth and KAP assessments. NWEA recruited Kansas districts to participate in the study by sharing their student and score data for the target term. Districts also gave NWEA permission to access students' associated MAP Growth scores from the NWEA in-house database. Once state score information was received by NWEA, each student's state testing record was matched to their MAP Growth score by using the student's first and last names, date of birth, student ID, and other available identifying information. Only students who took both the MAP Growth and KAP 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 on the key demographics and test score characteristics. Specifically, a raking procedure was used to calculate the post-stratification weights and improve the representativeness of the sample. Raking uses iterative procedures to obtain weights that match sample marginal distributions to known population margins. The following steps were taken during this process:

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

2.3. MAP Growth Cut Scores

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

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

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

where $e_y(x)$ is the equipercentile equivalent of score x on KAP on the scale of MAP Growth, $P(x)$ is the percentile rank of a given score on KAP, and G^{-1} is the inverse of the percentile rank function for MAP Growth that indicates the score on MAP Growth corresponding to a given percentile. Polynomial loglinear pre-smoothing was applied to reduce irregularities of the score distributions and equipercentile linking curve.

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

$$RIT_{PredSpring} = RIT_{previous} + g \quad (2)$$

where:

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

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

2.4. Classification Accuracy

The degree to which MAP Growth predicts student proficiency status on the KAP tests can be described using classification accuracy statistics based on the MAP Growth spring RIT cut scores that show the proportion of students correctly classified by their RIT scores as proficient (*Level 3 or Level 4*) or not proficient (*Level 1 or Level 2*). 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 KAP data for the *Level 3* cut score.

Since Kansas students do not begin taking the KAP assessment until Grade 3, longitudinal data were collected for the Grade 3 cohort in order to link the KAP assessment to MAP Growth for Grade 2 to calculate the classification accuracy statistics. To accomplish this, 2018–2019 KAP Grade 3 results were linked to MAP Growth data from Grade 3 students in 2018–2019 and Grade 2 students in 2017–2018. In this way, the data came from the same cohort of students beginning when they were in Grade 2 and continuing through Grade 3.

Table 2.1. Description of Classification Accuracy Summary Statistics

Statistic	Description*	Interpretation
Overall Classification Accuracy Rate	(TP + TN) / (total sample size)	Proportion of the study sample whose proficiency classification on the state test was correctly predicted by MAP Growth cut scores
False Negative (FN) Rate	FN / (FN + TP)	Proportion of not-proficient students identified by MAP Growth in those observed as proficient on the state test
False Positive (FP) Rate	FP / (FP + TN)	Proportion of proficient students identified by MAP Growth in those observed as not proficient on the state test
Sensitivity	TP / (TP + FN)	Proportion of proficient students identified by MAP Growth in those observed as such on the state test
Specificity	TN / (TN + FP)	Proportion of not-proficient students identified by MAP Growth in those observed as such on the state test
Precision	TP / (TP + FP)	Proportion of observed proficient students on the state test in those identified as such by the MAP Growth test
Area Under the Curve (AUC)	Area under the receiver operating characteristics (ROC) curve	How well MAP Growth cut scores separate the study sample into proficiency categories that match those from the state test cut scores. An AUC at or above 0.80 is considered "good" accuracy.

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

2.5. Proficiency Projection

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

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

where:

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

Equation 4 was used to estimate the probability of a student achieving *Level 3* proficiency on the KAP test based on their spring RIT score (RIT_{Spring}):

$$Pr(Achieving\ Level\ 3\ in\ spring\ |\ spring\ RIT) = \Phi\left(\frac{RIT_{Spring} - RIT_{SpringCut}}{SE}\right) \quad (4)$$

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

3. Results

3.1. Study Sample

Only students who took both the MAP Growth and KAP assessments in Spring 2019 were included in the study sample. Data used in this study were collected from 14 districts and 87 schools in Kansas. Table 3.1 presents the demographic distributions of race, sex, and performance level in the original unweighted study sample. Table 3.2 presents the demographic distributions of the student population enrolled in the 2018–2019 school year and the performance level distribution of students who took the Spring 2019 KAP tests. Since the unweighted data are different from the general KAP 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 KAP student population distributions. The analyses in this study were therefore conducted based on the weighted sample.

Table 3.1. Linking Study Sample Demographics (Unweighted)

Linking Study Sample (Unweighted)							
		%Students by Grade					
Demographic Subgroup		3	4	5	6	7	8
ELA/Reading							
	Total N	3,325	3,358	3,449	3,522	3,474	3,211
Race	American Indian/Alaskan Native	1.3	1.5	1.3	1.5	2.0	1.9
	Asian	8.7	8.8	8.2	8.5	8.7	7.4
	Black	4.2	3.6	3.5	4.0	3.5	4.3
	Hispanic	15.5	16.5	16.4	13.9	15.3	16.8
	Multi-Race	4.2	4.1	4.8	4.6	4.7	4.4
	White	66.2	65.5	65.8	67.4	65.8	65.2
Sex	Female	47.8	49.7	49.8	49.1	48.6	50.0
	Male	52.2	50.3	50.2	50.9	51.4	50.0
Performance Level	*Level 1*	20.1	11.3	17.3	23.5	25.8	21.6
	Level 2	28.3	27.5	25.7	24.9	29.9	45.7
	Level 3	32.0	44.3	33.7	43.6	30.7	26.3
	Level 4	19.7	17.0	23.2	8.0	13.5	6.4
Mathematics							
	Total N	3,332	3,325	3,328	3,558	3,503	3,169
Race	American Indian/Alaskan Native	1.3	1.5	1.4	1.6	2.0	1.9
	Asian	8.6	8.5	7.4	8.5	8.5	6.4
	Black	4.2	3.7	3.6	4.0	3.6	4.3
	Hispanic	15.8	16.7	17.1	14.2	15.2	17.0
	Multi-Race	4.2	4.1	4.8	4.6	4.7	4.4
	White	65.8	65.6	65.7	67.1	66.0	66.0
Sex	Female	47.8	50.0	50.2	49.1	48.5	50.4
	Male	52.2	50.0	49.8	50.9	51.5	49.6
Performance Level	*Level 1*	13.6	11.4	21.6	21.7	15.7	31.7
	Level 2	26.6	41.5	38.1	37.0	45.6	35.0
	Level 3	35.8	30.1	24.3	28.2	31.2	23.5
	Level 4	24.0	17.0	16.0	13.1	7.5	9.8

Table 3.2. Spring 2019 KAP Student Population Demographics

Spring 2019 KAP Population							
		%Students by Grade					
Demographic Subgroup		3	4	5	6	7	8
ELA							
	Total N	36,525	37,012	37,852	37,708	36,863	36,386
Race	American Indian/Alaskan Native	0.7	0.8	0.8	0.7	0.8	0.9
	Asian	3.0	3.0	2.9	3.1	3.0	2.8
	Black	6.9	7.1	7.1	6.8	7.1	6.8
	Hispanic	20.2	20.8	20.8	20.2	20.4	20.2
	Multi-Race	5.6	5.4	5.5	5.6	5.4	5.4
	White	63.6	63.0	62.8	63.6	63.3	63.9
Sex	Female	48.7	48.8	49.0	48.6	49.1	48.8
	Male	51.3	51.2	51.0	51.4	50.9	51.2
Performance Level	*Level 1*	28.6	17.1	25.8	34.3	36.4	29.9
	Level 2	30.8	35.3	30.7	27.2	31.8	44.9
	Level 3	27.1	37.8	28.8	33.8	23.2	20.8
	Level 4	13.5	9.8	14.7	4.6	8.6	4.4
Mathematics							
	Total N	36,525	37,012	37,852	37,708	36,863	36,386
Race	American Indian/Alaskan Native	0.7	0.8	0.8	0.7	0.8	0.9
	Asian	3.0	3.0	2.9	3.1	3.0	2.8
	Black	6.9	7.1	7.1	6.8	7.1	6.8
	Hispanic	20.2	20.8	20.8	20.2	20.4	20.2
	Multi-Race	5.6	5.4	5.5	5.6	5.4	5.4
	White	63.6	63.0	62.8	63.6	63.3	63.9
Sex	Female	48.7	48.8	49.0	48.6	49.1	48.8
	Male	51.3	51.2	51.0	51.4	50.9	51.2
Performance Level	*Level 1*	18.2	17.7	28.6	30.1	24.0	38.7
	Level 2	31.5	46.3	39.5	38.0	48.1	35.4
	Level 3	33.7	25.7	21.2	22.4	23.5	19.4
	Level 4	16.6	10.4	10.7	9.5	4.5	6.5

Table 3.3. Linking Study Sample Demographics (Weighted)

Linking Study Sample (Weighted)							
		%Students by Grade					
Demographic Subgroup		3	4	5	6	7	8
ELA/Reading							
	Total N	3,324	3,357	3,448	3,522	3,473	3,211
Race	American Indian/Alaskan Native	0.7	0.8	0.8	0.7	0.8	0.9
	Asian	3.0	3.0	2.9	3.1	3.0	2.8
	Black	6.9	7.1	7.1	6.8	7.1	6.8
	Hispanic	20.2	20.8	20.9	20.2	20.4	20.2
	Multi-Race	5.6	5.4	5.5	5.6	5.4	5.4
	White	63.6	63.0	62.8	63.6	63.3	63.9
Sex	Female	48.7	48.8	49.0	48.6	49.1	48.8
	Male	51.3	51.2	51.0	51.4	50.9	51.2
Performance Level	*Level 1*	28.6	17.1	25.8	34.3	36.4	29.9
	Level 2	30.8	35.3	30.7	27.2	31.8	44.9
	Level 3	27.1	37.8	28.8	33.8	23.2	20.8
	Level 4	13.5	9.8	14.7	4.6	8.6	4.4
Mathematics							
	Total N	3,331	3,324	3,327	3,557	3,502	3,168
Race	American Indian/Alaskan Native	0.7	0.8	0.8	0.7	0.8	0.9
	Asian	3.0	3.0	2.9	3.1	3.0	2.8
	Black	6.9	7.1	7.1	6.8	7.1	6.8
	Hispanic	20.2	20.8	20.9	20.2	20.4	20.2
	Multi-Race	5.6	5.4	5.5	5.6	5.4	5.4
	White	63.6	63.0	62.8	63.6	63.3	63.9
Sex	Female	48.7	48.8	49.0	48.6	49.1	48.8
	Male	51.3	51.2	51.0	51.4	50.9	51.2
Performance Level	*Level 1*	18.2	17.7	28.6	30.1	24.0	38.7
	Level 2	31.5	46.3	39.5	38.0	48.1	35.4
	Level 3	33.7	25.7	21.2	22.4	23.5	19.4
	Level 4	16.6	10.4	10.7	9.5	4.5	6.5

3.2. Descriptive Statistics

Table 3.4 presents descriptive statistics of the MAP Growth and KAP test scores from Spring 2019, including the correlation coefficient (*r*) between them. The correlation coefficients between the scores range from 0.80 to 0.85 for ELA/reading and 0.84 to 0.85 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 KAP assessments.

Table 3.4. Descriptive Statistics of Test Scores

Grade	N	*r*	KAP*				MAP Growth*			
			Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
ELA/Reading										
3	3,324	0.85	294.5	29.6	220	380	198.4	15.8	144	241
4	3,357	0.84	299.0	28.6	220	380	205.6	15.5	149	248
5	3,448	0.83	295.9	29.6	220	380	211.5	14.5	158	263
6	3,522	0.82	290.3	29.1	220	380	216.1	14.5	158	256
7	3,473	0.80	288.2	30.8	220	380	219.3	15.2	159	271
8	3,211	0.81	282.1	28.4	220	380	222.7	15.4	153	266
Mathematics										
3	3,331	0.84	302.8	28.0	220	380	203.1	14.2	148	282
4	3,324	0.85	292.8	28.7	220	380	212.0	15.2	150	278
5	3,327	0.85	290.6	27.1	220	380	220.7	16.0	160	284
6	3,557	0.84	290.9	27.3	220	380	224.0	16.4	164	301
7	3,502	0.84	288.0	28.0	220	380	228.7	17.9	158	292
8	3,168	0.84	285.3	28.2	220	380	234.1	18.5	168	286

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

3.3. MAP Growth Cut Scores

Table 3.5 and Table 3.6 present the KAP 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 KAP 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 *Level 3* proficiency on the KAP ELA test. A Grade 3 student who obtained a MAP Growth Reading RIT score of 203 in the spring is also likely to reach *Level 3* proficiency on the KAP assessment. The spring cut score is higher than the fall cut score because growth is expected between fall and spring as students receive more instruction during the school year.

Within this report, the cut scores for fall and winter are derived from the spring cuts and the typical growth scores from fall-to-spring or winter-to-spring. The typical growth scores are based on the default instructional weeks most 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

KAP ELA				
Grade	***Level 1***	***Level 2***	***Level 3***	***Level 4***
3	220–275	276–299	**300**–326	327–380
4	220–270	271–299	**300**–334	335–380
5	220–274	275–299	**300**–325	326–380
6	220–276	277–299	**300**–335	336–380
7	220–274	275–299	**300**–334	335–380
8	220–264	265–299	**300**–333	334–380

MAP Growth Reading*								
	Level 1		***Level 2***		***Level 3***		***Level 4***	
Grade	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
2	100–163	1–28	164–180	29–71	**181**–195	72–93	196–350	94–99
3	100–178	1–31	179–192	32–64	**193**–206	65–88	207–350	89–99
4	100–181	1–18	182–199	19–57	**200**–216	58–88	217–350	89–99
5	100–194	1–27	195–209	28–62	**210**–220	63–83	221–350	84–99
6	100–204	1–37	205–217	38–67	**218**–233	68–92	234–350	93–99
7	100–211	1–44	212–223	45–71	**224**–236	72–91	237–350	92–99
8	100–212	1–37	213–230	38–77	**231**–243	78–93	244–350	94–99
Winter								
2	100–172	1–28	173–188	29–69	**189**–202	70–92	203–350	93–99
3	100–186	1–32	187–199	33–64	**200**–212	65–87	213–350	88–99
4	100–188	1–19	189–205	20–58	**206**–221	59–87	222–350	88–99
5	100–200	1–29	201–213	30–61	**214**–223	62–82	224–350	83–99
6	100–208	1–37	209–220	38–66	**221**–234	67–90	235–350	91–99
7	100–214	1–44	215–225	45–70	**226**–237	71–89	238–350	90–99
8	100–215	1–38	216–231	39–74	**232**–244	75–92	245–350	93–99
Spring								
2	100–177	1–30	178–192	31–67	**193**–206	68–91	207–350	92–99
3	100–190	1–34	191–202	35–63	**203**–214	64–85	215–350	86–99
4	100–191	1–21	192–207	22–57	**208**–222	58–86	223–350	87–99
5	100–202	1–30	203–215	31–61	**216**–224	62–80	225–350	81–99
6	100–210	1–38	211–221	39–65	**222**–235	66–89	236–350	90–99
7	100–215	1–43	216–226	44–69	**227**–238	70–89	239–350	90–99
8	100–216	1–38	217–232	39–74	**233**–245	75–92	246–350	93–99

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

Table 3.6. MAP Growth Cut Scores—Mathematics

KAP Mathematics				
Grade	***Level 1***	***Level 2***	***Level 3***	***Level 4***
3	220–275	276–299	**300**–328	329–380
4	220–265	266–299	**300**–330	331–380
5	220–272	273–299	**300**–325	326–380
6	220–272	273–299	**300**–328	329–380
7	220–265	266–299	**300**–341	342–380
8	220–273	274–299	**300**–335	336–380

MAP Growth Mathematics*								
	Level 1		***Level 2***		***Level 3***		***Level 4***	
Grade	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
2	100–160	1–13	161–178	14–61	**179**–192	62–91	193–350	92–99
3	100–176	1–19	177–191	20–59	**192**–203	60–87	204–350	88–99
4	100–186	1–18	187–206	19–69	**207**–218	70–90	219–350	91–99
5	100–200	1–29	201–218	30–73	**219**–230	74–92	231–350	93–99
6	100–205	1–28	206–224	29–73	**225**–236	74–91	237–350	92–99
7	100–208	1–25	209–231	26–74	**232**–248	75–94	249–350	95–99
8	100–223	1–47	224–241	48–81	**242**–256	82–94	257–350	95–99
Winter								
2	100–170	1–15	171–187	16–61	**188**–200	62–89	201–350	90–99
3	100–184	1–20	185–198	21–57	**199**–211	58–87	212–350	88–99
4	100–192	1–18	193–213	19–69	**214**–225	70–90	226–350	91–99
5	100–206	1–30	207–224	31–73	**225**–236	74–91	237–350	92–99
6	100–210	1–29	211–229	30–72	**230**–241	73–90	242–350	91–99
7	100–211	1–24	212–235	25–74	**236**–252	75–94	253–350	95–99
8	100–226	1–47	227–244	48–80	**245**–259	81–94	260–350	95–99
Spring								
2	100–176	1–17	177–192	18–60	**193**–205	61–88	206–350	89–99
3	100–189	1–21	190–203	22–57	**204**–215	58–84	216–350	85–99
4	100–197	1–20	198–217	21–67	**218**–229	68–88	230–350	89–99
5	100–210	1–31	211–228	32–72	**229**–240	73–90	241–350	91–99
6	100–213	1–30	214–232	31–71	**233**–244	72–89	245–350	90–99
7	100–214	1–25	215–238	26–74	**239**–255	75–93	256–350	94–99
8	100–228	1–46	229–246	47–79	**247**–261	80–93	262–350	94–99

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

3.4. Classification Accuracy

Table 3.7 presents the classification accuracy summary statistics, including the overall classification accuracy rate. These results indicate how well MAP Growth spring RIT scores predict proficiency on the KAP tests, providing insight into the predictive validity of MAP Growth. The overall classification accuracy rate ranges from 0.83 to 0.87 for ELA/reading and 0.82 to 0.90 for mathematics. These values suggest that the RIT cut scores are good at classifying students as proficient or not proficient on the KAP assessment. For Grade 2, the classification accuracy rate refers to how well the MAP Growth cuts can predict students' proficiency status on KAP in Grade 3.

Although the results show that MAP Growth scores can be used to accurately classify students as likely to be proficient on the KAP tests, there is a notable limitation to how these results should be used and interpreted. The KAP 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	KAP		FP	FN				
ELA/Reading										
2	2,928	193	300	0.83	0.18	0.17	0.83	0.82	0.84	0.91
3	3,324	203	300	0.86	0.15	0.13	0.87	0.85	0.80	0.94
4	3,357	208	300	0.85	0.17	0.13	0.87	0.83	0.83	0.93
5	3,448	216	300	0.86	0.12	0.17	0.83	0.88	0.84	0.93
6	3,522	222	300	0.85	0.12	0.21	0.79	0.88	0.80	0.92
7	3,473	227	300	0.84	0.13	0.23	0.77	0.87	0.74	0.92
8	3,211	233	300	0.87	0.10	0.23	0.77	0.90	0.72	0.93
Mathematics										
2	2,944	193	300	0.82	0.18	0.19	0.81	0.82	0.88	0.90
3	3,331	204	300	0.87	0.16	0.10	0.90	0.84	0.85	0.94
4	3,324	218	300	0.88	0.09	0.17	0.83	0.91	0.84	0.95
5	3,327	229	300	0.89	0.09	0.16	0.84	0.91	0.82	0.95
6	3,557	233	300	0.89	0.07	0.19	0.81	0.93	0.84	0.96
7	3,502	239	300	0.89	0.10	0.14	0.86	0.90	0.78	0.95
8	3,168	247	300	0.90	0.07	0.17	0.83	0.93	0.80	0.96

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

3.5. Proficiency Projection

Table 3.8 and Table 3.9 present the estimated probability of achieving *Level 3* performance on the KAP test based on RIT scores from fall, winter, or spring. "Prob." indicates the probability of obtaining proficient status on the KAP test in the spring. For example, a Grade 3 student who obtained a MAP Growth Reading score of 204 in the fall has an 89% chance of reaching *Level 3* proficiency or higher on the KAP test.

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

ELA/Reading											
			Fall			Winter			Spring		
				Projected Proficiency			Projected Proficiency			Projected Proficiency	
Grade	Start %ile	Spring Cut	Fall RIT	*Level 3*	Prob.	Winter RIT	*Level 3*	Prob.	Spring RIT	*Level 3*	Prob.
2	5	193	147	No	<0.01	156	No	<0.01	160	No	<0.01
	10	193	153	No	<0.01	162	No	<0.01	166	No	<0.01
	15	193	157	No	<0.01	166	No	<0.01	170	No	<0.01
	20	193	160	No	0.01	169	No	<0.01	173	No	<0.01
	25	193	162	No	0.01	171	No	<0.01	175	No	<0.01
	30	193	164	No	0.02	173	No	<0.01	177	No	<0.01
	35	193	166	No	0.04	175	No	0.01	180	No	<0.01
	40	193	168	No	0.07	177	No	0.02	182	No	<0.01
	45	193	170	No	0.09	179	No	0.03	184	No	<0.01
	50	193	172	No	0.15	181	No	0.07	186	No	0.01
	55	193	174	No	0.21	183	No	0.13	188	No	0.06
	60	193	176	No	0.30	185	No	0.23	189	No	0.11
	65	193	178	No	0.40	187	No	0.35	192	No	0.38
	70	193	180	No	0.45	189	Yes	0.50	194	Yes	0.62
	75	193	183	Yes	0.60	191	Yes	0.65	196	Yes	0.83
	80	193	185	Yes	0.70	194	Yes	0.83	199	Yes	0.97
	85	193	188	Yes	0.79	197	Yes	0.93	202	Yes	>0.99
	90	193	192	Yes	0.91	200	Yes	0.98	205	Yes	>0.99
	95	193	197	Yes	0.97	206	Yes	>0.99	211	Yes	>0.99
3	5	203	159	No	<0.01	167	No	<0.01	170	No	<0.01
	10	203	165	No	<0.01	173	No	<0.01	176	No	<0.01
	15	203	169	No	<0.01	177	No	<0.01	180	No	<0.01
	20	203	173	No	0.01	180	No	<0.01	183	No	<0.01
	25	203	175	No	0.02	183	No	<0.01	186	No	<0.01
	30	203	178	No	0.04	185	No	<0.01	189	No	<0.01
	35	203	180	No	0.05	188	No	0.02	191	No	<0.01
	40	203	182	No	0.09	190	No	0.03	193	No	<0.01
	45	203	185	No	0.17	192	No	0.07	195	No	0.01
	50	203	187	No	0.21	194	No	0.13	197	No	0.03
	55	203	189	No	0.30	196	No	0.23	199	No	0.11
	60	203	191	No	0.39	198	No	0.35	201	No	0.27
	65	203	193	Yes	0.50	200	Yes	0.50	203	Yes	0.50
	70	203	195	Yes	0.55	202	Yes	0.65	206	Yes	0.83
	75	203	198	Yes	0.70	205	Yes	0.83	208	Yes	0.94
	80	203	201	Yes	0.83	207	Yes	0.91	211	Yes	0.99
	85	203	204	Yes	0.89	211	Yes	0.97	214	Yes	>0.99
	90	203	208	Yes	0.96	215	Yes	>0.99	218	Yes	>0.99
	95	203	214	Yes	0.99	220	Yes	>0.99	224	Yes	>0.99

ELA/Reading												
			Fall			Winter			Spring			
Grade	Start %ile	Spring Cut	Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency		
				Level 3	Prob.		*Level 3*	Prob.		*Level 3*	Prob.	
4	5	208	169	No	<0.01	176	No	<0.01	178	No	<0.01	
	10	208	175	No	<0.01	182	No	<0.01	184	No	<0.01	
	15	208	179	No	<0.01	186	No	<0.01	188	No	<0.01	
	20	208	183	No	0.02	189	No	<0.01	191	No	<0.01	
	25	208	185	No	0.04	192	No	0.01	194	No	<0.01	
	30	208	188	No	0.06	194	No	0.02	196	No	<0.01	
	35	208	190	No	0.11	196	No	0.04	199	No	<0.01	
	40	208	192	No	0.17	198	No	0.09	201	No	0.01	
	45	208	195	No	0.24	200	No	0.13	203	No	0.06	
	50	208	197	No	0.34	202	No	0.22	205	No	0.17	
	55	208	199	No	0.44	205	No	0.42	207	No	0.38	
	60	208	201	Yes	0.56	207	Yes	0.58	209	Yes	0.62	
	65	208	203	Yes	0.61	209	Yes	0.72	211	Yes	0.83	
	70	208	205	Yes	0.71	211	Yes	0.83	213	Yes	0.94	
	75	208	208	Yes	0.83	213	Yes	0.91	216	Yes	0.99	
	80	208	211	Yes	0.89	216	Yes	0.97	219	Yes	>0.99	
	85	208	214	Yes	0.95	219	Yes	0.99	222	Yes	>0.99	
	90	208	218	Yes	0.98	223	Yes	>0.99	226	Yes	>0.99	
	95	208	224	Yes	>0.99	229	Yes	>0.99	232	Yes	>0.99	
5	5	216	178	No	<0.01	183	No	<0.01	185	No	<0.01	
	10	216	183	No	<0.01	189	No	<0.01	191	No	<0.01	
	15	216	187	No	<0.01	193	No	<0.01	194	No	<0.01	
	20	216	191	No	0.01	196	No	<0.01	198	No	<0.01	
	25	216	193	No	0.02	198	No	<0.01	200	No	<0.01	
	30	216	196	No	0.05	201	No	0.01	203	No	<0.01	
	35	216	198	No	0.06	203	No	0.02	205	No	<0.01	
	40	216	200	No	0.11	205	No	0.04	207	No	<0.01	
	45	216	202	No	0.17	207	No	0.09	209	No	0.01	
	50	216	204	No	0.24	209	No	0.17	211	No	0.06	
	55	216	207	No	0.34	211	No	0.28	213	No	0.17	
	60	216	209	No	0.44	213	No	0.42	215	No	0.38	
	65	216	211	Yes	0.56	215	Yes	0.58	217	Yes	0.62	
	70	216	213	Yes	0.61	217	Yes	0.65	219	Yes	0.83	
	75	216	216	Yes	0.76	220	Yes	0.83	222	Yes	0.97	
	80	216	218	Yes	0.83	222	Yes	0.91	224	Yes	0.99	
	85	216	221	Yes	0.89	226	Yes	0.98	228	Yes	>0.99	
	90	216	225	Yes	0.96	229	Yes	>0.99	231	Yes	>0.99	
	95	216	231	Yes	0.99	235	Yes	>0.99	237	Yes	>0.99	

ELA/Reading											
			Fall			Winter			Spring		
Grade	Start %ile	Spring Cut	Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Level 3	Prob.		*Level 3*	Prob.		*Level 3*	Prob.
6	5	222	183	No	<0.01	188	No	<0.01	189	No	<0.01
	10	222	189	No	<0.01	193	No	<0.01	195	No	<0.01
	15	222	193	No	<0.01	197	No	<0.01	199	No	<0.01
	20	222	196	No	<0.01	200	No	<0.01	202	No	<0.01
	25	222	199	No	0.01	203	No	<0.01	205	No	<0.01
	30	222	202	No	0.02	205	No	<0.01	207	No	<0.01
	35	222	204	No	0.04	208	No	0.01	209	No	<0.01
	40	222	206	No	0.08	210	No	0.03	211	No	<0.01
	45	222	208	No	0.10	212	No	0.06	213	No	<0.01
	50	222	210	No	0.16	214	No	0.12	215	No	0.01
	55	222	212	No	0.24	216	No	0.17	217	No	0.06
	60	222	214	No	0.33	218	No	0.28	219	No	0.17
	65	222	217	No	0.44	220	No	0.42	222	Yes	0.50
	70	222	219	Yes	0.56	222	Yes	0.58	224	Yes	0.73
	75	222	221	Yes	0.67	225	Yes	0.78	226	Yes	0.89
	80	222	224	Yes	0.76	227	Yes	0.88	229	Yes	0.99
	85	222	227	Yes	0.87	230	Yes	0.96	232	Yes	>0.99
	90	222	231	Yes	0.96	234	Yes	0.99	236	Yes	>0.99
	95	222	237	Yes	0.99	240	Yes	>0.99	242	Yes	>0.99
7	5	227	187	No	<0.01	190	No	<0.01	191	No	<0.01
	10	227	193	No	<0.01	196	No	<0.01	197	No	<0.01
	15	227	197	No	<0.01	200	No	<0.01	201	No	<0.01
	20	227	200	No	<0.01	203	No	<0.01	205	No	<0.01
	25	227	203	No	<0.01	206	No	<0.01	207	No	<0.01
	30	227	206	No	0.01	209	No	<0.01	210	No	<0.01
	35	227	208	No	0.02	211	No	<0.01	212	No	<0.01
	40	227	210	No	0.04	213	No	0.01	214	No	<0.01
	45	227	212	No	0.06	215	No	0.02	216	No	<0.01
	50	227	214	No	0.10	217	No	0.04	218	No	<0.01
	55	227	216	No	0.16	219	No	0.09	220	No	0.01
	60	227	218	No	0.24	221	No	0.17	223	No	0.11
	65	227	221	No	0.33	223	No	0.28	225	No	0.27
	70	227	223	No	0.44	226	Yes	0.50	227	Yes	0.50
	75	227	225	Yes	0.56	228	Yes	0.65	229	Yes	0.73
	80	227	228	Yes	0.72	231	Yes	0.83	232	Yes	0.94
	85	227	231	Yes	0.81	234	Yes	0.94	235	Yes	0.99
	90	227	235	Yes	0.92	238	Yes	0.99	239	Yes	>0.99
	95	227	241	Yes	0.99	244	Yes	>0.99	245	Yes	>0.99

ELA/Reading											
			Fall			Winter			Spring		
Grade	Start %ile	Spring Cut	Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Level 3	Prob.		*Level 3*	Prob.		*Level 3*	Prob.
8	5	233	190	No	<0.01	193	No	<0.01	194	No	<0.01
	10	233	196	No	<0.01	199	No	<0.01	200	No	<0.01
	15	233	200	No	<0.01	203	No	<0.01	204	No	<0.01
	20	233	204	No	<0.01	206	No	<0.01	207	No	<0.01
	25	233	207	No	<0.01	209	No	<0.01	210	No	<0.01
	30	233	209	No	<0.01	212	No	<0.01	213	No	<0.01
	35	233	211	No	0.01	214	No	<0.01	215	No	<0.01
	40	233	214	No	0.02	216	No	<0.01	217	No	<0.01
	45	233	216	No	0.04	218	No	<0.01	220	No	<0.01
	50	233	218	No	0.06	221	No	0.02	222	No	<0.01
	55	233	220	No	0.08	223	No	0.04	224	No	<0.01
	60	233	222	No	0.13	225	No	0.09	226	No	0.01
	65	233	225	No	0.24	227	No	0.17	228	No	0.06
	70	233	227	No	0.34	229	No	0.28	231	No	0.27
	75	233	230	No	0.45	232	Yes	0.50	233	Yes	0.50
	80	233	232	Yes	0.55	235	Yes	0.72	236	Yes	0.83
	85	233	236	Yes	0.76	238	Yes	0.87	239	Yes	0.97
	90	233	240	Yes	0.89	242	Yes	0.97	243	Yes	>0.99
	95	233	246	Yes	0.98	248	Yes	>0.99	249	Yes	>0.99

Table 3.9. Proficiency Projection based on RIT Scores—Mathematics

Mathematics											
			Fall			Winter			Spring		
				Projected Proficiency			Projected Proficiency			Projected Proficiency	
Grade	Start %ile	Spring Cut	Fall RIT	*Level 3*	Prob.	Winter RIT	*Level 3*	Prob.	Spring RIT	*Level 3*	Prob.
2	5	193	154	No	<0.01	163	No	<0.01	167	No	<0.01
	10	193	158	No	<0.01	167	No	<0.01	172	No	<0.01
	15	193	162	No	0.01	171	No	<0.01	175	No	<0.01
	20	193	164	No	0.01	173	No	<0.01	178	No	<0.01
	25	193	166	No	0.03	175	No	0.01	180	No	<0.01
	30	193	168	No	0.06	177	No	0.02	182	No	<0.01
	35	193	170	No	0.11	179	No	0.05	184	No	<0.01
	40	193	172	No	0.18	181	No	0.07	186	No	0.01
	45	193	173	No	0.22	182	No	0.10	188	No	0.04
	50	193	175	No	0.27	184	No	0.20	189	No	0.08
	55	193	177	No	0.38	186	No	0.34	191	No	0.25
	60	193	178	No	0.44	187	No	0.42	193	Yes	0.50
	65	193	180	Yes	0.56	189	Yes	0.58	195	Yes	0.75
	70	193	182	Yes	0.68	191	Yes	0.74	196	Yes	0.85
	75	193	184	Yes	0.78	193	Yes	0.85	198	Yes	0.96
	80	193	186	Yes	0.82	195	Yes	0.93	201	Yes	>0.99
	85	193	188	Yes	0.89	198	Yes	0.98	203	Yes	>0.99
	90	193	192	Yes	0.97	201	Yes	>0.99	207	Yes	>0.99
	95	193	196	Yes	0.99	205	Yes	>0.99	212	Yes	>0.99
3	5	204	166	No	<0.01	174	No	<0.01	178	No	<0.01
	10	204	171	No	<0.01	179	No	<0.01	183	No	<0.01
	15	204	175	No	<0.01	182	No	<0.01	186	No	<0.01
	20	204	177	No	0.01	185	No	<0.01	189	No	<0.01
	25	204	179	No	0.03	187	No	0.01	192	No	<0.01
	30	204	181	No	0.05	189	No	0.02	194	No	<0.01
	35	204	183	No	0.10	191	No	0.04	196	No	<0.01
	40	204	185	No	0.17	193	No	0.10	198	No	0.02
	45	204	187	No	0.26	195	No	0.20	199	No	0.04
	50	204	188	No	0.31	196	No	0.26	201	No	0.15
	55	204	190	No	0.44	198	No	0.42	203	No	0.37
	60	204	192	Yes	0.50	200	Yes	0.58	205	Yes	0.63
	65	204	194	Yes	0.63	201	Yes	0.67	207	Yes	0.85
	70	204	196	Yes	0.74	203	Yes	0.80	208	Yes	0.92
	75	204	198	Yes	0.83	205	Yes	0.90	211	Yes	0.99
	80	204	200	Yes	0.90	208	Yes	0.97	213	Yes	>0.99
	85	204	202	Yes	0.95	210	Yes	0.99	216	Yes	>0.99
	90	204	206	Yes	0.99	214	Yes	>0.99	219	Yes	>0.99
	95	204	211	Yes	>0.99	219	Yes	>0.99	224	Yes	>0.99

Mathematics											
			Fall			Winter			Spring		
				Projected Proficiency			Projected Proficiency			Projected Proficiency	
Grade	Start %ile	Spring Cut	Fall RIT	*Level 3*	Prob.	Winter RIT	*Level 3*	Prob.	Spring RIT	*Level 3*	Prob.
4	5	218	176	No	<0.01	182	No	<0.01	185	No	<0.01
	10	218	181	No	<0.01	187	No	<0.01	191	No	<0.01
	15	218	185	No	<0.01	191	No	<0.01	194	No	<0.01
	20	218	187	No	<0.01	194	No	<0.01	197	No	<0.01
	25	218	190	No	<0.01	196	No	<0.01	200	No	<0.01
	30	218	192	No	0.01	198	No	<0.01	202	No	<0.01
	35	218	194	No	0.02	200	No	<0.01	205	No	<0.01
	40	218	196	No	0.04	202	No	0.01	207	No	<0.01
	45	218	198	No	0.07	204	No	0.02	209	No	<0.01
	50	218	200	No	0.13	206	No	0.04	211	No	0.01
	55	218	201	No	0.17	208	No	0.10	212	No	0.02
	60	218	203	No	0.26	210	No	0.20	214	No	0.08
	65	218	205	No	0.37	212	No	0.33	217	No	0.37
	70	218	207	Yes	0.50	214	Yes	0.50	219	Yes	0.63
	75	218	209	Yes	0.63	216	Yes	0.67	221	Yes	0.85
	80	218	212	Yes	0.79	219	Yes	0.86	224	Yes	0.98
	85	218	214	Yes	0.87	221	Yes	0.93	227	Yes	>0.99
	90	218	218	Yes	0.96	225	Yes	0.99	230	Yes	>0.99
	95	218	223	Yes	0.99	231	Yes	>0.99	236	Yes	>0.99
5	5	229	184	No	<0.01	189	No	<0.01	191	No	<0.01
	10	229	190	No	<0.01	194	No	<0.01	197	No	<0.01
	15	229	193	No	<0.01	198	No	<0.01	201	No	<0.01
	20	229	196	No	<0.01	201	No	<0.01	205	No	<0.01
	25	229	199	No	<0.01	204	No	<0.01	207	No	<0.01
	30	229	201	No	<0.01	206	No	<0.01	210	No	<0.01
	35	229	203	No	0.01	209	No	<0.01	212	No	<0.01
	40	229	205	No	0.02	211	No	<0.01	215	No	<0.01
	45	229	207	No	0.03	213	No	0.01	217	No	<0.01
	50	229	209	No	0.06	215	No	0.02	219	No	<0.01
	55	229	211	No	0.11	217	No	0.05	221	No	<0.01
	60	229	213	No	0.18	219	No	0.10	223	No	0.02
	65	229	215	No	0.27	221	No	0.20	225	No	0.08
	70	229	217	No	0.38	223	No	0.34	228	No	0.37
	75	229	219	Yes	0.50	225	Yes	0.50	230	Yes	0.63
	80	229	222	Yes	0.68	228	Yes	0.74	233	Yes	0.92
	85	229	225	Yes	0.82	231	Yes	0.90	236	Yes	0.99
	90	229	229	Yes	0.94	235	Yes	0.98	240	Yes	>0.99
	95	229	234	Yes	0.99	241	Yes	>0.99	246	Yes	>0.99

Mathematics												
			Fall			Winter			Spring			
				Projected Proficiency			Projected Proficiency			Projected Proficiency		
Grade	Start %ile	Spring Cut	Fall RIT	*Level 3*	Prob.	Winter RIT	*Level 3*	Prob.	Spring RIT	*Level 3*	Prob.	
6	5	233	188	No	<0.01	192	No	<0.01	194	No	<0.01	
	10	233	194	No	<0.01	198	No	<0.01	200	No	<0.01	
	15	233	198	No	<0.01	202	No	<0.01	205	No	<0.01	
	20	233	201	No	<0.01	205	No	<0.01	208	No	<0.01	
	25	233	204	No	<0.01	208	No	<0.01	211	No	<0.01	
	30	233	206	No	<0.01	211	No	<0.01	214	No	<0.01	
	35	233	209	No	0.01	213	No	<0.01	216	No	<0.01	
	40	233	211	No	0.01	215	No	<0.01	218	No	<0.01	
	45	233	213	No	0.03	217	No	<0.01	221	No	<0.01	
	50	233	215	No	0.06	220	No	0.02	223	No	<0.01	
	55	233	217	No	0.10	222	No	0.04	225	No	<0.01	
	60	233	219	No	0.17	224	No	0.10	227	No	0.02	
	65	233	221	No	0.27	226	No	0.20	230	No	0.15	
	70	233	223	No	0.38	228	No	0.34	232	No	0.37	
	75	233	226	Yes	0.56	231	Yes	0.58	235	Yes	0.75	
	80	233	228	Yes	0.68	234	Yes	0.80	238	Yes	0.96	
	85	233	231	Yes	0.83	237	Yes	0.93	241	Yes	>0.99	
	90	233	235	Yes	0.94	241	Yes	0.99	245	Yes	>0.99	
	95	233	241	Yes	0.99	247	Yes	>0.99	252	Yes	>0.99	
7	5	239	192	No	<0.01	194	No	<0.01	196	No	<0.01	
	10	239	198	No	<0.01	201	No	<0.01	203	No	<0.01	
	15	239	202	No	<0.01	205	No	<0.01	207	No	<0.01	
	20	239	206	No	<0.01	209	No	<0.01	211	No	<0.01	
	25	239	208	No	<0.01	212	No	<0.01	214	No	<0.01	
	30	239	211	No	<0.01	215	No	<0.01	217	No	<0.01	
	35	239	213	No	<0.01	217	No	<0.01	220	No	<0.01	
	40	239	216	No	<0.01	219	No	<0.01	222	No	<0.01	
	45	239	218	No	0.01	222	No	<0.01	224	No	<0.01	
	50	239	220	No	0.03	224	No	<0.01	227	No	<0.01	
	55	239	222	No	0.05	226	No	0.02	229	No	<0.01	
	60	239	225	No	0.13	229	No	0.07	231	No	<0.01	
	65	239	227	No	0.21	231	No	0.14	234	No	0.04	
	70	239	229	No	0.31	233	No	0.26	236	No	0.15	
	75	239	232	Yes	0.50	236	Yes	0.50	239	Yes	0.50	
	80	239	235	Yes	0.69	239	Yes	0.74	242	Yes	0.85	
	85	239	238	Yes	0.83	243	Yes	0.93	246	Yes	0.99	
	90	239	243	Yes	0.96	247	Yes	0.99	251	Yes	>0.99	
	95	239	249	Yes	>0.99	254	Yes	>0.99	257	Yes	>0.99	

Mathematics											
			Fall			Winter			Spring		
Grade	Start %ile	Spring Cut	Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Level 3	Prob.		*Level 3*	Prob.		*Level 3*	Prob.
8	5	247	194	No	<0.01	196	No	<0.01	197	No	<0.01
	10	247	201	No	<0.01	203	No	<0.01	205	No	<0.01
	15	247	205	No	<0.01	208	No	<0.01	210	No	<0.01
	20	247	209	No	<0.01	212	No	<0.01	214	No	<0.01
	25	247	212	No	<0.01	215	No	<0.01	217	No	<0.01
	30	247	215	No	<0.01	218	No	<0.01	220	No	<0.01
	35	247	218	No	<0.01	221	No	<0.01	223	No	<0.01
	40	247	220	No	<0.01	223	No	<0.01	225	No	<0.01
	45	247	223	No	<0.01	226	No	<0.01	228	No	<0.01
	50	247	225	No	0.01	228	No	<0.01	230	No	<0.01
	55	247	227	No	0.02	231	No	<0.01	233	No	<0.01
	60	247	230	No	0.04	233	No	0.01	235	No	<0.01
	65	247	232	No	0.07	236	No	0.03	238	No	<0.01
	70	247	235	No	0.16	238	No	0.07	241	No	0.02
	75	247	238	No	0.28	241	No	0.20	244	No	0.15
	80	247	241	No	0.44	244	No	0.42	247	Yes	0.50
	85	247	245	Yes	0.67	248	Yes	0.73	251	Yes	0.92
	90	247	249	Yes	0.84	253	Yes	0.95	256	Yes	>0.99
	95	247	256	Yes	0.98	260	Yes	>0.99	263	Yes	>0.99

4. References

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