Predicting Performance on the Oklahoma School Testing Program (OSTP) Based on NWEA MAP Growth Scores

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NWEA Psychometrics and Analytics

nwea

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 2017 and Spring 2018 data.
2025-07	Updated the linking study based on the 2025 norms.

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

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Executive Summary

To predict student achievement on the Oklahoma School Testing Program (OSTP) assessments in grades 3–8 English language arts (ELA) and mathematics, NWEA® conducted a linking study using Spring 2017 and Spring 2018 data to derive Rasch Unit (RIT) cut scores on the MAP® Growth™ assessments that correspond to the OSTP performance levels. With this information, educators can identify students at risk of failing to meet state proficiency standards early in the year and provide tailored educational interventions. The linking study has been updated since the previous version published in July 2020 to incorporate the most recent 2025 NWEA MAP Growth norms (NWEA, 2025).

Table E.1 presents the OSTP *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 OSTP grade 3 ELA test is 300. A grade 3 student with a MAP Growth reading RIT score of 199 in the fall is likely to meet proficiency on the OSTP ELA test in the spring, whereas a grade 3 student with a MAP Growth reading RIT score lower than 199 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 OSTP 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 OSTP Proficiency

Assessment		*Proficient* Cut Scores by Grade						
		2	3	4	5	6	7	8
ELA/Reading								
OSTP Spring		–	300	300	300	300	300	300
MAP Growth	Fall	187	199	207	212	219	225	226
	Winter	193	204	210	215	220	226	227
	Spring	196	206	212	216	221	227	228
Mathematics								
OSTP Spring		–	300	300	300	300	300	300
MAP Growth	Fall	185	194	207	218	223	230	242
	Winter	193	203	215	224	230	235	247
	Spring	198	209	220	228	234	237	249

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 OSTP grades 3–8 ELA and mathematics tests are Oklahoma's state summative assessments aligned to the Oklahoma Academic Standards (OAS). Based on their test scores, students are placed into one of four performance levels: *Below Basic*, *Basic*, *Proficient*, and *Advanced*. These tests are used to provide evidence of student achievement in ELA and mathematics for various goals, such as providing information to appropriately support federal and state accountability decisions. 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 2017 and Spring 2018 test administrations, the equipercentile linking method was used to identify the spring MAP Growth scores that correspond to the spring OSTP 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 OSTP assessments in Spring 2017 and Spring 2018 were included in the study sample (i.e., students who took either the Spring 2017 MAP Growth and OSTP assessments or the Spring 2018 MAP Growth and OSTP assessments). Table E.2 presents the weighted numbers of Oklahoma students from 6 districts and 72 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.

[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.

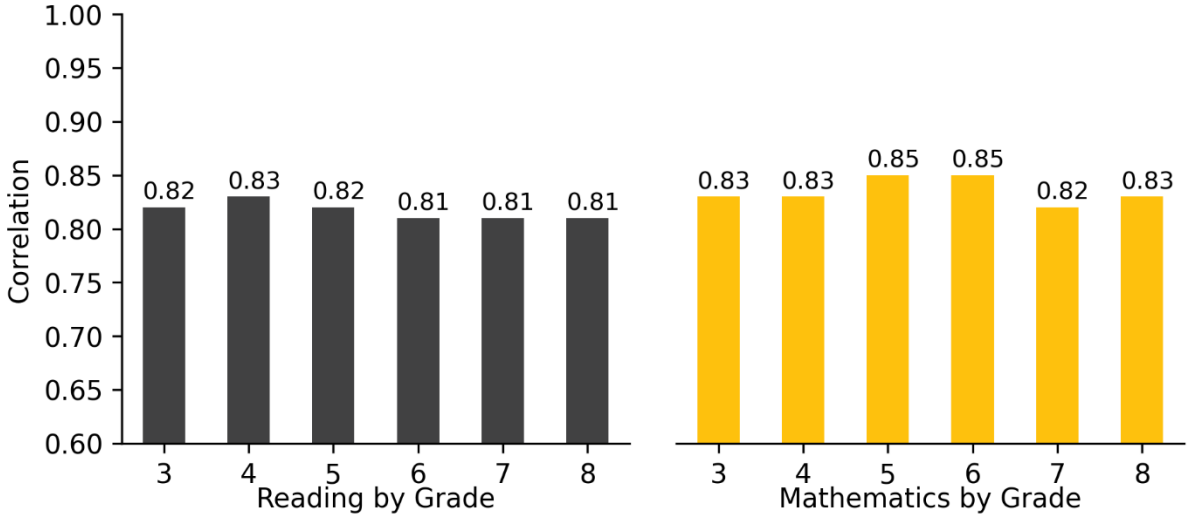
Table E.2. Linking Study Sample

Grade	# Students	
	ELA/Reading	Mathematics
3	4,064	4,056
4	3,757	3,793
5	3,577	3,544
6	3,290	3,310
7	2,694	2,664
8	3,009	3,065

E.4. Test Score Relationships

Correlations between MAP Growth RIT scores and OSTP scores range from 0.81 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 OSTP assessments.

Figure E.1. Correlations Between MAP Growth and OSTP

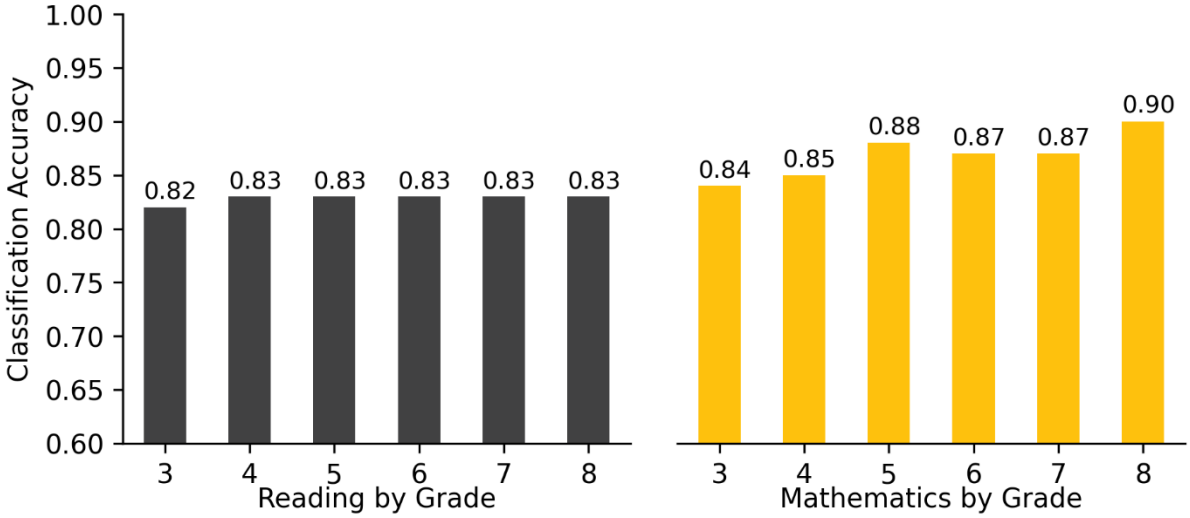


E.5. Accuracy of MAP Growth Classifications

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 OSTP assessments.[2] For example, the MAP Growth reading grade 3 *Proficient* cut score has a 0.82 accuracy rate, meaning it accurately classified student achievement on the state test for 82% 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 OSTP tests.

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

Figure E.2. Accuracy of MAP Growth Classifications



1. Introduction

1.1. Purpose of the Study

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

This report presents results from a linking study conducted by NWEA in July 2020 to statistically connect the scores of the Oklahoma School Testing Program (OSTP) grades 3–8 English language arts (ELA) and mathematics assessments with Rasch Unit (RIT) scores from the MAP Growth assessments taken during the Spring 2017 and Spring 2018 terms. The linking study has been updated since the previous version to incorporate the most recent 2025 NWEA MAP Growth norms (NWEA, 2025). In this updated study, MAP Growth cut scores are also included for grade 2 so that educators can track early learners' progress toward proficiency on the OSTP 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 OSTP 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 OSTP tests
5. The probability of achieving grade-level proficiency on the OSTP assessment based on MAP Growth RIT scores from fall, winter, and spring using the 2025 norms

1.2. Assessment Overview

The OSTP grades 3–8 ELA and mathematics summative assessments are aligned to the Oklahoma Academic Standards (OAS). 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: *Below Basic*, *Basic*, *Proficient*, and *Advanced*. 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 2017 and 2018 administrations of MAP Growth and OSTP. NWEA requested that Oklahoma 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 Oklahoma 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 OSTP assessments in Spring 2017 or 2018 were included in the study sample.

2.2. Post-Stratification Weighting

Post-stratification weights were applied to the calculations to ensure that the linking study sample represented the state population in terms of race, sex, and performance level. These variables were selected because they are correlated with the student's academic achievement within this study and are often provided in the data for the state population. The weighted sample matches the target population as closely as possible for the key demographics and test score characteristics. Specifically, a raking procedure was used to calculate the post-stratification weights and improve the representativeness of the sample. Raking uses iterative procedures to obtain weights that match sample marginal distributions to known population margins. The following steps were taken during this process:

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

2.3. MAP Growth Cut Scores

The equipercentile linking method (Kolen & Brennan, 2004) was used to identify the spring MAP Growth RIT scores that correspond to the spring OSTP 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 OSTP test were then projected using the 2025 growth norms. Percentile ranks are also provided that show how a nationally representative sample of students in the same grade scored on MAP Growth for each administration, which is an important interpretation of MAP Growth test scores. This is useful 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 OSTP 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., OSTP). Its equipercentile equivalent score on Test Y (e.g., MAP Growth), $e_y(x)$, can be obtained through a cumulative-distribution-based linking function defined as:

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

where $e_y(x)$ is the equipercentile equivalent of score x on the OSTP tests on the scale of MAP Growth, $P(x)$ is the percentile rank of a given score on the OSTP 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. The equation below was used to determine the previous term's MAP Growth score needed to reach the spring cut score, considering the expected growth associated with the previous RIT score:

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

where:

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

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

2.4. Classification Accuracy

The degree to which MAP Growth predicts student proficiency status on the OSTP tests can be described using classification accuracy statistics based on the MAP Growth RIT spring cut scores that show the proportion of students correctly classified by their RIT scores as proficient (*Proficient* or *Advanced*) or not proficient (*Below Basic* or *Basic*). Table 2.1 describes the classification accuracy statistics provided in this report (Pommerich et al., 2004). The results are based on the Spring 2017 and Spring 2018 MAP Growth and OSTP 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

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

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

2.5. Proficiency Projections

Given that all test scores contain measurement errors, reaching the *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 OSTP test based on a student's RIT scores from fall, winter, and spring. The equation below was used to calculate the probability of a student achieving *Proficient* on the OSTP test based on their fall or winter RIT score:

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

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 OSTP tests based on their spring RIT score (RIT_{Spring}):

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

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 OSTP assessments in Spring 2017 and Spring 2018 were included in the study sample. Data used in this study were collected from 6 districts and 72 schools in Oklahoma. Table 3.1 presents the demographic distributions of race, sex, and performance level in the original unweighted study sample. Table 3.2 presents the distributions of the student population who took the Spring 2018 OSTP tests (Oklahoma State Department of Education, 2018). Since the unweighted data are different from the general OSTP 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 OSTP 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	4,064	3,795	3,577	3,290	2,667	3,009
Race	AI/AN	9.4	8.2	8.7	8.0	11.5	10.5
	Asian/PI	1.2	1.2	1.3	1.6	1.3	1.7
	Black	19.4	18.6	17.6	20.2	17.8	18.1
	Hispanic	30.2	30.2	31.1	29.4	24.5	26.0
	Multiethnic	7.2	7.9	7.2	6.1	6.2	5.6
	NH/PI	0.4	0.6	0.4	0.4	0.5	0.4
	White	32.3	33.2	33.7	34.3	38.2	37.7
Sex	Female	50.0	50.1	49.8	49.3	48.5	50.6
	Male	50.0	49.9	50.2	50.7	51.5	49.4
Performance Level	*Below Basic*	52.5	47.4	35.0	32.1	41.7	38.0
	Basic	26.6	30.3	38.0	41.0	34.9	38.6
	Proficient	17.2	17.7	18.4	21.1	17.5	16.7
	Advanced	3.7	4.6	8.6	5.7	5.9	6.8
Mathematics							
	Total N	4,056	3,793	3,544	3,310	2,664	3,065
Race	AI/AN	9.4	8.2	8.8	8.1	11.4	10.2
	Asian/PI	1.2	1.2	1.4	1.6	1.2	1.7
	Black	19.2	18.7	17.4	20.0	18.0	18.4
	Hispanic	30.3	30.1	31.0	29.5	24.4	26.3
	Multiethnic	7.2	7.9	7.1	6.1	6.1	5.5
	NH/PI	0.4	0.6	0.5	0.4	0.5	0.4
	White	32.4	33.2	33.9	34.2	38.4	37.3
Sex	Female	50.0	50.0	49.8	49.3	48.6	50.0
	Male	50.0	50.0	50.2	50.7	51.4	50.0

Demographic Subgroup		% Students by Grade					
		3	4	5	6	7	8
Performance Level	*Below Basic*	44.7	45.3	40.5	45.0	48.7	70.2
	Basic	31.6	34.8	40.9	36.3	27.2	18.2
	Proficient	16.8	14.0	12.8	16.2	19.0	6.1
	Advanced	6.9	6.0	5.8	2.6	5.1	5.4

Note. AI/AN = American Indian or Alaskan Native; NH/PI = Native Hawaiian or Other Pacific Islander.

Table 3.2. Spring 2018 OSTP Student Population Demographics

Demographic Subgroup		% Students by Grade					
		3	4	5	6	7	8
ELA							
	Total N	52,343	51,227	51,090	49,233	46,689	48,056
Race	AI/AN	13.0	12.7	13.1	13.8	14.2	14.4
	Asian/PI	1.9	1.9	2.0	2.0	1.9	2.2
	Black	8.9	8.4	8.5	8.7	8.2	8.6
	Hispanic	18.8	18.5	18.4	18.0	16.8	17.3
	Multiethnic	10.3	10.5	9.9	9.1	8.5	8.2
	NH/PI	0.4	0.4	0.3	0.4	0.3	0.3
	White	46.8	47.6	47.8	48.0	50.0	49.0
Sex	Female	48.7	49.2	49.1	49.5	48.9	48.7
	Male	51.3	50.8	50.9	50.5	51.1	51.3
Performance Level	*Below Basic*	34.0	30.0	22.0	22.0	32.0	24.0
	Basic	33.0	34.0	41.0	40.0	41.0	43.0
	Proficient	27.0	28.0	23.0	29.0	20.0	24.0
	Advanced	6.0	7.0	14.0	9.0	8.0	9.0
Mathematics							
	Total N	52,319	51,156	51,078	48,677	46,121	47,483
Race	AI/AN	13.0	12.7	13.1	13.8	14.1	14.3
	Asian/PI	1.9	1.9	2.0	2.0	1.9	2.2
	Black	8.9	8.4	8.5	8.8	8.2	8.6
	Hispanic	18.8	18.5	18.4	17.9	16.7	17.2
	Multiethnic	10.3	10.5	9.9	9.2	8.5	8.3
	NH/PI	0.4	0.4	0.3	0.4	0.3	0.3
	White	46.8	47.7	47.7	48.1	50.1	49.1
Sex	Female	48.7	49.2	49.1	49.5	49.0	48.8
	Male	51.3	50.8	50.9	50.5	51.0	51.2
Performance Level	*Below Basic*	24.0	27.0	25.0	29.0	34.0	52.0
	Basic	35.0	37.0	45.0	43.0	32.0	28.0
	Proficient	26.0	25.0	20.0	23.0	26.0	10.0
	Advanced	15.0	11.0	10.0	5.0	8.0	10.0

Note. AI/AN = American Indian or Alaskan Native; NH/PI = Native Hawaiian or Other Pacific Islander.

Table 3.3. Linking Study Sample Demographics (Weighted)

Demographic Subgroup		% Students by Grade					
		3	4	5	6	7	8
ELA/Reading							
	Total N	4,064	3,757	3,577	3,290	2,694	3,009
Race	AI/AN	13.0	12.7	13.1	13.8	14.2	14.4
	Asian/PI	1.9	1.9	2.0	2.0	1.9	2.2
	Black	8.9	8.4	8.5	8.7	8.2	8.6
	Hispanic	18.8	18.5	18.4	18.0	16.8	17.3
	Multiethnic	10.3	10.5	9.9	9.1	8.5	8.2
	NH/PI	0.4	0.4	0.3	0.4	0.3	0.3
	White	46.8	47.6	47.8	48.0	50.1	49.0
Sex	Female	48.7	49.2	49.1	49.5	48.9	48.7
	Male	51.3	50.8	50.9	50.5	51.1	51.3
Performance Level	*Below Basic*	34.0	30.3	22.0	22.0	31.7	24.0
	Basic	33.0	34.3	41.0	40.0	40.6	43.0
	Proficient	27.0	28.3	23.0	29.0	19.8	24.0
	Advanced	6.0	7.1	14.0	9.0	7.9	9.0
Mathematics							
	Total N	4,056	3,793	3,544	3,310	2,664	3,065
Race	AI/AN	13.0	12.7	13.1	13.8	14.1	14.3
	Asian/PI	1.9	1.9	2.0	2.0	1.9	2.2
	Black	8.9	8.4	8.5	8.8	8.2	8.6
	Hispanic	18.8	18.5	18.4	17.9	16.7	17.2
	Multiethnic	10.3	10.5	9.9	9.2	8.5	8.3
	NH/PI	0.4	0.4	0.3	0.4	0.3	0.3
	White	46.8	47.7	47.7	48.0	50.2	49.1
Sex	Female	48.7	49.2	49.1	49.5	49.0	48.8
	Male	51.3	50.8	50.9	50.5	51.0	51.2
Performance Level	*Below Basic*	24.0	27.0	25.0	29.0	34.0	52.0
	Basic	35.0	37.0	45.0	43.0	32.0	28.0
	Proficient	26.0	25.0	20.0	23.0	26.0	10.0
	Advanced	15.0	11.0	10.0	5.0	8.0	10.0

Note. AI/AN = American Indian or Alaskan Native; NH/PI = Native Hawaiian or Other Pacific Islander.

3.2. Descriptive Statistics

Table 3.4 presents descriptive statistics of the MAP Growth and OSTP test scores from Spring 2017 and Spring 2018, including the correlation coefficients (*r*) between them. The correlation coefficients between the scores range from 0.81 to 0.83 for ELA and 0.82 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 OSTP assessments.

Table 3.4. Descriptive Statistics of Test Scores

Grade	N	*r*	OSTP				MAP Growth			
			Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
ELA/Reading										
3	4,064	0.82	284.7	31.2	202	394	197.2	17.1	142	240
4	3,757	0.83	287.0	30.6	200	389	205.1	16.4	145	255
5	3,577	0.82	290.2	30.6	200	399	211.0	15.4	144	254
6	3,290	0.81	289.5	30.5	201	399	214.6	15.9	149	259
7	2,694	0.81	283.4	31.0	201	399	217.9	17.0	151	262
8	3,009	0.81	285.0	30.8	201	399	220.9	16.5	144	261
Mathematics										
3	4,056	0.83	291.4	30.2	201	399	201.1	14.2	139	258
4	3,793	0.83	288.0	30.1	200	399	209.3	14.2	143	258
5	3,544	0.85	283.3	30.8	203	399	217.1	16.2	146	267
6	3,310	0.85	281.4	30.7	201	373	221.1	16.3	148	262
7	2,664	0.82	286.0	31.7	207	399	227.0	18.3	146	285
8	3,065	0.83	271.9	34.4	202	399	230.3	19.6	146	286

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

3.3. MAP Growth Cut Scores

Table 3.5 and Table 3.6 present the OSTP 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 OSTP 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 199 in the fall is likely to reach *Proficient* on the OSTP ELA test. A grade 3 student who obtained a MAP Growth reading RIT score of 204 in the winter is also likely to reach *Proficient* on the OSTP. 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

OSTP ELA				
Grade	***Below Basic***	***Basic***	***Proficient***	***Advanced***
3	200–276	277–299	**300**–328	329–399
4	200–274	275–299	**300**–330	331–399
5	200–270	271–299	**300**–322	323–399
6	200–268	269–299	**300**–329	330–399
7	200–272	273–299	**300**–322	323–399
8	200–268	269–299	**300**–321	322–399

MAP Growth Reading								
Grade	***Below Basic***		***Basic***		***Proficient***		***Advanced***	
	RIT	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
2	100–168	1–47	169–186	48–83	**187**–205	84–97	206–350	98–99
3	100–184	1–50	185–198	51–77	**199**–214	78–94	215–350	95–99
4	100–192	1–43	193–206	44–72	**207**–224	73–94	225–350	95–99
5	100–196	1–34	197–211	35–67	**212**–225	68–89	226–350	90–99
6	100–201	1–33	202–218	34–71	**219**–230	72–89	231–350	90–99
7	100–211	1–48	212–224	49–77	**225**–234	78–90	235–350	91–99
8	100–213	1–45	214–225	46–72	**226**–236	73–88	237–350	89–99
Winter								
2	100–175	1–47	176–192	48–82	**193**–211	83–97	212–350	98–99
3	100–189	1–49	190–203	50–77	**204**–218	78–94	219–350	95–99
4	100–196	1–44	197–209	45–71	**210**–225	72–92	226–350	93–99
5	100–199	1–35	200–214	36–68	**215**–226	69–87	227–350	88–99
6	100–203	1–33	204–219	34–70	**220**–231	71–89	232–350	90–99
7	100–213	1–50	214–225	51–76	**226**–235	77–90	236–350	91–99
8	100–214	1–45	215–226	46–71	**227**–237	72–88	238–350	89–99
Spring								
2	100–180	1–47	181–195	48–79	**196**–212	80–95	213–350	96–99
3	100–193	1–49	194–205	50–74	**206**–219	75–92	220–350	93–99
4	100–199	1–44	200–211	45–70	**212**–226	71–91	227–350	92–99
5	100–202	1–37	203–215	38–66	**216**–227	67–86	228–350	87–99
6	100–205	1–35	206–220	36–69	**221**–232	70–89	233–350	90–99
7	100–214	1–49	215–226	50–75	**227**–236	76–89	237–350	90–99
8	100–215	1–45	216–227	46–71	**228**–238	72–88	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

OSTP Mathematics				
Grade	***Below Basic***	***Basic***	***Proficient***	***Advanced***
3	200–273	274–299	**300**–320	321–399
4	200–272	273–299	**300**–321	322–399
5	200–265	266–299	**300**–320	321–399
6	200–266	267–299	**300**–329	330–399
7	200–278	279–299	**300**–328	329–399
8	200–276	277–299	**300**–315	316–399

MAP Growth Mathematics								
Grade	***Below Basic***		***Basic***		***Proficient***		***Advanced***	
	RIT	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
2	100–167	1–37	168–184	38–77	**185**–195	78–92	196–350	93–99
3	100–180	1–41	181–193	42–73	**194**–202	74–88	203–350	89–99
4	100–193	1–41	194–206	42–72	**207**–217	73–90	218–350	91–99
5	100–200	1–36	201–217	37–76	**218**–229	77–92	230–350	93–99
6	100–206	1–41	207–222	42–78	**223**–239	79–96	240–350	97–99
7	100–218	1–53	219–229	54–76	**230**–245	77–94	246–350	95–99
8	100–230	1–68	231–241	69–85	**242**–250	86–93	251–350	94–99
Winter								
2	100–175	1–36	176–192	37–76	**193**–203	77–92	204–350	93–99
3	100–188	1–40	189–202	41–73	**203**–212	74–88	213–350	89–99
4	100–200	1–41	201–214	42–72	**215**–225	73–89	226–350	90–99
5	100–206	1–38	207–223	39–75	**224**–235	76–91	236–350	92–99
6	100–212	1–42	213–229	43–78	**230**–246	79–95	247–350	96–99
7	100–222	1–53	223–234	54–77	**235**–250	78–94	251–350	95–99
8	100–234	1–67	235–246	68–85	**247**–255	86–93	256–350	94–99
Spring								
2	100–182	1–38	183–197	39–73	**198**–207	74–89	208–350	90–99
3	100–195	1–42	196–208	43–71	**209**–217	72–86	218–350	87–99
4	100–206	1–42	207–219	43–70	**220**–230	71–87	231–350	88–99
5	103–210	1–38	211–227	39–73	**228**–239	74–89	240–350	90–99
6	102–216	1–42	217–233	43–76	**234**–250	77–94	251–350	95–99
7	105–225	1–53	226–236	54–74	**237**–252	75–92	253–350	93–99
8	105–237	1–66	238–248	67–83	**249**–257	84–92	258–350	93–99

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 OSTP tests, providing insight into the predictive validity of MAP Growth. The overall classification accuracy rates range from 0.82 to 0.83 for ELA/reading and 0.84 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 OSTP assessment.

Although the results show that MAP Growth scores can be used to accurately classify students as likely to be proficient on the OSTP tests, there is a notable limitation to how these results should be used and interpreted. OSTP 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	OSTP		FP	FN				
ELA/Reading										
3	4,064	206	300	0.82	0.15	0.24	0.76	0.85	0.71	0.89
4	3,757	212	300	0.83	0.16	0.19	0.81	0.84	0.74	0.91
5	3,577	216	300	0.83	0.18	0.16	0.84	0.82	0.73	0.91
6	3,290	221	300	0.83	0.14	0.22	0.78	0.86	0.77	0.91
7	2,694	227	300	0.83	0.15	0.25	0.75	0.85	0.66	0.90
8	3,009	228	300	0.83	0.16	0.18	0.82	0.84	0.71	0.91
Mathematics										
3	4,056	206	300	0.84	0.16	0.16	0.84	0.84	0.79	0.92
4	3,793	215	300	0.85	0.14	0.17	0.83	0.86	0.77	0.92
5	3,544	225	300	0.88	0.11	0.14	0.86	0.89	0.77	0.95
6	3,310	231	300	0.87	0.10	0.22	0.78	0.90	0.76	0.93
7	2,664	235	300	0.87	0.11	0.17	0.83	0.89	0.80	0.95
8	3,065	245	300	0.90	0.09	0.16	0.84	0.91	0.71	0.96

*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 OSTP test 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 54% chance of reaching *Proficient* proficiency or higher on the OSTP test. “Prob.” indicates the probability of obtaining proficient status on the OSTP test in the spring.

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

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
2	5	196	142	No	<0.01	149	No	<0.01	153	No	<0.01
	10	196	148	No	<0.01	155	No	<0.01	159	No	<0.01
	15	196	152	No	<0.01	159	No	<0.01	164	No	<0.01
	20	196	156	No	<0.01	162	No	<0.01	167	No	<0.01
	25	196	159	No	<0.01	165	No	<0.01	170	No	<0.01
	30	196	161	No	0.01	168	No	<0.01	173	No	<0.01
	35	196	163	No	0.01	170	No	0.01	175	No	<0.01
	40	196	166	No	0.02	172	No	0.02	177	No	<0.01
	45	196	168	No	0.04	175	No	0.03	180	No	<0.01
	50	196	170	No	0.06	177	No	0.05	182	No	<0.01
	55	196	172	No	0.07	179	No	0.07	184	No	<0.01
	60	196	174	No	0.11	181	No	0.09	186	No	<0.01
	65	196	177	No	0.19	183	No	0.14	188	No	0.01
	70	196	179	No	0.22	186	No	0.24	191	No	0.08
	75	196	182	No	0.33	188	No	0.32	193	No	0.2
	80	196	184	No	0.41	191	No	0.41	196	Yes	0.5
	85	196	188	Yes	0.54	194	Yes	0.55	200	Yes	0.87
	90	196	192	Yes	0.71	199	Yes	0.73	204	Yes	0.99
	95	196	198	Yes	0.87	205	Yes	0.91	210	Yes	>0.99
3	5	206	155	No	<0.01	160	No	<0.01	164	No	<0.01
	10	206	161	No	<0.01	167	No	<0.01	171	No	<0.01
	15	206	166	No	<0.01	171	No	<0.01	175	No	<0.01
	20	206	169	No	<0.01	175	No	<0.01	179	No	<0.01
	25	206	172	No	<0.01	178	No	<0.01	182	No	<0.01
	30	206	175	No	0.01	180	No	0.01	184	No	<0.01
	35	206	178	No	0.02	183	No	0.02	187	No	<0.01
	40	206	180	No	0.04	185	No	0.02	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	206	182	No	0.05	188	No	0.05	192	No	<0.01
	50	206	185	No	0.09	190	No	0.08	194	No	<0.01
	55	206	187	No	0.13	192	No	0.12	196	No	<0.01
	60	206	189	No	0.18	194	No	0.14	198	No	0.01
	65	206	192	No	0.25	197	No	0.24	201	No	0.08
	70	206	194	No	0.33	199	No	0.32	203	No	0.2
	75	206	197	No	0.41	202	No	0.45	206	Yes	0.5
	80	206	200	Yes	0.54	205	Yes	0.55	209	Yes	0.8
	85	206	204	Yes	0.67	209	Yes	0.73	213	Yes	0.98
	90	206	208	Yes	0.82	213	Yes	0.83	217	Yes	>0.99
	95	206	215	Yes	0.94	220	Yes	0.96	224	Yes	>0.99
4	5	212	166	No	<0.01	170	No	<0.01	173	No	<0.01
	10	212	173	No	<0.01	177	No	<0.01	179	No	<0.01
	15	212	177	No	<0.01	181	No	<0.01	184	No	<0.01
	20	212	181	No	<0.01	184	No	<0.01	187	No	<0.01
	25	212	184	No	0.01	187	No	<0.01	190	No	<0.01
	30	212	186	No	0.01	190	No	0.01	193	No	<0.01
	35	212	189	No	0.03	193	No	0.02	195	No	<0.01
	40	212	191	No	0.05	195	No	0.04	198	No	<0.01
	45	212	194	No	0.08	197	No	0.07	200	No	<0.01
	50	212	196	No	0.12	199	No	0.1	202	No	<0.01
	55	212	198	No	0.17	202	No	0.16	204	No	0.01
	60	212	200	No	0.24	204	No	0.23	207	No	0.08
	65	212	203	No	0.32	206	No	0.31	209	No	0.2
	70	212	205	No	0.41	209	No	0.45	211	No	0.39
	75	212	208	Yes	0.55	211	Yes	0.5	214	Yes	0.72
	80	212	211	Yes	0.64	214	Yes	0.65	217	Yes	0.92
	85	212	215	Yes	0.8	218	Yes	0.81	220	Yes	0.99

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.
	90	212	219	Yes	0.88	222	Yes	0.92	225	Yes	>0.99
	95	212	226	Yes	0.97	229	Yes	0.99	231	Yes	>0.99
5	5	216	175	No	<0.01	178	No	<0.01	180	No	<0.01
	10	216	181	No	<0.01	184	No	<0.01	186	No	<0.01
	15	216	186	No	<0.01	189	No	<0.01	191	No	<0.01
	20	216	189	No	0.01	192	No	0.01	194	No	<0.01
	25	216	192	No	0.01	195	No	0.01	197	No	<0.01
	30	216	195	No	0.03	197	No	0.02	199	No	<0.01
	35	216	197	No	0.06	200	No	0.05	202	No	<0.01
	40	216	199	No	0.07	202	No	0.08	204	No	<0.01
	45	216	201	No	0.11	204	No	0.1	206	No	<0.01
	50	216	204	No	0.2	206	No	0.15	208	No	0.01
	55	216	206	No	0.23	209	No	0.26	211	No	0.08
	60	216	208	No	0.31	211	No	0.3	213	No	0.2
	65	216	210	No	0.4	213	No	0.4	215	No	0.39
	70	216	213	Yes	0.5	215	Yes	0.5	217	Yes	0.61
	75	216	215	Yes	0.6	218	Yes	0.65	220	Yes	0.87
	80	216	218	Yes	0.73	221	Yes	0.78	223	Yes	0.98
	85	216	222	Yes	0.84	224	Yes	0.88	226	Yes	>0.99
	90	216	226	Yes	0.93	228	Yes	0.95	230	Yes	>0.99
	95	216	232	Yes	0.99	235	Yes	0.99	237	Yes	>0.99
6	5	221	181	No	<0.01	183	No	<0.01	185	No	<0.01
	10	221	187	No	<0.01	189	No	<0.01	191	No	<0.01
	15	221	191	No	<0.01	193	No	<0.01	195	No	<0.01
	20	221	195	No	0.01	197	No	<0.01	198	No	<0.01
	25	221	198	No	0.01	199	No	0.01	201	No	<0.01
	30	221	200	No	0.02	202	No	0.02	203	No	<0.01
	35	221	202	No	0.03	204	No	0.03	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	221	205	No	0.07	206	No	0.05	208	No	<0.01
	45	221	207	No	0.09	209	No	0.1	210	No	<0.01
	50	221	209	No	0.14	211	No	0.13	212	No	0.01
	55	221	211	No	0.2	213	No	0.19	214	No	0.02
	60	221	213	No	0.27	215	No	0.26	216	No	0.08
	65	221	215	No	0.31	217	No	0.35	218	No	0.2
	70	221	218	No	0.45	219	No	0.45	221	Yes	0.5
	75	221	220	Yes	0.55	222	Yes	0.6	223	Yes	0.72
	80	221	223	Yes	0.69	225	Yes	0.74	226	Yes	0.92
	85	221	226	Yes	0.8	228	Yes	0.84	229	Yes	0.99
	90	221	231	Yes	0.93	232	Yes	0.94	233	Yes	>0.99
	95	221	237	Yes	0.99	238	Yes	0.99	239	Yes	>0.99
7	5	227	185	No	<0.01	186	No	<0.01	187	No	<0.01
	10	227	191	No	<0.01	192	No	<0.01	193	No	<0.01
	15	227	195	No	<0.01	196	No	<0.01	197	No	<0.01
	20	227	198	No	<0.01	200	No	<0.01	201	No	<0.01
	25	227	201	No	0.01	202	No	<0.01	203	No	<0.01
	30	227	204	No	0.01	205	No	0.01	206	No	<0.01
	35	227	206	No	0.02	207	No	0.01	208	No	<0.01
	40	227	208	No	0.03	210	No	0.03	211	No	<0.01
	45	227	210	No	0.05	212	No	0.04	213	No	<0.01
	50	227	212	No	0.08	214	No	0.07	215	No	<0.01
	55	227	214	No	0.1	216	No	0.11	217	No	<0.01
	60	227	217	No	0.18	218	No	0.16	219	No	0.01
	65	227	219	No	0.24	220	No	0.23	221	No	0.04
	70	227	221	No	0.32	223	No	0.36	224	No	0.2
	75	227	224	No	0.45	225	No	0.45	226	No	0.39
	80	227	226	Yes	0.55	228	Yes	0.6	229	Yes	0.72

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
	85	227	230	Yes	0.72	231	Yes	0.73	232	Yes	0.92
	90	227	234	Yes	0.85	235	Yes	0.86	237	Yes	>0.99
	95	227	240	Yes	0.96	241	Yes	0.97	243	Yes	>0.99
8	5	228	188	No	<0.01	189	No	<0.01	190	No	<0.01
	10	228	194	No	<0.01	195	No	<0.01	196	No	<0.01
	15	228	198	No	<0.01	199	No	<0.01	200	No	<0.01
	20	228	201	No	<0.01	203	No	<0.01	203	No	<0.01
	25	228	204	No	0.01	205	No	0.01	206	No	<0.01
	30	228	207	No	0.02	208	No	0.02	209	No	<0.01
	35	228	209	No	0.04	210	No	0.03	211	No	<0.01
	40	228	211	No	0.06	213	No	0.05	213	No	<0.01
	45	228	214	No	0.09	215	No	0.08	216	No	<0.01
	50	228	216	No	0.13	217	No	0.12	218	No	<0.01
	55	228	218	No	0.18	219	No	0.17	220	No	0.01
	60	228	220	No	0.25	221	No	0.24	222	No	0.04
	65	228	222	No	0.33	223	No	0.32	224	No	0.13
	70	228	225	No	0.45	226	No	0.45	227	No	0.39
	75	228	227	Yes	0.55	228	Yes	0.55	229	Yes	0.61
	80	228	230	Yes	0.67	231	Yes	0.68	232	Yes	0.87
	85	228	233	Yes	0.79	235	Yes	0.83	236	Yes	0.99
	90	228	238	Yes	0.91	239	Yes	0.92	240	Yes	>0.99
	95	228	244	Yes	0.98	245	Yes	0.98	246	Yes	>0.99

Table 3.9. Proficiency Projection Based on RIT Scores—Mathematics

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
2	5	198	147	No	<0.01	155	No	<0.01	161	No	<0.01
	10	198	153	No	<0.01	161	No	<0.01	167	No	<0.01
	15	198	157	No	<0.01	165	No	<0.01	171	No	<0.01
	20	198	160	No	<0.01	168	No	<0.01	174	No	<0.01
	25	198	162	No	0.01	171	No	<0.01	177	No	<0.01
	30	198	165	No	0.01	173	No	0.01	179	No	<0.01
	35	198	167	No	0.03	175	No	0.02	181	No	<0.01
	40	198	169	No	0.04	177	No	0.03	183	No	<0.01
	45	198	171	No	0.07	179	No	0.04	185	No	<0.01
	50	198	173	No	0.11	181	No	0.07	187	No	<0.01
	55	198	175	No	0.14	183	No	0.12	189	No	0.01
	60	198	177	No	0.2	185	No	0.18	192	No	0.04
	65	198	179	No	0.27	187	No	0.25	194	No	0.13
	70	198	181	No	0.36	189	No	0.3	196	No	0.28
	75	198	183	No	0.45	192	No	0.45	198	Yes	0.5
	80	198	186	Yes	0.55	194	Yes	0.55	201	Yes	0.8
	85	198	189	Yes	0.69	197	Yes	0.7	204	Yes	0.96
	90	198	193	Yes	0.8	201	Yes	0.82	208	Yes	>0.99
	95	198	198	Yes	0.93	207	Yes	0.96	214	Yes	>0.99
3	5	209	158	No	<0.01	166	No	<0.01	171	No	<0.01
	10	209	164	No	<0.01	172	No	<0.01	177	No	<0.01
	15	209	168	No	<0.01	176	No	<0.01	181	No	<0.01
	20	209	171	No	<0.01	179	No	<0.01	185	No	<0.01
	25	209	174	No	0.01	182	No	<0.01	188	No	<0.01
	30	209	176	No	0.01	184	No	0.01	190	No	<0.01
	35	209	178	No	0.02	186	No	0.01	193	No	<0.01
	40	209	180	No	0.04	189	No	0.04	195	No	<0.01

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	209	182	No	0.06	191	No	0.06	197	No	<0.01
	50	209	184	No	0.1	193	No	0.08	199	No	<0.01
	55	209	186	No	0.15	195	No	0.13	201	No	0.01
	60	209	188	No	0.22	197	No	0.2	203	No	0.04
	65	209	190	No	0.3	199	No	0.29	206	No	0.2
	70	209	192	No	0.4	201	No	0.39	208	No	0.39
	75	209	195	Yes	0.55	204	Yes	0.55	211	Yes	0.72
	80	209	197	Yes	0.65	206	Yes	0.66	213	Yes	0.87
	85	209	200	Yes	0.78	210	Yes	0.8	217	Yes	0.99
	90	209	204	Yes	0.9	214	Yes	0.92	221	Yes	>0.99
	95	209	210	Yes	0.97	220	Yes	0.99	227	Yes	>0.99
4	5	220	171	No	<0.01	176	No	<0.01	180	No	<0.01
	10	220	177	No	<0.01	183	No	<0.01	187	No	<0.01
	15	220	181	No	<0.01	187	No	<0.01	191	No	<0.01
	20	220	184	No	<0.01	190	No	<0.01	195	No	<0.01
	25	220	186	No	<0.01	193	No	<0.01	198	No	<0.01
	30	220	189	No	0.01	196	No	0.01	201	No	<0.01
	35	220	191	No	0.02	198	No	0.01	203	No	<0.01
	40	220	193	No	0.04	200	No	0.02	206	No	<0.01
	45	220	195	No	0.07	202	No	0.04	208	No	<0.01
	50	220	197	No	0.11	204	No	0.08	210	No	<0.01
	55	220	199	No	0.16	207	No	0.16	212	No	0.01
	60	220	201	No	0.23	209	No	0.2	215	No	0.08
	65	220	203	No	0.31	211	No	0.28	217	No	0.2
	70	220	205	No	0.4	213	No	0.39	220	Yes	0.5
	75	220	208	Yes	0.55	216	Yes	0.56	222	Yes	0.72
	80	220	210	Yes	0.65	219	Yes	0.72	225	Yes	0.92
	85	220	214	Yes	0.81	222	Yes	0.84	229	Yes	0.99

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
	90	220	217	Yes	0.89	226	Yes	0.94	233	Yes	>0.99
	95	220	223	Yes	0.98	232	Yes	0.99	240	Yes	>0.99
5	5	228	180	No	<0.01	183	No	<0.01	186	No	<0.01
	10	228	185	No	<0.01	189	No	<0.01	192	No	<0.01
	15	228	189	No	<0.01	194	No	<0.01	197	No	<0.01
	20	228	193	No	<0.01	197	No	<0.01	200	No	<0.01
	25	228	195	No	<0.01	200	No	<0.01	204	No	<0.01
	30	228	198	No	0.01	203	No	<0.01	206	No	<0.01
	35	228	200	No	0.01	205	No	<0.01	209	No	<0.01
	40	228	202	No	0.02	207	No	0.01	211	No	<0.01
	45	228	204	No	0.04	210	No	0.02	214	No	<0.01
	50	228	206	No	0.06	212	No	0.04	216	No	<0.01
	55	228	208	No	0.1	214	No	0.08	218	No	<0.01
	60	228	210	No	0.15	216	No	0.13	221	No	0.02
	65	228	212	No	0.22	219	No	0.24	223	No	0.08
	70	228	215	No	0.35	221	No	0.33	226	No	0.28
	75	228	217	No	0.45	224	Yes	0.5	228	Yes	0.5
	80	228	220	Yes	0.6	226	Yes	0.61	232	Yes	0.87
	85	228	223	Yes	0.74	230	Yes	0.8	235	Yes	0.98
	90	228	227	Yes	0.88	234	Yes	0.92	240	Yes	>0.99
	95	228	233	Yes	0.98	240	Yes	0.99	246	Yes	>0.99
6	5	234	184	No	<0.01	187	No	<0.01	190	No	<0.01
	10	234	190	No	<0.01	194	No	<0.01	197	No	<0.01
	15	234	194	No	<0.01	198	No	<0.01	201	No	<0.01
	20	234	197	No	<0.01	201	No	<0.01	205	No	<0.01
	25	234	199	No	<0.01	204	No	<0.01	208	No	<0.01
	30	234	202	No	<0.01	207	No	<0.01	211	No	<0.01
	35	234	204	No	0.01	209	No	<0.01	213	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
	40	234	206	No	0.01	212	No	0.01	216	No	<0.01
	45	234	208	No	0.02	214	No	0.01	218	No	<0.01
	50	234	210	No	0.04	216	No	0.03	220	No	<0.01
	55	234	212	No	0.07	218	No	0.05	223	No	<0.01
	60	234	214	No	0.11	220	No	0.09	225	No	0.01
	65	234	216	No	0.16	223	No	0.17	227	No	0.02
	70	234	219	No	0.27	225	No	0.25	230	No	0.13
	75	234	221	No	0.4	228	No	0.39	233	No	0.39
	80	234	224	Yes	0.55	231	Yes	0.55	236	Yes	0.72
	85	234	227	Yes	0.69	234	Yes	0.71	239	Yes	0.92
	90	234	231	Yes	0.84	238	Yes	0.86	244	Yes	>0.99
	95	234	237	Yes	0.96	245	Yes	0.98	251	Yes	>0.99
7	5	237	189	No	<0.01	191	No	<0.01	192	No	<0.01
	10	237	195	No	<0.01	197	No	<0.01	199	No	<0.01
	15	237	199	No	<0.01	202	No	<0.01	204	No	<0.01
	20	237	203	No	<0.01	206	No	<0.01	208	No	<0.01
	25	237	206	No	<0.01	209	No	<0.01	211	No	<0.01
	30	237	208	No	<0.01	211	No	<0.01	214	No	<0.01
	35	237	211	No	0.01	214	No	<0.01	216	No	<0.01
	40	237	213	No	0.02	216	No	0.01	219	No	<0.01
	45	237	215	No	0.03	219	No	0.02	221	No	<0.01
	50	237	217	No	0.06	221	No	0.04	224	No	<0.01
	55	237	219	No	0.09	223	No	0.07	226	No	<0.01
	60	237	222	No	0.17	226	No	0.15	229	No	0.01
	65	237	224	No	0.23	228	No	0.22	231	No	0.04
	70	237	226	No	0.31	231	No	0.3	234	No	0.2
	75	237	229	No	0.45	233	No	0.4	237	Yes	0.5
	80	237	232	Yes	0.6	236	Yes	0.55	240	Yes	0.8

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
	85	237	235	Yes	0.73	240	Yes	0.74	244	Yes	0.98
	90	237	239	Yes	0.86	245	Yes	0.9	249	Yes	>0.99
	95	237	246	Yes	0.97	251	Yes	0.98	256	Yes	>0.99
8	5	249	192	No	<0.01	194	No	<0.01	196	No	<0.01
	10	249	199	No	<0.01	201	No	<0.01	203	No	<0.01
	15	249	203	No	<0.01	206	No	<0.01	208	No	<0.01
	20	249	207	No	<0.01	210	No	<0.01	212	No	<0.01
	25	249	210	No	<0.01	213	No	<0.01	215	No	<0.01
	30	249	212	No	<0.01	216	No	<0.01	218	No	<0.01
	35	249	215	No	<0.01	219	No	<0.01	221	No	<0.01
	40	249	217	No	<0.01	221	No	<0.01	224	No	<0.01
	45	249	220	No	0.01	224	No	<0.01	226	No	<0.01
	50	249	222	No	0.01	226	No	0.01	229	No	<0.01
	55	249	224	No	0.02	228	No	0.01	231	No	<0.01
	60	249	227	No	0.04	231	No	0.03	234	No	<0.01
	65	249	229	No	0.07	233	No	0.05	237	No	<0.01
	70	249	232	No	0.13	236	No	0.1	239	No	<0.01
	75	249	234	No	0.18	239	No	0.16	242	No	0.02
	80	249	237	No	0.28	242	No	0.26	246	No	0.2
	85	249	241	No	0.45	246	No	0.45	250	Yes	0.61
	90	249	246	Yes	0.68	251	Yes	0.69	255	Yes	0.96
	95	249	252	Yes	0.87	258	Yes	0.92	262	Yes	>0.99

References

Kolen, M. J., & Brennan, R. L. (2004). *Test equating, scaling, and linking: Methods and practices* (2nd ed.). Springer. https://doi.org/10.1007/978-1-4939-0317-7

Lewis, K., & Kuhfeld, M. (2024). *MAP Growth with enhanced item-selection algorithm: Updates on score comparability*. NWEA Research Report. NWEA. https://www.nwea.org/uploads/Research-MAP-Growth-with-enhanced-item-selection-algorithm-updates-on-score-compatibility_NWEA_Research_Guide.pdf

Lumley, T. (2019). *Survey: Analysis of complex survey samples*. (R package version 3.36) [Computer software]. Available from https://CRAN.R-project.org/package=survey.

Meyer, J. P., Hu, A. H., & Li, S. (2023). *Content Proximity Spring 2022 Pilot Study Research Brief.* NWEA Research Report. NWEA. https://www.nwea.org/uploads/Content-Proximity-Project-and-Pilot-Study-Spring-2022-Research-Report.pdf

NWEA. (2025). *MAP Growth achievement status and growth norms for students and schools*. [Tech Rep.]. NWEA.

Oklahoma State Department of Education. (2018, December). *Oklahoma school testing program grades 3–8 2017–18 technical report*. Measured Progress.

Pommerich, M., Hanson, B., Harris, D., & Sconing, J. (2004). Issues in conducting linkage between distinct tests. *Applied Psychological Measurement*, *28*(4), 247–273. https://doi.org/10.1177/0146621604265033