Predicting Proficiency on Alaska System of Academic Readiness (AK STAR) based on NWEA MAP Growth Scores

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NWEA Psychometrics and Analytics

Linking Study Updates

Date	Description
2016-02	Initial linking study conducted for the Alaska Measures of Progress (AMP) assessments in Grades 3–10 for ELA and mathematics using Spring 2015 data
2018-06-26	Updated the linking study for the Performance Evaluation for Alaska's Schools (PEAKS) assessment in Grades 3–8 for ELA and mathematics using Spring 2017 data
2020-07-02	Incorporated the 2020 MAP Growth norms using Spring 2017 data
2022-09-15	Updated the linking study for the new Alaska System of Academic Readiness (AK STAR) spring summative assessment in Grades 3–9 for ELA and mathematics using Spring 2022 data
2024-01-26	Updated the linking study for the new Alaska System of Academic Readiness (AK STAR) spring summative assessment in Grades 3–9 for ELA and mathematics using Spring 2023 data and new cut scores

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Executive Summary

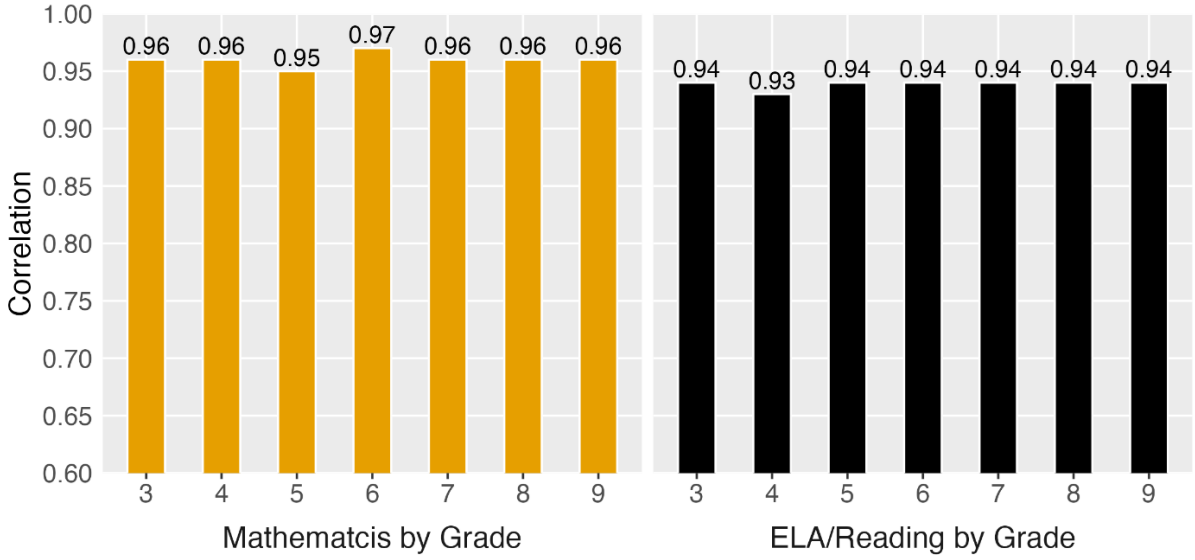
Linking studies allow partners to use MAP® Growth™ Rasch Unit (RIT) scores throughout the year to predict their students' achievement levels on the state summative assessment. This is accomplished through statistical analyses that produce RIT cut scores that correspond to the state summative achievement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

AK STAR is a connected interim and summative assessment system that administers MAP Growth in the fall and winter and an end-of-year summative test in the spring for English language arts (ELA) and mathematics in Grades 3–9. In Year 1 of the AK STAR connected solution (2021–2022), students took the MAP Growth ELA and mathematics assessments in the fall, winter, and spring along with the AK STAR summative end-of-year assessment in the spring in order to link the two test scales. MAP Growth scores are reported on the Rasch Unit (RIT) vertical scale that ranges from about 100 to 350. In Year 2 (2022–2023) and beyond, students took the MAP Growth standalone assessment in the fall and winter and AK STAR in the spring. The spring AK STAR includes both a summative assessment component and a MAP Growth component, producing a summative proficiency score, an overall RIT score, and instructional area RIT scores. The MAP Growth reports include a RIT score along with a projected proficiency score based on the results of this linking study to help inform instruction throughout the year.

The linking study is based on test scores from students in Grades 3–9 who took both the MAP Growth and AK STAR spring summative assessments in ELA/reading and mathematics in Spring 2023. The linking study sample included 57,051 students across 55 districts and 479 schools in Alaska. The test scores from both tests were used as the basis for linking the two assessments together.

Before the linking analyses began, NWEA confirmed that the MAP Growth interim and AK STAR summative assessments were constructed based on the same or similar set of content standards to warrant a connection. The link between the two tests was further investigated by calculating correlation coefficients that indicate the relationship between the MAP Growth and AK STAR summative test scores. A high, positive correlation (e.g., ≥ 0.70) shows that students who perform well on one assessment also tend to perform well on the other, and vice versa, with 1.00 being a perfect positive correlation. The correlations between the MAP Growth and AK STAR summative test scores from Spring 2023, shown below, are consistent with our linking study expectations, indicating that MAP Growth is a good assessment for predicting performance on the AK STAR spring summative assessment.

Figure E.1. Correlations between MAP Growth and AK STAR Scores



The equipercentile linking method and the 2020 MAP Growth norms (Thum & Kuhfeld, 2020) were then used to produce the RIT cut scores that correlate to performance on the AK STAR summative assessment for every subject and grade. While RIT cut scores were generated for every achievement level on the AK STAR summative assessment, Table E.1 presents the *Proficient* cut scores that indicate the minimum score a student must get to be considered proficient.

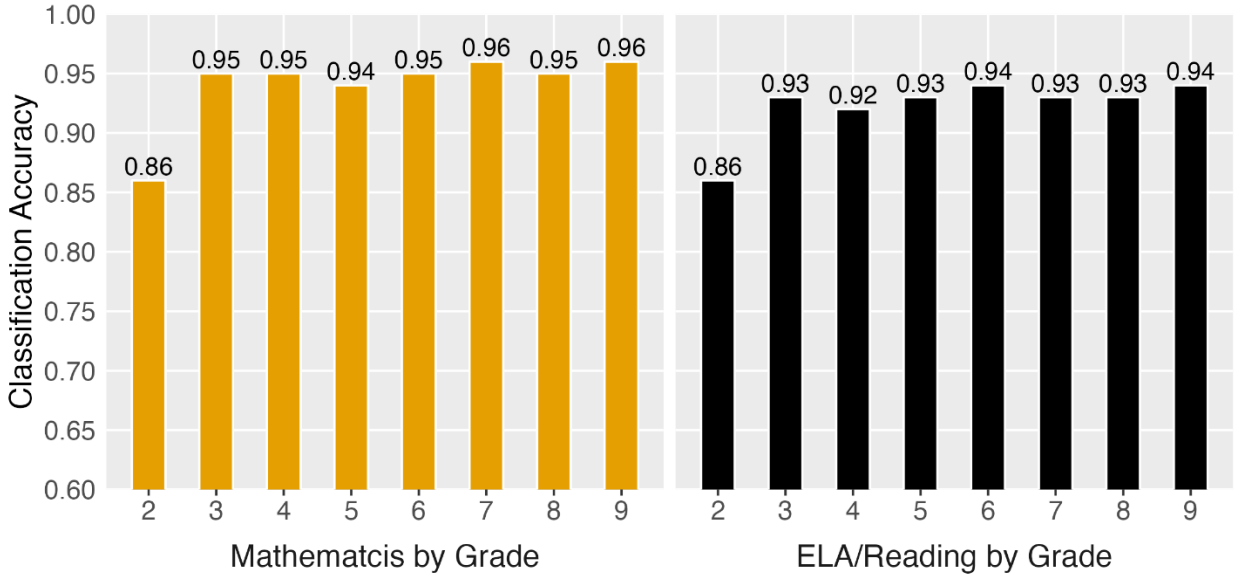
Table E.1. MAP Growth RIT Cut Scores for AK STAR Proficiency

Assessment		*Proficient* Cut Scores by Grade							
		2	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Mathematics									
AK STAR Spring		–	1524	1538	1544	1563	1570	1580	1590
MAP Growth Mathematics	Fall	179	192	204	210	217	223	230	236
	Winter	188	199	211	216	222	227	233	238
	Spring	193	204	215	220	225	230	235	239
ELA/Reading									
AK STAR Spring		–	1582	1589	1596	1605	1610	1615	1619
MAP Growth Reading	Fall	177	191	199	207	213	218	222	224
	Winter	186	198	205	211	217	221	224	225
	Spring	190	201	207	213	218	222	225	226

Educators can use these cut scores to determine whether students are on track for proficiency on the state assessment. For example, the *Proficient* cut score on the Grade 3 AK STAR ELA summative test is 1582. A Grade 3 student with a MAP Growth Mathematic RIT score of 192 in the fall is likely to meet proficiency on the AK STAR ELA summative test in the spring, whereas a Grade 3 student with a RIT score lower than 192 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 AK STAR spring summative assessment by Grade 3.

As further evidence that MAP Growth scores can be used to predict students' proficiency on the state test, NWEA calculated classification accuracy statistics that show how well the RIT scores correctly classified, or predicted, students as proficient on the AK STAR summative tests. For example, the Grade 3 MAP Growth Mathematics *Proficient* cut score has a 0.95 accuracy rate, meaning it accurately predicted student achievement on the state test for 95% of the sample. A high statistic indicates high accuracy. Overall, MAP Growth scores have a high accuracy rate of identifying student proficiency on the AK STAR summative tests, as illustrated below.

Figure E.2. Accuracy of MAP Growth Classifications



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

1. Introduction

1.1. Purpose of the Study

NWEA® is committed to providing partners with useful tools to help make inferences about student learning from MAP® Growth™ test scores. One important use of MAP Growth results is to predict a student's performance on 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 to statistically connect Rasch Unit (RIT) scores from the MAP Growth assessments with scores from the Alaska System of Academic Readiness (AK STAR) spring summative assessments in Grades 3–9 in English language arts (ELA) and mathematics taken during the Spring 2023 term.[1] MAP Growth cut scores are also included for Grade 2 so educators can track early learners' progress toward proficiency on the AK STAR summative test by Grade 3. Specifically, this report presents the following results:

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

The linking study has been updated since the previous version published in September 2022 to provide MAP Growth cut scores corresponding to the AK STAR summative assessment administered in Spring 2023.

1.2. Assessment Overview

AK STAR is Alaska's connected interim and summative assessment system for ELA and mathematics in Grades 3–9 aligned to the Alaska ELA and Mathematic Standards adopted in 2012. It was administered for the first time in 2021–2022. This solution administers MAP Growth in the fall and winter and an end-of-year summative assessment in the spring, offering coherence across the interim and summative assessments and reducing the number of yearly test events. Based on their spring summative test scores, students are placed into one of four achievement levels: *Needs Support*, *Approaching Proficient*, *Proficient*, and *Advanced*. The *Proficient* cut score demarks the minimum level of achievement considered to be proficient for accountability purposes.

[1] This study provides MAP Growth cut scores that predict proficiency on the AK STAR for Grades 2–9 only. They represent a higher level of achievement than universal screening cut scores designed to identify students with the most severe learning difficulties who may need intensive intervention. MAP Growth universal screening cut scores for Grades K–8 in reading and mathematics are available in a separate report (He & Meyer, 2021).

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 to 350. To aid the interpretation of scores, NWEA conducts norming studies of student and school performance on MAP Growth. Growth norms provide expected score gains across test administrations (e.g., the relative evaluation of a student's growth from fall to spring), which are used to conduct the linking studies. The most recent norms study was conducted in 2020 (Thum & Kuhfeld, 2020).

2. Methods

2.1. Data Collection

This linking study is based on data from the Spring 2023 administrations of the MAP Growth and AK STAR summative assessments. Each student's state testing record was matched to their MAP Growth score based on the student's first and last names, date of birth, student ID, and other available identifying information. Only students who have scores on both the MAP Growth and AK STAR summative assessments in Spring 2023 were included in the study sample.

2.2. Descriptive Statistics

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

$$r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \sum (y_i - \bar{y})^2}} \quad (1)$$

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

2.3. MAP Growth Cut Scores

MAP Growth cut scores that predict student achievement on the AK STAR summative assessment are reported for Grades 3–9, as well as for Grade 2 so educators can track early learners' progress toward proficiency on the AK STAR summative test by Grade 3. Percentile ranks based on the 2020 NWEA norms are also provided. These are useful for understanding how students' scores compare to peers nationwide and the relative rigor of a state's achievement level designations for its summative assessment.

The equipercentile linking method (Kolen & Brennan, 2004) was used to identify the spring MAP Growth RIT scores for Grades 3–9 that correspond to the AK STAR spring summative achievement level cut scores. The equipercentile linking procedure matches scores on the two scales that have the same percentile rank (i.e., the proportion of tests at or below each score). For example, let x represent a score on Test X (e.g., AK STAR summative). 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 2:

$$e_y(x) = G^{-1}[P(x)] \quad (2)$$

where $e_y(x)$ is the equipercentile equivalent of score x on the AK STAR summative test on the scale of MAP Growth, $P(x)$ is the percentile rank of a given score on the AK STAR summative test, and G^{-1} is the inverse of the percentile rank function for MAP Growth that indicates the

score on MAP Growth corresponding to a given percentile. Polynomial loglinear pre-smoothing was applied to reduce irregularities of the score distributions and equipercentile linking curve.

The MAP Growth conditional growth norms provide students' expected score gains across terms, such as growth from fall to spring within the same grade or from spring of a lower grade to spring of the adjacent higher grade. This information was used to calculate the fall and winter cut scores for Grades 3–9. Equation 3 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:

$$RIT_{PredSpring} = RIT_{previous} + g \quad (3)$$

where:

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

The MAP Growth conditional growth norms were also used to calculate the fall, winter, and spring cuts for Grade 2. Students do not begin taking the AK STAR summative assessment until Grade 3. Thus, cut scores for Grade 2 were interpolated by obtaining longitudinal data for the Grade 3 cohort. For each Grade 3 student in the study sample, their MAP Growth data from the prior year when they were in Grade 2 during 2021–2022 were obtained. In this way, the data came from the same cohort of students beginning when they were in Grade 2 and continuing through Grade 3. To derive the spring cut scores for Grade 2, the growth score from spring of one year to the next was used (i.e., the growth score from spring of Grade 2 to spring of Grade 3). The calculation of fall and winter cuts for Grade 2 followed the same process as above for Grades 3–9. 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 AK STAR summative test can be described using classification accuracy statistics based on the MAP Growth spring RIT cut scores. The results show the proportion of students correctly classified by their RIT scores as proficient or not proficient on the AK STAR spring summative test. A summary of how well the interpolated Grade 2 cuts predict Grade 3 proficiency status is also reported in the classification accuracy statistics. Table 2.1 describes the classification accuracy statistics provided in this report (Pommerich et al., 2004).

Table 2.1. Description of Classification Accuracy Summary Statistics

Statistic	Description*	Interpretation
Overall Classification Accuracy Rate	(TP + TN) / (total sample size)	Proportion of the study sample whose proficiency classification on the state test was correctly predicted by MAP Growth cut scores
False Negative (FN) Rate	FN / (FN + TP)	Proportion of 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 Projections

Given that all test scores contain measurement errors, reaching the *Proficient* RIT cut does not guarantee that the student is proficient at the state test. Instead, we can claim that a student with 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 Grade 2 cut scores), the MAP Growth conditional growth norms data were also used to calculate the probability of reaching proficiency on the AK STAR summative test based on a student’s RIT scores from fall and winter (see Equation 4).

$$Pr(Achieving\ Proficient\ in\ spring|\ starting\ RIT) = \Phi\left(\frac{RIT_{previous} + g - RIT_{SpringCut}}{SD}\right) \qquad (4)$$

where:

- Φ is the standard normal cumulative distribution function.
- $RIT_{previous}$ 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 *Proficient* 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 5 was used to estimate the probability of a student achieving *Proficient* performance on the AK STAR summative test based on their spring RIT score (RIT_{Spring}):

$$Pr(Achieving\ Proficient\ in\ spring \mid spring\ RIT) = \Phi\left(\frac{RIT_{Spring} - RIT_{SpringCut}}{SE}\right) \quad (5)$$

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

3. Results

3.1. Study Sample

Only students who have scores on both the MAP Growth and AK STAR summative assessments in Spring 2023 were included in the study sample. Data used in this study were collected from 55 districts and 479 schools in Alaska. Table 3.1 presents the demographic distributions of race, sex, and achievement level of students.

Table 3.1. Linking Study Sample Demographics

Linking Study Sample								
Demographic Subgroup		%Students by Grade						
		3	4	5	6	7	8	9
Mathematics								
	Total N	8,400	8,307	8,385	8,157	7,966	7,909	7,102
Race	African American	2.3	2.0	1.9	2.4	2.1	2.3	2.5
	Alaska Native	21.9	21.5	22.1	22.4	23.2	23.3	25.0
	American Indian	0.7	0.6	0.7	0.6	0.5	0.6	0.6
	Asian	4.9	5.5	5.1	5.2	5.7	5.7	6.6
	Hispanic	7.9	7.6	8.3	8.3	7.6	8.1	7.2
	NH/PI*	3.7	3.6	3.5	3.0	3.1	3.0	2.7
	Two or More Races	14.2	14.5	15.1	13.9	13.1	13.4	12.9
	White (Caucasian)	44.4	44.8	43.1	44.2	44.7	43.5	42.5
Sex	Female	49.2	48.9	49.2	48.5	49.0	47.1	45.5
	Male	50.8	51.1	50.8	51.5	51.0	52.9	54.5
Achievement Level	*Needs Support*	47.2	49.4	48.5	46.5	51.6	49.5	53.3
	Approaching Proficient	19.8	18.5	14.6	20.8	15.5	18.3	20.1
	Proficient	24.6	21.1	28.0	24.2	24.3	24.5	18.3
	Advanced	8.3	10.9	8.8	8.5	8.5	7.7	8.3
ELA/Reading								
	Total N	8,361	8,275	8,363	8,131	7,977	7,931	7,093
Race	African American	2.3	1.9	1.9	2.4	2.0	2.3	2.4
	Alaska Native	22.0	21.7	22.2	22.6	23.2	23.3	25.0
	American Indian	0.7	0.6	0.7	0.6	0.5	0.6	0.7
	Asian	4.9	5.4	5.2	5.2	5.7	5.6	6.5
	Hispanic	7.9	7.5	8.3	8.2	7.5	8.0	7.4
	NH/PI*	3.7	3.5	3.5	3.0	3.2	3.0	2.6
	Two or More Races	14.2	14.5	15.2	14.0	13.2	13.5	12.9
	White (Caucasian)	44.4	44.8	43.1	44.1	44.6	43.8	42.5
Sex	Female	49.2	48.9	49.3	48.5	48.9	47.4	45.7
	Male	50.8	51.1	50.7	51.5	51.1	52.6	54.3
Achievement Level	*Needs Support*	38.9	38.5	40.2	31.5	41.8	44.0	42.7
	Approaching Proficient	33.7	29.6	24.4	32.6	28.4	25.6	25.2
	Proficient	17.6	21.4	24.8	23.4	21.5	20.6	24.5
	Advanced	9.7	10.5	10.6	12.5	8.3	9.8	7.6

*NH/PI = Native Hawaiian or Other Pacific Islander.

3.2. Descriptive Statistic

Table 3.2 presents descriptive statistics of the MAP Growth and AK STAR summative test scores from Spring 2023, including the correlation coefficient (*r*) between them. The coefficients between the scores range from 0.93 to 0.94 for ELA/reading and 0.95 to 0.97 for mathematics. These values indicate a high positive correlation among the scores, which is important validity evidence for the claim that MAP Growth scores are good predictors of performance on the AK STAR spring summative assessments.

Table 3.2. Descriptive Statistics of Test Scores

			AK STAR Summative*				MAP Growth*			
Grade	N	*r*	Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
Mathematics										
3	8,400	0.96	1511.9	23.9	1400	1607	195.7	17.1	138	269
4	8,307	0.96	1525.5	25.3	1410	1707	205.7	17.1	139	268
5	8,385	0.95	1534.2	29.4	1437	1683	213.0	17.6	144	281
6	8,157	0.97	1547.6	32.8	1452	1700	217.2	16.3	164	282
7	7,966	0.96	1553.5	36.9	1440	1790	222.2	17.4	165	302
8	7,909	0.96	1562.4	41.4	1450	1838	226.2	18.0	157	297
9	7,102	0.96	1566.9	39.8	1452	1850	228.6	16.4	164	300
ELA/Reading										
3	8,361	0.94	1570.1	20.1	1494	1675	192.4	13.5	141	239
4	8,275	0.93	1578.4	25.1	1497	1742	200.7	13.3	150	249
5	8,363	0.94	1586.5	29.3	1480	1780	206.7	14.0	151	259
6	8,131	0.94	1595.2	33.0	1490	1800	212.8	13.2	163	265
7	7,977	0.94	1594.0	34.4	1506	1755	214.2	13.7	156	260
8	7,931	0.94	1597.5	39.1	1481	1840	217.7	13.2	172	263
9	7,093	0.94	1602.8	41.1	1467	1773	219.6	12.6	163	271

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

3.3. MAP Growth Cut Scores

Table 3.3 and Table 3.4 present the AK STAR summative scale score ranges and the corresponding MAP Growth RIT cut scores and percentile ranges by content area and grade. Bolded numbers indicate the cut scores considered to be at least proficient for accountability purposes. These tables can be used to predict a student's likely achievement level on the AK STAR spring summative assessment when MAP Growth is taken in the fall and winter. For example, a Grade 3 student who obtained a MAP Growth Mathematics RIT score of 192 in the fall is likely to achieve *Proficient* performance on the AK STAR summative ELA test. A Grade 3 student who obtained a MAP Growth Mathematics RIT score of 199 in the winter is also likely to achieve *Proficient* performance on the AK STAR spring summative assessment. 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. Prediction for spring is not needed because the MAP Growth assessment in spring is embedded in the AK STAR summative assessment and students will receive their RIT scores and AK START scores and achievement levels at the same time. The achievement levels based on the summative scores should be used if they are different from the predicted achievement levels in spring.

Within this report, the cut scores for fall and winter are derived from the spring cuts and the typical growth scores from fall-to-spring or winter-to-spring. The typical growth scores are based on the default instructional weeks most encountered for each term (Weeks 4, 20, and 32 for fall, winter, and spring, respectively). Since instructional weeks often vary by district, the cut scores in this report may differ slightly from the MAP Growth score reports that reflect instructional weeks set by partners. If the actual instructional weeks deviate substantially from the default ones, a student's expected achievement level could be different from the projections presented in this report. Partners are therefore encouraged to use the projected achievement level in students' score reports since they reflect the specific instructional weeks set by partners.

Table 3.3. MAP Growth Cut Scores—Mathematics

AK STAR Summative Mathematics				
Grade	***Needs Support***	***Approaching Proficient***	***Proficient***	***Advanced***
3	1400-1509	1510-1523	**1524**-1545	1546-1720
4	1410-1523	1524-1537	**1538**-1557	1558-1750
5	1420-1530	1531-1543	**1544**-1576	1577-1780
6	1430-1542	1543-1562	**1563**-1593	1594-1800
7	1440-1550	1551-1569	**1570**-1608	1609-1820
8	1450-1558	1559-1579	**1580**-1622	1623-1840
9	1450-1563	1564-1589	**1590**-1625	1626-1850

MAP Growth Mathematics								
	Needs Support		***Approaching Proficient***		***Proficient***		***Advanced***	
Grade	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
2	100-166	1-26	167-178	27-61	**179**-197	62-95	198-350	96-99
3	100-180	1-28	181-191	29-59	**192**-208	60-93	209-350	94-99
4	100-193	1-34	194-203	35-61	**204**-216	62-88	217-350	89-99
5	100-201	1-31	202-209	32-51	**210**-227	52-88	228-350	89-99
6	100-206	1-31	207-216	32-55	**217**-231	56-85	232-350	86-99
7	100-214	1-37	215-222	38-55	**223**-240	56-87	241-350	88-99
8	100-219	1-39	220-229	40-60	**230**-247	61-88	248-350	89-99
9	100-223	1-44	224-235	45-68	**236**-250	69-88	251-350	89-99
Winter								
2	100-175	1-26	176-187	27-61	**188**-204	62-94	205-350	95-99
3	100-188	1-29	189-198	30-57	**199**-215	58-92	216-350	93-99
4	100-200	1-36	201-210	37-62	**211**-223	63-88	224-350	89-99
5	100-207	1-33	208-215	34-52	**216**-233	53-88	234-350	89-99
6	100-211	1-32	212-221	33-55	**222**-236	56-84	237-350	85-99
7	100-217	1-36	218-226	37-56	**227**-244	57-87	245-350	88-99
8	100-222	1-39	223-232	40-59	**233**-250	60-87	251-350	88-99
9	100-226	1-46	227-237	47-67	**238**-252	68-88	253-350	89-99
Spring								
2	100-181	1-28	182-192	29-60	**193**-209	61-93	210-350	94-99
3	100-193	1-30	194-203	31-57	**204**-219	58-90	220-350	91-99
4	100-204	1-35	205-214	36-60	**215**-227	61-86	228-350	87-99
5	100-211	1-33	212-219	34-52	**220**-237	53-87	238-350	88-99
6	100-214	1-32	215-224	33-54	**225**-239	55-83	240-350	84-99
7	100-220	1-37	221-229	38-56	**230**-247	57-86	248-350	87-99
8	100-224	1-39	225-234	40-58	**235**-252	59-86	253-350	87-99
9	100-227	1-45	228-238	46-66	**239**-253	67-87	254-350	88-99

Table 3.4. MAP Growth Cut Scores—ELA/Reading

AK STAR Summative ELA/Reading				
Grade	***Needs Support***	***Approaching Proficient***	***Proficient***	***Advanced***
3	1400-1561	1562-1581	**1582**-1598	1599-1720
4	1410-1567	1568-1588	**1589**-1611	1612-1750
5	1420-1575	1576-1595	**1596**-1625	1626-1780
6	1430-1575	1576-1604	**1605**-1635	1636-1800
7	1440-1583	1584-1609	**1610**-1644	1645-1820
8	1450-1586	1587-1614	**1615**-1651	1652-1840
9	1450-1589	1590-1618	**1619**-1667	1668-1850

MAP Growth ELA/Reading								
	Needs Support		***Approaching Proficient***		***Proficient***		***Advanced***	
Grade	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall								
2	100-158	1-18	159-176	19-61	**177**-192	62-90	193-350	91-99
3	100-174	1-23	175-190	24-59	**191**-203	60-84	204-350	85-99
4	100-185	1-25	186-198	26-55	**199**-212	56-82	213-350	83-99
5	100-194	1-27	195-206	28-55	**207**-220	56-83	221-350	84-99
6	100-197	1-22	198-212	23-56	**213**-225	57-82	226-350	83-99
7	100-205	1-30	206-217	31-58	**218**-231	59-85	232-350	86-99
8	100-210	1-33	211-221	34-58	**222**-233	59-82	234-350	83-99
9	100-213	1-39	214-223	40-60	**224**-235	61-81	236-350	82-99
Winter								
2	100-168	1-20	169-185	21-62	**186**-199	63-88	200-350	89-99
3	100-182	1-24	183-197	25-59	**198**-208	60-82	209-350	83-99
4	100-192	1-27	193-204	28-55	**205**-216	56-80	217-350	81-99
5	100-200	1-29	201-210	30-54	**211**-223	55-82	224-350	83-99
6	100-202	1-24	203-216	25-57	**217**-227	58-80	228-350	81-99
7	100-208	1-30	209-220	31-59	**221**-232	60-83	233-350	84-99
8	100-213	1-34	214-223	35-57	**224**-234	58-80	235-350	81-99
9	100-215	1-39	216-224	40-58	**225**-236	59-80	237-350	81-99
Spring								
2	100-173	1-22	174-189	23-60	**190**-203	61-87	204-350	88-99
3	100-186	1-26	187-200	27-58	**201**-211	59-81	212-350	82-99
4	100-195	1-28	196-206	29-54	**207**-218	55-80	219-350	81-99
5	100-202	1-30	203-212	31-54	**213**-224	55-80	225-350	81-99
6	100-204	1-25	205-217	26-56	**218**-228	57-79	229-350	80-99
7	100-210	1-32	211-221	33-58	**222**-233	59-82	234-350	83-99
8	100-214	1-34	215-224	35-57	**225**-235	58-79	236-350	80-99
9	100-216	1-40	217-225	41-59	**226**-237	60-80	238-350	81-99

3.4. Classification Accuracy

Table 3.5 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 AK STAR spring summative tests, providing insight into the predictive validity of MAP Growth. The overall classification accuracy rate ranges from 0.86 to 0.96 for mathematics and 0.86 to 0.94 for ELA/reading. These values suggest that the RIT cut scores are good at classifying students as proficient or not proficient on the AK STAR summative assessment. For Grade 2, the classification accuracy rate refers to how well the MAP Growth cuts can predict students' proficiency status on the AK STAR summative test in Grade 3.

Although the results show that MAP Growth scores can be used to predict student proficiency on the AK STAR summative tests with relatively high accuracy, there is a notable limitation to how these results should be used and interpreted. The MAP Growth and AK STAR summative 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 3.5. Classification Accuracy Results

Grade	N	Cut Score		Class. Accuracy*	Rate*		Sensitivity	Specificity	Precision	AUC*
		MAP Growth	AK STAR		FP	FN				
Mathematics										
2	3,028	193	1524	0.86	0.09	0.27	0.73	0.91	0.77	0.92
3	8,400	204	1524	0.95	0.04	0.06	0.94	0.96	0.92	0.99
4	8,307	215	1538	0.95	0.02	0.10	0.90	0.98	0.95	0.99
5	8,385	220	1544	0.94	0.03	0.10	0.90	0.97	0.94	0.99
6	8,157	225	1563	0.95	0.03	0.10	0.90	0.97	0.94	0.99
7	7,966	230	1570	0.96	0.03	0.07	0.93	0.97	0.93	0.99
8	7,909	235	1580	0.95	0.03	0.08	0.92	0.97	0.93	0.99
9	7,102	239	1590	0.96	0.03	0.07	0.93	0.97	0.91	0.99
ELA/Reading										
2	3,048	190	1582	0.86	0.12	0.21	0.79	0.88	0.67	0.93
3	8,361	201	1582	0.93	0.06	0.09	0.91	0.94	0.85	0.98
4	8,275	207	1589	0.92	0.08	0.09	0.91	0.92	0.85	0.98
5	8,363	213	1596	0.93	0.07	0.06	0.94	0.93	0.88	0.98
6	8,131	218	1605	0.94	0.05	0.08	0.92	0.95	0.92	0.99
7	7,977	222	1610	0.93	0.04	0.12	0.88	0.96	0.90	0.98
8	7,931	225	1615	0.93	0.05	0.10	0.90	0.95	0.88	0.98
9	7,093	226	1619	0.94	0.05	0.10	0.90	0.95	0.90	0.98

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

3.5. Proficiency Projections

Table 3.6 and Table 3.7 present the estimated probability of achieving *Proficient* performance on the AK STAR summative test based on RIT scores from fall, winter, or spring. Due to measurement error in all test scores, the *Proficient* MAP Growth cuts do not guarantee that a student will reach proficiency on the AK STAR summative test. They instead indicate a 50% chance that a student will reach a particular achievement level. Therefore, these projections further elucidate the *Proficient* cut scores by providing the likelihood of reaching proficiency on the AK STAR spring summative assessment at a given percentile throughout the year.

For example, the Grade 6 winter *Proficient* RIT cut score for Mathematics is 222, which indicates a 50% chance of achieving proficiency in the spring, as shown in Table 3.6. Additionally, an educator can also use the table to estimate that a Grade 6 student who obtained a MAP Growth Mathematics score of 231 in the winter has a 97% probability of reaching *Proficient* or higher on the AK STAR spring summative assessment.

Table 3.6. Proficiency Projections based on RIT Scores—Mathematics

Mathematics											
			Fall			Winter			Spring		
Grade	Start %ile	Spring Cut	Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	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	0.1	188	No	0.04
	50	193	175	No	0.27	184	No	0.2	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	0.5
	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

Mathematics											
			Fall			Winter			Spring		
Grade	Start %ile	Spring Cut	Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
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	0.1	191	No	0.04	196	No	<0.01
	40	204	185	No	0.17	193	No	0.1	198	No	0.02
	45	204	187	No	0.26	195	No	0.2	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	0.5	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	0.8	208	Yes	0.92
	75	204	198	Yes	0.83	205	Yes	0.9	211	Yes	0.99
	80	204	200	Yes	0.9	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
4	5	215	176	No	<0.01	182	No	<0.01	185	No	<0.01
	10	215	181	No	<0.01	187	No	<0.01	191	No	<0.01
	15	215	185	No	<0.01	191	No	<0.01	194	No	<0.01
	20	215	187	No	<0.01	194	No	<0.01	197	No	<0.01
	25	215	190	No	0.01	196	No	<0.01	200	No	<0.01
	30	215	192	No	0.03	198	No	<0.01	202	No	<0.01
	35	215	194	No	0.05	200	No	0.01	205	No	<0.01
	40	215	196	No	0.1	202	No	0.03	207	No	<0.01
	45	215	198	No	0.17	204	No	0.07	209	No	0.02
	50	215	200	No	0.26	206	No	0.14	211	No	0.08
	55	215	201	No	0.32	208	No	0.26	212	No	0.15
	60	215	203	No	0.44	210	No	0.42	214	No	0.37
	65	215	205	Yes	0.56	212	Yes	0.58	217	Yes	0.75
	70	215	207	Yes	0.68	214	Yes	0.74	219	Yes	0.92
	75	215	209	Yes	0.79	216	Yes	0.86	221	Yes	0.98
	80	215	212	Yes	0.9	219	Yes	0.96	224	Yes	>0.99
	85	215	214	Yes	0.95	221	Yes	0.98	227	Yes	>0.99
	90	215	218	Yes	0.99	225	Yes	>0.99	230	Yes	>0.99
	95	215	223	Yes	>0.99	231	Yes	>0.99	236	Yes	>0.99

Mathematics												
			Fall			Winter			Spring			
Grade	Start %ile	Spring Cut	Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency		
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.	
5	5	220	184	No	<0.01	189	No	<0.01	191	No	<0.01	
	10	220	190	No	<0.01	194	No	<0.01	197	No	<0.01	
	15	220	193	No	<0.01	198	No	<0.01	201	No	<0.01	
	20	220	196	No	0.01	201	No	<0.01	205	No	<0.01	
	25	220	199	No	0.03	204	No	0.01	207	No	<0.01	
	30	220	201	No	0.08	206	No	0.02	210	No	<0.01	
	35	220	203	No	0.14	209	No	0.07	212	No	<0.01	
	40	220	205	No	0.22	211	No	0.15	215	No	0.04	
	45	220	207	No	0.32	213	No	0.26	217	No	0.15	
	50	220	209	No	0.44	215	No	0.42	219	No	0.37	
	55	220	211	Yes	0.56	217	Yes	0.58	221	Yes	0.63	
	60	220	213	Yes	0.68	219	Yes	0.74	223	Yes	0.85	
	65	220	215	Yes	0.78	221	Yes	0.85	225	Yes	0.96	
	70	220	217	Yes	0.86	223	Yes	0.93	228	Yes	>0.99	
	75	220	219	Yes	0.92	225	Yes	0.97	230	Yes	>0.99	
	80	220	222	Yes	0.97	228	Yes	0.99	233	Yes	>0.99	
	85	220	225	Yes	0.99	231	Yes	>0.99	236	Yes	>0.99	
	90	220	229	Yes	>0.99	235	Yes	>0.99	240	Yes	>0.99	
	95	220	234	Yes	>0.99	241	Yes	>0.99	246	Yes	>0.99	
6	5	225	188	No	<0.01	192	No	<0.01	194	No	<0.01	
	10	225	194	No	<0.01	198	No	<0.01	200	No	<0.01	
	15	225	198	No	<0.01	202	No	<0.01	205	No	<0.01	
	20	225	201	No	0.01	205	No	<0.01	208	No	<0.01	
	25	225	204	No	0.02	208	No	<0.01	211	No	<0.01	
	30	225	206	No	0.04	211	No	0.01	214	No	<0.01	
	35	225	209	No	0.1	213	No	0.03	216	No	<0.01	
	40	225	211	No	0.17	215	No	0.07	218	No	0.01	
	45	225	213	No	0.27	217	No	0.14	221	No	0.08	
	50	225	215	No	0.38	220	No	0.34	223	No	0.25	
	55	225	217	Yes	0.5	222	Yes	0.5	225	Yes	0.5	
	60	225	219	Yes	0.62	224	Yes	0.66	227	Yes	0.75	
	65	225	221	Yes	0.73	226	Yes	0.8	230	Yes	0.96	
	70	225	223	Yes	0.83	228	Yes	0.9	232	Yes	0.99	
	75	225	226	Yes	0.92	231	Yes	0.97	235	Yes	>0.99	
	80	225	228	Yes	0.96	234	Yes	0.99	238	Yes	>0.99	
	85	225	231	Yes	0.99	237	Yes	>0.99	241	Yes	>0.99	
	90	225	235	Yes	>0.99	241	Yes	>0.99	245	Yes	>0.99	
	95	225	241	Yes	>0.99	247	Yes	>0.99	252	Yes	>0.99	

Mathematics											
			Fall			Winter			Spring		
Grade	Start %ile	Spring Cut	Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
7	5	230	192	No	<0.01	194	No	<0.01	196	No	<0.01
	10	230	198	No	<0.01	201	No	<0.01	203	No	<0.01
	15	230	202	No	<0.01	205	No	<0.01	207	No	<0.01
	20	230	206	No	<0.01	209	No	<0.01	211	No	<0.01
	25	230	208	No	<0.01	212	No	<0.01	214	No	<0.01
	30	230	211	No	0.02	215	No	<0.01	217	No	<0.01
	35	230	213	No	0.04	217	No	0.02	220	No	<0.01
	40	230	216	No	0.1	219	No	0.04	222	No	<0.01
	45	230	218	No	0.21	222	No	0.14	224	No	0.02
	50	230	220	No	0.31	224	No	0.26	227	No	0.15
	55	230	222	No	0.44	226	No	0.42	229	No	0.37
	60	230	225	Yes	0.63	229	Yes	0.67	231	Yes	0.63
	65	230	227	Yes	0.74	231	Yes	0.8	234	Yes	0.92
	70	230	229	Yes	0.83	233	Yes	0.9	236	Yes	0.98
	75	230	232	Yes	0.93	236	Yes	0.97	239	Yes	>0.99
	80	230	235	Yes	0.97	239	Yes	>0.99	242	Yes	>0.99
	85	230	238	Yes	0.99	243	Yes	>0.99	246	Yes	>0.99
	90	230	243	Yes	>0.99	247	Yes	>0.99	251	Yes	>0.99
	95	230	249	Yes	>0.99	254	Yes	>0.99	257	Yes	>0.99
8	5	235	194	No	<0.01	196	No	<0.01	197	No	<0.01
	10	235	201	No	<0.01	203	No	<0.01	205	No	<0.01
	15	235	205	No	<0.01	208	No	<0.01	210	No	<0.01
	20	235	209	No	<0.01	212	No	<0.01	214	No	<0.01
	25	235	212	No	0.01	215	No	<0.01	217	No	<0.01
	30	235	215	No	0.02	218	No	<0.01	220	No	<0.01
	35	235	218	No	0.04	221	No	0.01	223	No	<0.01
	40	235	220	No	0.07	223	No	0.02	225	No	<0.01
	45	235	223	No	0.16	226	No	0.07	228	No	0.01
	50	235	225	No	0.24	228	No	0.15	230	No	0.04
	55	235	227	No	0.33	231	No	0.34	233	No	0.25
	60	235	230	Yes	0.5	233	Yes	0.5	235	Yes	0.5
	65	235	232	Yes	0.61	236	Yes	0.73	238	Yes	0.85
	70	235	235	Yes	0.76	238	Yes	0.85	241	Yes	0.98
	75	235	238	Yes	0.88	241	Yes	0.95	244	Yes	>0.99
	80	235	241	Yes	0.94	244	Yes	0.99	247	Yes	>0.99
	85	235	245	Yes	0.98	248	Yes	>0.99	251	Yes	>0.99
	90	235	249	Yes	>0.99	253	Yes	>0.99	256	Yes	>0.99
	95	235	256	Yes	>0.99	260	Yes	>0.99	263	Yes	>0.99

Mathematics											
			Fall			Winter			Spring		
Grade	Start %ile	Spring Cut	Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
9	5	239	194	No	<0.01	196	No	<0.01	196	No	<0.01
	10	239	201	No	<0.01	203	No	<0.01	204	No	<0.01
	15	239	206	No	<0.01	208	No	<0.01	209	No	<0.01
	20	239	210	No	<0.01	212	No	<0.01	213	No	<0.01
	25	239	213	No	<0.01	215	No	<0.01	216	No	<0.01
	30	239	216	No	0.01	218	No	<0.01	219	No	<0.01
	35	239	219	No	0.02	221	No	<0.01	222	No	<0.01
	40	239	221	No	0.03	224	No	<0.01	225	No	<0.01
	45	239	224	No	0.07	226	No	0.01	227	No	<0.01
	50	239	226	No	0.11	229	No	0.04	230	No	<0.01
	55	239	229	No	0.21	231	No	0.08	233	No	0.02
	60	239	231	No	0.25	234	No	0.21	235	No	0.08
	65	239	234	No	0.39	236	No	0.34	238	No	0.37
	70	239	237	Yes	0.55	239	Yes	0.58	241	Yes	0.75
	75	239	240	Yes	0.71	242	Yes	0.79	244	Yes	0.96
	80	239	243	Yes	0.83	246	Yes	0.95	247	Yes	>0.99
	85	239	247	Yes	0.93	249	Yes	0.99	251	Yes	>0.99
	90	239	252	Yes	0.98	254	Yes	>0.99	256	Yes	>0.99
	95	239	259	Yes	>0.99	262	Yes	>0.99	264	Yes	>0.99

Table 3.7. Proficiency Projections based on RIT Scores—ELA/Reading

ELA/Reading											
			Fall			Winter			Spring		
Grade	Start %ile	Spring Cut	Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
2	5	190	147	No	<0.01	156	No	<0.01	160	No	<0.01
	10	190	153	No	<0.01	162	No	<0.01	166	No	<0.01
	15	190	157	No	0.01	166	No	<0.01	170	No	<0.01
	20	190	160	No	0.02	169	No	<0.01	173	No	<0.01
	25	190	162	No	0.03	171	No	<0.01	175	No	<0.01
	30	190	164	No	0.06	173	No	0.01	177	No	<0.01
	35	190	166	No	0.09	175	No	0.03	180	No	<0.01
	40	190	168	No	0.15	177	No	0.07	182	No	0.01
	45	190	170	No	0.18	179	No	0.1	184	No	0.03
	50	190	172	No	0.25	181	No	0.17	186	No	0.11
	55	190	174	No	0.35	183	No	0.29	188	No	0.27
	60	190	176	No	0.45	185	No	0.43	189	No	0.38
	65	190	178	Yes	0.55	187	Yes	0.57	192	Yes	0.73
	70	190	180	Yes	0.6	189	Yes	0.71	194	Yes	0.89
	75	190	183	Yes	0.75	191	Yes	0.83	196	Yes	0.97
	80	190	185	Yes	0.82	194	Yes	0.93	199	Yes	>0.99
	85	190	188	Yes	0.88	197	Yes	0.98	202	Yes	>0.99
	90	190	192	Yes	0.96	200	Yes	>0.99	205	Yes	>0.99
	95	190	197	Yes	0.99	206	Yes	>0.99	211	Yes	>0.99
3	5	201	159	No	<0.01	167	No	<0.01	170	No	<0.01
	10	201	165	No	<0.01	173	No	<0.01	176	No	<0.01
	15	201	169	No	0.01	177	No	<0.01	180	No	<0.01
	20	201	173	No	0.02	180	No	<0.01	183	No	<0.01
	25	201	175	No	0.03	183	No	<0.01	186	No	<0.01
	30	201	178	No	0.07	185	No	0.01	189	No	<0.01
	35	201	180	No	0.09	188	No	0.05	191	No	<0.01
	40	201	182	No	0.14	190	No	0.07	193	No	0.01
	45	201	185	No	0.25	192	No	0.13	195	No	0.03
	50	201	187	No	0.3	194	No	0.23	197	No	0.11
	55	201	189	No	0.39	196	No	0.35	199	No	0.27
	60	201	191	Yes	0.5	198	Yes	0.5	201	Yes	0.5
	65	201	193	Yes	0.61	200	Yes	0.65	203	Yes	0.73
	70	201	195	Yes	0.66	202	Yes	0.77	206	Yes	0.94
	75	201	198	Yes	0.79	205	Yes	0.91	208	Yes	0.99
	80	201	201	Yes	0.89	207	Yes	0.95	211	Yes	>0.99
	85	201	204	Yes	0.93	211	Yes	0.99	214	Yes	>0.99
	90	201	208	Yes	0.98	215	Yes	>0.99	218	Yes	>0.99
	95	201	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	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
4	5	207	169	No	<0.01	176	No	<0.01	178	No	<0.01
	10	207	175	No	<0.01	182	No	<0.01	184	No	<0.01
	15	207	179	No	0.01	186	No	<0.01	188	No	<0.01
	20	207	183	No	0.03	189	No	<0.01	191	No	<0.01
	25	207	185	No	0.05	192	No	0.01	194	No	<0.01
	30	207	188	No	0.08	194	No	0.03	196	No	<0.01
	35	207	190	No	0.13	196	No	0.06	199	No	0.01
	40	207	192	No	0.2	198	No	0.13	201	No	0.03
	45	207	195	No	0.29	200	No	0.17	203	No	0.11
	50	207	197	No	0.39	202	No	0.28	205	No	0.27
	55	207	199	Yes	0.5	205	Yes	0.5	207	Yes	0.5
	60	207	201	Yes	0.61	207	Yes	0.65	209	Yes	0.73
	65	207	203	Yes	0.66	209	Yes	0.78	211	Yes	0.89
	70	207	205	Yes	0.76	211	Yes	0.87	213	Yes	0.97
	75	207	208	Yes	0.87	213	Yes	0.94	216	Yes	>0.99
	80	207	211	Yes	0.92	216	Yes	0.98	219	Yes	>0.99
	85	207	214	Yes	0.96	219	Yes	>0.99	222	Yes	>0.99
	90	207	218	Yes	0.99	223	Yes	>0.99	226	Yes	>0.99
	95	207	224	Yes	>0.99	229	Yes	>0.99	232	Yes	>0.99
5	5	213	178	No	<0.01	183	No	<0.01	185	No	<0.01
	10	213	183	No	<0.01	189	No	<0.01	191	No	<0.01
	15	213	187	No	0.01	193	No	<0.01	194	No	<0.01
	20	213	191	No	0.03	196	No	<0.01	198	No	<0.01
	25	213	193	No	0.05	198	No	0.01	200	No	<0.01
	30	213	196	No	0.11	201	No	0.03	203	No	<0.01
	35	213	198	No	0.13	203	No	0.06	205	No	0.01
	40	213	200	No	0.2	205	No	0.13	207	No	0.03
	45	213	202	No	0.29	207	No	0.22	209	No	0.11
	50	213	204	No	0.39	209	No	0.35	211	No	0.27
	55	213	207	Yes	0.5	211	Yes	0.5	213	Yes	0.5
	60	213	209	Yes	0.61	213	Yes	0.65	215	Yes	0.73
	65	213	211	Yes	0.71	215	Yes	0.78	217	Yes	0.89
	70	213	213	Yes	0.76	217	Yes	0.83	219	Yes	0.97
	75	213	216	Yes	0.87	220	Yes	0.94	222	Yes	>0.99
	80	213	218	Yes	0.92	222	Yes	0.97	224	Yes	>0.99
	85	213	221	Yes	0.95	226	Yes	>0.99	228	Yes	>0.99
	90	213	225	Yes	0.99	229	Yes	>0.99	231	Yes	>0.99
	95	213	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	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
6	5	218	183	No	<0.01	188	No	<0.01	189	No	<0.01
	10	218	189	No	<0.01	193	No	<0.01	195	No	<0.01
	15	218	193	No	<0.01	197	No	<0.01	199	No	<0.01
	20	218	196	No	0.02	200	No	<0.01	202	No	<0.01
	25	218	199	No	0.04	203	No	0.01	205	No	<0.01
	30	218	202	No	0.08	205	No	0.02	207	No	<0.01
	35	218	204	No	0.13	208	No	0.06	209	No	<0.01
	40	218	206	No	0.19	210	No	0.12	211	No	0.01
	45	218	208	No	0.24	212	No	0.22	213	No	0.06
	50	218	210	No	0.33	214	No	0.35	215	No	0.17
	55	218	212	No	0.44	216	No	0.42	217	No	0.38
	60	218	214	Yes	0.56	218	Yes	0.58	219	Yes	0.62
	65	218	217	Yes	0.67	220	Yes	0.72	222	Yes	0.89
	70	218	219	Yes	0.76	222	Yes	0.83	224	Yes	0.97
	75	218	221	Yes	0.84	225	Yes	0.94	226	Yes	0.99
	80	218	224	Yes	0.9	227	Yes	0.97	229	Yes	>0.99
	85	218	227	Yes	0.96	230	Yes	0.99	232	Yes	>0.99
	90	218	231	Yes	0.99	234	Yes	>0.99	236	Yes	>0.99
	95	218	237	Yes	>0.99	240	Yes	>0.99	242	Yes	>0.99
7	5	222	187	No	<0.01	190	No	<0.01	191	No	<0.01
	10	222	193	No	<0.01	196	No	<0.01	197	No	<0.01
	15	222	197	No	<0.01	200	No	<0.01	201	No	<0.01
	20	222	200	No	0.01	203	No	<0.01	205	No	<0.01
	25	222	203	No	0.02	206	No	<0.01	207	No	<0.01
	30	222	206	No	0.06	209	No	0.02	210	No	<0.01
	35	222	208	No	0.1	211	No	0.04	212	No	<0.01
	40	222	210	No	0.16	213	No	0.06	214	No	0.01
	45	222	212	No	0.19	215	No	0.12	216	No	0.03
	50	222	214	No	0.28	217	No	0.22	218	No	0.11
	55	222	216	No	0.39	219	No	0.35	220	No	0.27
	60	222	218	Yes	0.5	221	Yes	0.5	223	Yes	0.62
	65	222	221	Yes	0.61	223	Yes	0.65	225	Yes	0.83
	70	222	223	Yes	0.72	226	Yes	0.83	227	Yes	0.94
	75	222	225	Yes	0.81	228	Yes	0.91	229	Yes	0.99
	80	222	228	Yes	0.9	231	Yes	0.97	232	Yes	>0.99
	85	222	231	Yes	0.94	234	Yes	0.99	235	Yes	>0.99
	90	222	235	Yes	0.98	238	Yes	>0.99	239	Yes	>0.99
	95	222	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	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
8	5	225	190	No	<0.01	193	No	<0.01	194	No	<0.01
	10	225	196	No	<0.01	199	No	<0.01	200	No	<0.01
	15	225	200	No	<0.01	203	No	<0.01	204	No	<0.01
	20	225	204	No	0.01	206	No	<0.01	207	No	<0.01
	25	225	207	No	0.04	209	No	<0.01	210	No	<0.01
	30	225	209	No	0.06	212	No	0.01	213	No	<0.01
	35	225	211	No	0.08	214	No	0.03	215	No	<0.01
	40	225	214	No	0.17	216	No	0.06	217	No	0.01
	45	225	216	No	0.24	218	No	0.13	220	No	0.06
	50	225	218	No	0.34	221	No	0.28	222	No	0.17
	55	225	220	No	0.39	223	No	0.42	224	No	0.38
	60	225	222	Yes	0.5	225	Yes	0.58	226	Yes	0.62
	65	225	225	Yes	0.66	227	Yes	0.72	228	Yes	0.83
	70	225	227	Yes	0.76	229	Yes	0.83	231	Yes	0.97
	75	225	230	Yes	0.83	232	Yes	0.94	233	Yes	0.99
	80	225	232	Yes	0.89	235	Yes	0.98	236	Yes	>0.99
	85	225	236	Yes	0.96	238	Yes	>0.99	239	Yes	>0.99
	90	225	240	Yes	0.99	242	Yes	>0.99	243	Yes	>0.99
	95	225	246	Yes	>0.99	248	Yes	>0.99	249	Yes	>0.99
9	5	226	188	No	<0.01	190	No	<0.01	190	No	<0.01
	10	226	195	No	<0.01	197	No	<0.01	197	No	<0.01
	15	226	199	No	<0.01	201	No	<0.01	202	No	<0.01
	20	226	203	No	0.01	205	No	<0.01	205	No	<0.01
	25	226	206	No	0.02	208	No	<0.01	209	No	<0.01
	30	226	209	No	0.04	211	No	0.01	211	No	<0.01
	35	226	212	No	0.09	213	No	0.01	214	No	<0.01
	40	226	214	No	0.13	216	No	0.05	217	No	<0.01
	45	226	217	No	0.23	218	No	0.1	219	No	0.01
	50	226	219	No	0.27	221	No	0.23	221	No	0.06
	55	226	221	No	0.35	223	No	0.36	224	No	0.27
	60	226	224	Yes	0.5	225	Yes	0.5	226	Yes	0.5
	65	226	226	Yes	0.6	228	Yes	0.71	229	Yes	0.83
	70	226	229	Yes	0.73	230	Yes	0.82	231	Yes	0.94
	75	226	232	Yes	0.84	233	Yes	0.93	234	Yes	0.99
	80	226	235	Yes	0.91	236	Yes	0.98	237	Yes	>0.99
	85	226	239	Yes	0.97	240	Yes	>0.99	241	Yes	>0.99
	90	226	243	Yes	0.99	245	Yes	>0.99	246	Yes	>0.99
	95	226	250	Yes	>0.99	251	Yes	>0.99	253	Yes	>0.99

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