Predicting Proficiency on the Ohio's State Tests (OST) in Grades 3–8 Based on NWEA MAP Growth Scores

July 2025

NWEA Psychometrics and Analytics

Linking Study Updates

Date	Description
2013-01	Initial study conducted for Ohio in ELA and mathematics in grades 3–8 using Spring 2012 data.
2016-08	Incorporated the 2015 MAP Growth norms using Spring 2016 data.
2018-03	Updated the report for ELA, mathematics, and science using Spring 2017 data.
2020-07-23	Incorporated the 2020 MAP Growth norms using Spring 2017 data for ELA, mathematics, and science in grades 3–8. A linking study for the OST End-of-Course (EOC) assessments in ELA and mathematics was also conducted. Results are provided in a separate report (NWEA, 2020).
2021-12-17	Updated the results for the OST science assessment using Spring 2021 data. The ELA and mathematics results from July 2020 remain the same but are included in this report so all up-to-date OST 3–8 linking study results are in one place.
2023-01-06	Updated results for the OST ELA & math assessments using Spring 2022 data. Science results from December 2021 remain the same. All up to date 3–8 linking study results are in this one report.
2023-03-24	Updated charts to gray scale and made minor modifications to some language within the report.
2023-07-05	Reviewed and updated the report *Section 3.4 Reading Grade 3 Cut Scores for Ohio's TGRG Program*.
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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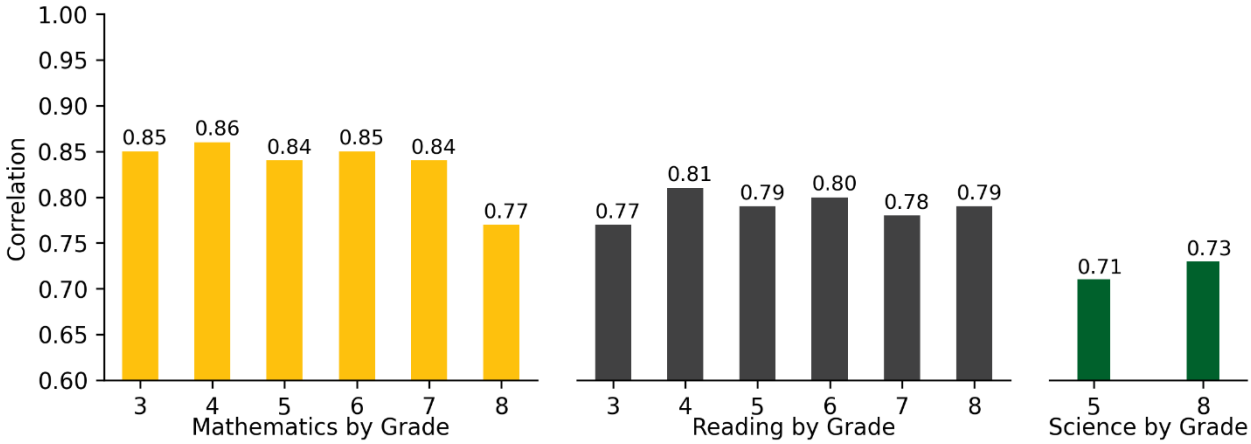
Executive Summary

Linking studies allow partners to use MAP® Growth™ Rasch Unit (RIT) scores throughout the year to predict students' likely performance levels on state summative assessments. This is accomplished through statistical analyses that produce RIT cut scores that correspond to state summative performance levels. A "cut score" is the minimum score a student must get on a test to be placed at a certain performance level. The linking study for the Ohio's State Tests (OST) described in this report provides RIT cut scores for the fall, winter, and spring MAP Growth administrations that correspond to the OST performance levels for mathematics and English language arts (ELA)/reading in grades 3–8 and for science in grades 5 and 8.

The linking study for mathematics and ELA/reading is based on test scores from students who took both the MAP Growth and OST assessments in Spring 2022. The sample included 71,975 students across 48 districts and 232 schools in Ohio. The science data remained the same as in the previous study published in December 2021.

Before the linking analyses began, NWEA confirmed that the MAP Growth and OST assessments are aligned based on the same or similar set of content standards to warrant a connection. The test links were further investigated by calculating the Pearson correlation coefficients that relate the relationship between the specific MAP Growth and OST test scores. A correlation of $r \geq 0.70$ is considered a "high" correlation and acceptable for publishing. This indicates that students who perform well on one assessment also tend to perform well on the other, and vice versa. A perfect positive correlation is 1.00. As shown in Figure E.1., the correlations between the MAP Growth and OST test scores are higher than 0.70, indicating that MAP Growth is a good assessment for predicting performance on the OST spring summative assessments.

Figure E.1. Correlations Between MAP Growth and OST Scores



The equipercentile linking method (Kolen & Brennan, 2004) was used to produce the RIT cut scores for the spring administration that correspond to performance levels on the OST assessment for every subject and grade. MAP Growth cut scores for grade 2, as well as those for the fall and winter administrations of all grades, are also provided so that educators can track grade 2 students' progress on the OST tests by grade 3, alongside all other students, early in

the year. These cut scores were derived from the spring cuts[1] and the growth norms for the adjacent grades (i.e., grades 2 to 3), or fall and winter administrations to the spring administration. While RIT cut scores were generated for every performance level on the OST assessment, Table E.1 presents the *Proficient* cut scores that indicate the minimum score a student must get to be considered proficient (reaching *Proficient* or higher).

Table E.1. MAP Growth RIT Cut Scores for OST Proficiency

Assessment		*Proficient* Cut Scores by Grade						
		2	3	4	5	6	7	8
Mathematics								
OST Spring		–	700	700	700	700	700	700
MAP Growth	Fall	175	186	196	209	215	222	225
	Winter	183	195	203	215	221	226	229
	Spring	189	201	209	219	225	229	232
ELA/Reading								
OST Spring		–	700	700	700	700	700	700
MAP Growth	Fall	173	187	197	201	211	212	219
	Winter	179	192	200	204	213	214	220
	Spring	184	196	203	206	214	215	221
Science								
OST Spring		–	–	–	700	–	–	700
MAP Growth	Fall	–	–	–	199	–	–	208
	Winter	–	–	–	202	–	–	209
	Spring	–	–	–	205	–	–	211

Educators can use these cut scores to determine whether students are on track for proficiency on the state assessments. For example, the *Proficient* cut score on the grade 3 OST mathematics test is 700. A grade 3 student with a MAP Growth mathematics RIT score of 186 in the fall is likely to meet proficiency on the OST mathematics test in the spring, whereas a grade 3 student with a RIT score lower than 186 in the fall is in jeopardy of not meeting proficiency.

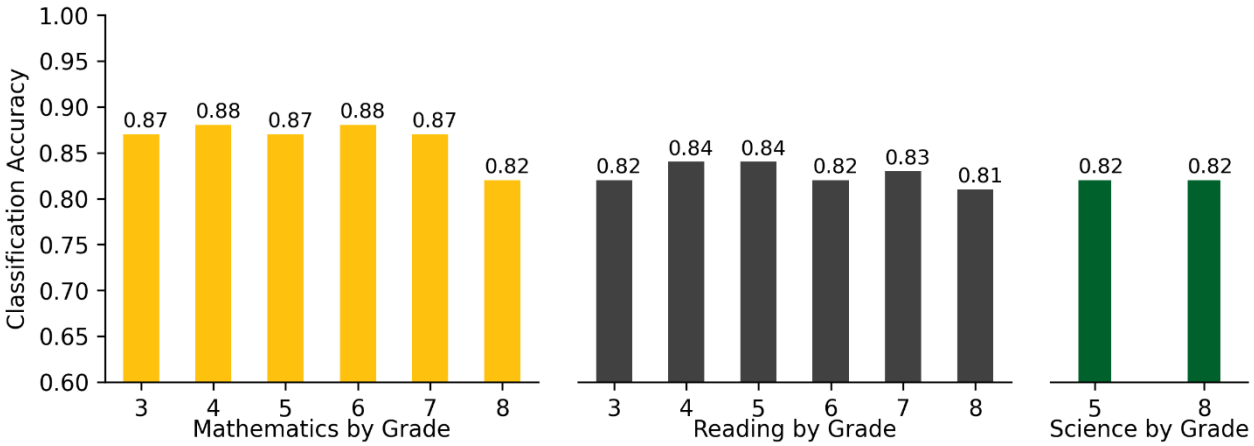
As further evidence that MAP Growth scores can be used to predict students' proficiency on the state tests, NWEA calculated classification accuracy statistics that show how well the RIT scores can correctly classify, or predict, students as proficient on the state tests.[2] For example, the grade 3 MAP Growth mathematics cut score correctly classified students' proficiency

[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..

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

(*Proficient* or higher) on the OST mathematics test 87% of the time. A high statistic indicates high accuracy. Overall, MAP Growth scores have a high accuracy rate of identifying student proficiency on the OST tests, as illustrated in Figure E.2.

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 assessments. 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, respectively), 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 state summative assessments at different times throughout the year. This allows educators and parents to determine if a student is on track in their learning to meet state standards by the end of the year or, given a student's learning profile, is on track to obtain rigorous, realistic growth in their content knowledge and skills.

This report presents results from a linking study conducted by NWEA to statistically connect Rasch Unit (RIT) scores from the MAP Growth assessments with scores from the Ohio's State Tests (OST) in mathematics and English language arts (ELA)/reading for grades 3–8 and in science for grades 5 and 8. MAP Growth cut scores are also included for grade 2 so that educators can track early learners' progress toward proficiency on the OST tests by grade 3. Specifically, this report presents the following results:

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

1.2. Assessment Overview

The OST grades 3–8 mathematics and ELA and grades 5 and 8 science tests are Ohio's state summative assessments aligned to the Ohio's Learning Standards. Based on their test scores, students are placed into one of five performance levels: *Limited*, *Basic*, *Proficient*, *Accomplished*, and *Advanced*. The *Proficient* cut score demarks the minimum level of achievement considered to be proficient for accountability purposes.

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. NWEA conducts norming studies of student and school performance on MAP Growth assessments to aid the interpretation of scores. Growth norms provide expected score gains for a test from term to term, such as from fall to spring terms. 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 2022 administrations of the MAP Growth and OST assessments in mathematics and ELA/reading and the Spring 2021 administration of science. NWEA requested that Ohio districts recruited to participate in the study share their student and score data for the target term. Districts also permitted NWEA to access their students' MAP Growth scores from the NWEA in-house database. Once state score information was available to NWEA, 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 took both the MAP Growth and OST assessments 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's test-taking student population in terms of race, sex, and performance level. These variables were selected because they are known to be correlated with students' academic achievement and are often available in state summative assessment reports. The weighted sample will match the target population as closely as possible for the key demographics and performance characteristics defined by the state.

A raking procedure was used to calculate the post-stratification weights that either compensate for the underrepresentation of certain groups or attenuate the overrepresentation of certain groups. 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. Descriptive Statistics

Descriptive statistics are provided to summarize the test scores for both the MAP Growth and OST 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 OST 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 OST tests (that references some other scale) in the same subject?" The correlations were calculated as:

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

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.

2.4. MAP Growth Cut Scores

MAP Growth cut scores that predict student achievement on the OST assessments are reported for grades 3–8, as well as for grade 2 so that educators can track early learners' progress toward proficiency on the OST tests by grade 3. Percentile ranks based on the 2025 NWEA norms are also provided. These are useful for understanding how students' scores compare with peers nationwide and the relative rigor of a state's performance level designations for its summative assessment.

The equipercentile linking method (Kolen & Brennan, 20024) was used to identify the spring MAP Growth RIT scores for grades 3–8 that correspond to the spring OST performance 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., OST). 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 OST tests on the scale of MAP Growth, $P(x)$ is the percentile rank of a given score on the OST 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 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 3–8. 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 score.

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 OST 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.

2.5. Classification Accuracy

The degree to which MAP Growth predicts student proficiency status on the OST tests 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 OST tests. 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 students identified by MAP Growth as not proficient in those observed as proficient on the state test
False Positive (FP) Rate	FP / (FP + TN)	Proportion of students identified by MAP Growth as not proficient in those observed as not proficient on the state test
Sensitivity	TP / (TP + FN)	Proportion of students identified by MAP Growth as proficient in those observed as such on the state test
Specificity	TN / (TN + FP)	Proportion of students identified by MAP Growth as not proficient in those observed as such on the state test
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.

2.6. 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, 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 OST tests in the spring based on a student’s RIT scores from fall and winter:

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

where:

- Φ is the standard normal cumulative distribution function,
- $RIT_{previous}$ 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 cut score associated with state proficiency in 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* performance on the OST tests based on their spring RIT score (RIT_{Spring}):

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

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 OST assessments in Spring 2022 for mathematics and ELA/reading were included in the sample. Data were collected from 48 districts and 232 schools in Ohio. The student demographics for science were directly sourced from the earlier 2021 linking study report. Table 3.1 presents the distributions of student race, sex, and performance level in the original unweighted study sample. Table 3.2 presents the distributions of the target population of students who took the OST tests. Since the original study sample is different from the target OST population, post-stratification weights were applied. Table 3.3 presents the demographic distributions of the sample after weighting, which are almost identical to the OST student population distributions.

Table 3.1. Linking Study Sample Demographics (Unweighted)

Demographic Subgroup		% Students by Grade					
		3	4	5	6	7	8
Mathematics							
	Total N	12,291	12,278	11,440	11,602	10,375	7,775
Race	African American	14.4	15.0	15.8	15.8	17.0	18.6
	American Indian and Others	8.2	7.9	8.0	7.6	7.9	8.3
	Asian/NHPI	4.8	4.7	3.7	4.6	3.4	2.4
	Hispanic	5.8	5.9	6.1	6.1	7.2	7.5
	White	66.7	66.6	66.4	66.0	64.5	63.2
Sex	Female	49.2	48.8	48.8	48.0	49.0	50.5
	Male	50.8	51.2	51.2	52.0	51.0	49.5
Performance Level	*Limited*	25.8	24.5	32.4	29.4	35.9	38.6
	Basic	13.0	9.1	10.6	15.3	15.0	17.2
	Proficient	20.0	16.9	23.9	23.5	23.0	29.0
	Accomplished	17.4	23.4	17.7	14.5	18.7	10.4
	Advanced	23.9	26.1	15.4	17.3	7.3	4.7
ELA/Reading							
	Total N	12,055	12,378	11,947	11,814	10,968	11,062
Race	African American	14.4	14.9	15.2	15.6	16.1	15.9
	American Indian and Others	8.2	7.9	8.0	7.7	7.7	7.4
	Asian/NHPI	4.8	4.8	4.6	4.8	4.2	4.3
	Hispanic	6.0	6.0	6.0	6.0	7.0	6.4
	White	66.6	66.4	66.3	66.0	65.0	65.9
Sex	Female	49.4	48.8	48.2	47.7	48.6	49.9
	Male	50.6	51.2	51.8	52.3	51.4	50.1
Performance Level	*Limited*	19.3	19.8	14.6	17.5	17.0	26.6
	Basic	20.0	15.6	19.0	23.2	20.9	17.0
	Proficient	19.8	20.5	19.6	23.3	22.1	28.2
	Accomplished	18.3	20.8	22.4	20.5	19.6	16.0
	Advanced	22.6	23.3	24.5	15.4	20.3	12.1

Demographic Subgroup		% Students by Grade					
		3	4	5	6	7	8
Science							
	Total N	–	–	3,626	–	–	4,160
Race	African American	–	–	24.3	–	–	21.4
	American Indian and Others	–	–	8.2	–	–	7.9
	Asian/NHPI	–	–	1.4	–	–	2.2
	Hispanic	–	–	6.6	–	–	5.0
	White	–	–	59.5	–	–	63.5
Sex	Female	–	–	48.7	–	–	50.4
	Male	–	–	51.3	–	–	49.6
Performance Level	*Limited*	–	–	23.1	–	–	20.7
	Basic	–	–	21.0	–	–	19.9
	Proficient	–	–	18.0	–	–	18.9
	Accomplished	–	–	18.6	–	–	24.8
	Advanced	–	–	19.3	–	–	15.6

Note. NHPI = Native Hawaiian or Pacific Islander. Other racial categories include Multi-race and Not Specified.

Table 3.2. OST Student Population Demographics

Demographic Subgroup		% Students by Grade					
		3	4	5	6	7	8
Mathematics							
	Total N	119,225	117,793	118,638	118,979	119,166	103,826
Race	African American	17.4	17.2	17.6	17.2	17.4	18.3
	American Indian and Others	9.3	8.9	8.8	8.6	8.8	8.8
	Asian/NHPI	3.2	3.1	2.8	2.6	2.3	2.2
	Hispanic	4.5	4.4	4.4	4.3	4.5	4.9
	White	65.7	66.4	66.3	67.3	67.0	65.8
Sex	Female	49.2	48.5	48.7	48.7	49.2	49.1
	Male	50.8	51.5	51.3	51.3	50.8	50.9
Performance Level	*Limited*	29.0	27.0	35.0	34.0	39.0	40.0
	Basic	12.0	9.0	11.0	16.0	15.0	17.0
	Proficient	19.0	17.0	24.0	23.0	21.0	28.0
	Accomplished	18.0	24.0	16.0	12.0	17.0	10.0
	Advanced	22.0	24.0	14.0	15.0	8.0	4.0
ELA/Reading							
	Total N	118,164	118,279	119,964	120,548	124,872	127,010
Race	African American	17.4	17.1	17.5	17.1	16.8	16.0
	American Indian and Others	9.2	8.9	8.8	8.5	8.7	8.2
	Asian/NHPI	3.2	3.1	2.9	2.8	2.7	2.7
	Hispanic	4.5	4.4	4.4	4.2	4.4	4.4
	White	65.8	66.5	66.4	67.4	67.5	68.7

Demographic Subgroup		% Students by Grade					
		3	4	5	6	7	8
Sex	Female	49.1	48.5	48.6	48.6	49.1	49.0
	Male	50.9	51.5	51.4	51.4	50.9	51.0
Performance Level	*Limited*	21.0	21.0	15.0	19.0	17.0	29.0
	Basic	21.0	16.0	20.0	25.0	23.0	18.0
	Proficient	19.0	20.0	20.0	23.0	23.0	28.0
	Accomplished	19.0	21.0	22.0	19.0	19.0	15.0
	Advanced	20.0	22.0	22.0	13.0	18.0	10.0
Science							
	Total N	–	–	119,754	–	–	126,202
Race	African American	–	–	17.4	–	–	15.9
	American Indian and Others	–	–	8.8	–	–	8.1
	Asian/NHPI	–	–	2.9	–	–	2.7
	Hispanic	–	–	4.4	–	–	4.4
	White	–	–	66.5	–	–	68.8
Sex	Female	–	–	48.6	–	–	49.0
	Male	–	–	51.4	–	–	51.0
Performance Level	*Limited*	–	–	18.0	–	–	18.0
	Basic	–	–	19.0	–	–	19.0
	Proficient	–	–	17.0	–	–	20.0
	Accomplished	–	–	18.0	–	–	27.0
	Advanced	–	–	28.0	–	–	16.0

Note. NHPI = Native Hawaiian or Pacific Islander. Other racial categories include Multi-race and Not Specified.

Table 3.3. Linking Study Sample Demographics (Weighted)

Demographic Subgroup		% Students by Grade					
		3	4	5	6	7	8
Mathematics							
	Total N	12,291	12,401	11,440	11,602	10,375	7,697
Race	African American	17.4	17.2	17.6	17.2	17.4	18.3
	American Indian and Others	9.3	8.9	8.8	8.6	8.8	8.8
	Asian/NHPI	3.2	3.1	2.8	2.6	2.3	2.2
	Hispanic	4.5	4.4	4.4	4.3	4.5	4.9
	White	65.7	66.4	66.3	67.3	67.0	65.8
Sex	Female	49.2	48.5	48.7	48.7	49.2	49.1
	Male	50.8	51.5	51.3	51.3	50.8	50.9
Performance Level	*Limited*	29.0	26.7	35.0	34.0	39.0	40.4
	Basic	12.0	8.9	11.0	16.0	15.0	17.2
	Proficient	19.0	16.8	24.0	23.0	21.0	28.3
	Accomplished	18.0	23.8	16.0	12.0	17.0	10.1
	Advanced	22.0	23.8	14.0	15.0	8.0	4.0

Demographic Subgroup		% Students by Grade					
		3	4	5	6	7	8
ELA/Reading							
	Total N	12,055	12,378	11,828	11,696	10,968	11,062
Race	African American	17.4	17.1	17.5	17.1	16.8	16.0
	American Indian and Others	9.2	8.9	8.8	8.5	8.7	8.2
	Asian/NHPI	3.2	3.1	2.9	2.8	2.7	2.7
	Hispanic	4.5	4.4	4.4	4.2	4.4	4.4
	White	65.8	66.5	66.4	67.4	67.5	68.7
Sex	Female	49.1	48.5	48.6	48.6	49.1	49.0
	Male	50.9	51.5	51.4	51.4	50.9	51.0
Performance Level	*Limited*	21.0	21.0	15.2	19.2	17.0	29.0
	Basic	21.0	16.0	20.2	25.3	23.0	18.0
	Proficient	19.0	20.0	20.2	23.2	23.0	28.0
	Accomplished	19.0	21.0	22.2	19.2	19.0	15.0
	Advanced	20.0	22.0	22.2	13.1	18.0	10.0
Science							
	Total N	–	–	3,626	–	–	4,160
Race	African American	–	–	17.4	–	–	15.9
	American Indian and Others	–	–	8.8	–	–	8.1
	Asian/NHPI	–	–	2.9	–	–	2.7
	Hispanic	–	–	4.4	–	–	4.4
	White	–	–	66.5	–	–	68.8
Sex	Female	–	–	48.6	–	–	49.0
	Male	–	–	51.4	–	–	51.0
Performance Level	*Limited*	–	–	18.0	–	–	18.0
	Basic	–	–	19.0	–	–	19.0
	Proficient	–	–	17.0	–	–	20.0
	Accomplished	–	–	18.0	–	–	27.0
	Advanced	–	–	28.0	–	–	16.0

Note. NHPI = Native Hawaiian or Pacific Islander. Other racial categories include Multi-race and Not Specified.

3.2. Descriptive Statistics

Table 3.4 presents descriptive statistics of the MAP Growth and OST test scores in mathematics and ELA/reading from Spring 2022 and in science from Spring 2021, including the correlation coefficients (*r*) between them. The correlations between the scores range from 0.77 to 0.86 for mathematics, 0.77 to 0.81 for ELA/reading, and 0.71 or 0.73 for science. 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 OST assessments.

Table 3.4. Descriptive Statistics of Test Scores

Grade	N	*r*	OST				MAP Growth			
			Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
Mathematics										
3	12,291	0.85	710.4	48.5	587	818	200.7	16.0	132	266
4	12,401	0.86	719.7	50.4	605	835	210.0	18.0	129	274
5	11,440	0.84	704.1	38.3	624	804	215.9	19.2	126	283
6	11,602	0.85	700.0	38.5	616	790	220.3	17.9	153	284
7	10,375	0.84	697.8	36.1	605	806	224.2	19.0	157	283
8	7,697	0.77	698.1	23.7	633	774	224.1	17.3	159	293
ELA/Reading										
3	12,055	0.77	709.5	46.8	545	863	197.1	17.5	132	246
4	12,378	0.81	712.7	49.6	549	846	204.9	17.5	140	251
5	11,828	0.79	716.0	46.8	552	848	209.5	17.3	141	263
6	11,696	0.80	703.7	41.7	555	851	213.6	16.4	155	262
7	10,968	0.78	709.9	41.6	568	833	216.7	16.8	151	268
8	11,062	0.79	699.9	34.2	586	805	220.0	17.0	150	276
Science										
5	3,626	0.71	715.6	50.4	571	845	208.3	14.1	156	254
8	4,160	0.73	716.2	47.0	587	868	214.6	14.7	158	259

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

3.3. MAP Growth Cut Scores

Table 3.5 through Table 3.7 present the OST scale score ranges and the corresponding MAP Growth RIT cut scores and percentile ranges by content area and grade. Bold numbers highlight the cut scores considered to be at least proficient for accountability purposes. These tables can be used to gauge a student's likely performance level based on the OST spring assessments when MAP Growth is taken in the fall, winter, or spring. For example, a grade 3 student who obtained a MAP Growth mathematics RIT score of 186 in the fall is likely to achieve *Proficient* performance on the OST mathematics test. The same is true for a grade 3 student who obtained a MAP Growth mathematics RIT score of 195 in the winter. The winter cut score is higher than the fall cut score because of expected growth during the school year as students receive more instruction.

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 performance level could be different from the projections presented in this report. Partners are therefore encouraged to use the projected performance level in students' score reports since they reflect the specific instructional weeks set by partners.

Table 3.5. MAP Growth Cut Scores—Mathematics

OST Mathematics					
Grade	***Limited***	***Basic***	***Proficient***	***Accomplished***	***Advanced***
3	587–682	683–699	**700**–724	725–752	753–818
4	605–685	686–699	**700**–724	725–758	759–835
5	624–686	687–699	**700**–724	725–748	749–804
6	616–681	682–699	**700**–724	725–743	744–790
7	605–683	684–699	**700**–724	725–754	755–806
8	633–689	690–699	**700**–724	725–743	744–774

MAP Growth Mathematics										
Grade	***Limited***		***Basic***		***Proficient***		***Accomplished***		***Advanced***	
	RIT	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall										
2	100–166	1–34	167–174	35–54	**175**–184	55–77	185–195	78–92	196–350	93–99
3	100–179	1–39	180–185	40–54	**186**–193	55–73	194–202	74–88	203–350	89–99
4	100–190	1–34	191–195	35–46	**196**–205	47–70	206–215	71–87	216–350	88–99
5	100–200	1–36	201–208	37–56	**209**–220	57–81	221–229	82–92	230–350	93–99
6	100–205	1–39	206–214	40–61	**215**–223	62–80	224–232	81–91	233–350	92–99
7	100–213	1–42	214–221	43–60	**222**–233	61–83	234–247	84–95	248–350	96–99
8	100–216	1–38	217–224	39–55	**225**–239	56–83	240–249	84–93	250–350	94–99
Winter										
2	100–174	1–34	175–182	35–54	**183**–192	55–76	193–203	77–92	204–350	93–99
3	100–187	1–38	188–194	39–55	**195**–202	56–73	203–212	74–88	213–350	89–99
4	100–197	1–34	198–202	35–46	**203**–213	47–70	214–223	71–86	224–350	87–99
5	100–206	1–38	207–214	39–56	**215**–226	57–80	227–236	81–92	237–350	93–99
6	100–211	1–40	212–220	41–60	**221**–230	61–80	231–239	81–91	240–350	92–99
7	100–217	1–43	218–225	44–60	**226**–238	61–83	239–252	84–95	253–350	96–99
8	100–220	1–39	221–228	40–55	**229**–244	56–83	245–254	84–92	255–350	93–99
Spring										
2	100–181	1–36	182–188	37–53	**189**–197	54–73	198–207	74–89	208–350	90–99
3	100–194	1–39	195–200	40–53	**201**–208	54–71	209–217	72–86	218–350	87–99
4	100–203	1–36	204–208	37–47	**209**–218	48–68	219–228	69–84	229–350	85–99

MAP Growth Mathematics										
Grade	*Limited*		*Basic*		*Proficient*		*Accomplished*		*Advanced*	
	RIT	Percentile	RIT	Percentile	RIT	Percentile	RIT	Percentile	RIT	Percentile
5	103–210	1–38	211–218	39–55	**219**–230	56–78	231–240	79–90	241–350	91–99
6	102–215	1–40	216–224	41–59	**225**–234	60–78	235–243	79–89	244–350	90–99
7	105–220	1–43	221–228	44–60	**229**–240	61–80	241–254	81–94	255–350	95–99
8	105–223	1–39	224–231	40–55	**232**–246	56–81	247–256	82–91	257–350	92–99

Table 3.6. MAP Growth Cut Scores—ELA/Reading

OST ELA					
Grade	***Limited***	***Basic***	***Proficient***	***Accomplished***	***Advanced***
3	545–671	672–699	**700**–724	725–751	752–863
4	549–673	674–699	**700**–724	725–752	753–846
5	552–668	669–699	**700**–724	725–754	755–848
6	555–667	668–699	**700**–724	725–750	751–851
7	568–669	670–699	**700**–724	725–748	749–833
8	586–681	682–699	**700**–724	725–743	744–805

MAP Growth Reading										
Grade	*Limited*		*Basic*		*Proficient*		*Accomplished*		*Advanced*	
	RIT	Percentile	RIT	Percentile	RIT	Percentile	RIT	Percentile	RIT	Percentile
Fall										
2	100–155	1–20	156–172	21–56	**173**–182	57–76	183–195	77–93	196–350	94–99
3	100–173	1–27	174–186	28–54	**187**–195	55–72	196–206	73–88	207–350	89–99
4	100–186	1–30	187–196	31–51	**197**–205	52–70	206–214	71–85	215–350	86–99
5	100–187	1–17	188–200	18–43	**201**–209	44–63	210–220	64–83	221–350	84–99
6	100–195	1–21	196–210	22–54	**211**–220	55–75	221–228	76–87	229–350	88–99
7	100–197	1–19	198–211	20–48	**212**–221	49–71	222–229	72–84	230–350	85–99
8	100–209	1–36	210–218	37–57	**219**–229	58–79	230–237	80–89	238–350	90–99
Winter										
2	100–162	1–20	163–178	21–54	**179**–188	55–75	189–201	76–92	202–350	93–99
3	100–179	1–28	180–191	29–54	**192**–200	55–72	201–210	73–87	211–350	88–99
4	100–189	1–29	190–199	30–50	**200**–208	51–69	209–217	70–84	218–350	85–99

MAP Growth Reading										
Grade	*Limited*		*Basic*		*Proficient*		*Accomplished*		*Advanced*	
	RIT	Percentile	RIT	Percentile	RIT	Percentile	RIT	Percentile	RIT	Percentile
5	100–190	1–18	191–203	19–44	**204**–212	45–64	213–221	65–81	222–350	82–99
6	100–197	1–21	198–212	22–54	**213**–221	55–74	222–229	75–87	230–350	88–99
7	100–198	1–18	199–213	19–50	**214**–222	51–70	223–230	71–84	231–350	85–99
8	100–210	1–35	211–219	36–56	**220**–230	57–79	231–238	80–89	239–350	90–99
Spring										
2	100–169	1–24	170–183	25–54	**184**–192	55–73	193–203	74–89	204–350	90–99
3	100–184	1–30	185–195	31–54	**196**–203	55–70	204–212	71–84	213–350	85–99
4	100–193	1–31	194–202	32–51	**203**–210	52–68	211–218	69–82	219–350	83–99
5	100–194	1–21	195–205	22–44	**206**–213	45–62	214–222	63–79	223–350	80–99
6	100–200	1–24	201–213	25–54	**214**–222	55–73	223–230	74–86	231–350	87–99
7	100–201	1–22	202–214	23–49	**215**–223	50–70	224–231	71–83	232–350	84–99
8	100–212	1–38	213–220	39–56	**221**–231	57–79	232–239	80–89	240–350	90–99

Table 3.7. MAP Growth Cut Scores—Science

OST Science										
Grade	***Limited***		***Basic***		***Proficient***		***Accomplished***		***Advanced***	
5	559–663		664–699		**700**–724		725–752		753–845	
8	575–673		674–699		**700**–724		725–765		766–868	
MAP Growth Science										
Grade	***Limited***		***Basic***		***Proficient***		***Accomplished***		***Advanced***	
	RIT	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**	**RIT**	**Percentile**
Fall										
5	100–186	1–13	187–198	14–43	**199**–205	44–64	206–214	65–85	215–350	86–99
8	100–197	1–20	198–207	21–44	**208**–215	45–66	216–227	67–89	228–350	90–99
Winter										
5	100–189	1–14	190–201	15–43	**202**–208	44–63	209–217	64–84	218–350	85–99
8	100–198	1–19	199–208	20–42	**209**–217	43–66	218–228	67–87	229–350	88–99
Spring										
5	100–193	1–17	194–204	18–44	**205**–210	45–61	211–218	62–80	219–350	81–99
8	100–201	1–23	202–210	24–44	**211**–218	45–65	219–229	66–86	230–350	87–99

3.4. Third Grade Reading Guarantee

The purpose of Ohio's Third Grade Reading Guarantee (TGRG) program is to identify K–3 students who are behind in reading, allowing schools to provide additional support to help students achieve reading success by the end of grade 3. In June 2023, the Ohio State Board of Education decided that students who score 690 and higher on the OST ELA test or 48 and higher on the reading subscore will be eligible for TGRG promotion at the end of the year.[3] Table 3.8 presents the MAP Growth reading RIT cut scores corresponding to the TGRG promotion cuts, including the MAP Growth classification accuracy results based on a sample of 8,179 students for whom there is both MAP Growth reading RIT and OST reading subscore information from Spring 2022.

Table 3.8. MAP Growth Reading Grade 3 Cut Scores for Ohio's TGRG Program

Grade	OST Cut Score	MAP Growth Cut		Class. Accuracy
		RIT	Percentile	
OST ELA				
3	690	192	46	0.84
OST Reading				
3	48	192	46	0.86

Given the promotion cuts may change in a given year, Table 3.9 and Table 3.10 provide additional RIT scores corresponding to the OST ELA and reading scores below and above the current promotion cuts to extend the range of cut scores to cover all possible future OST promotion cuts.

Table 3.9. MAP Growth Reading Grade 3 Cut Scores for Ohio's TGRG Program Extended Above and Below the Current Promotion Cuts—OST ELA

OST ELA	MAP Growth	
	RIT	Percentile
672	185	31
673	185	31
674	186	33
675	186	33
676	186	33
677	187	35
678	187	35
679	188	37
680	188	37
681	189	40
682	189	40
683	189	40
684	190	42
685	190	42
686	191	44
687	191	44

[3] https://education.ohio.gov/Topics/Learning-in-Ohio/Literacy/Third-grade-Reading-Guarantee

OST ELA	MAP Growth	
	RIT	Percentile
688	191	44
689	192	46
690	192	46
691	193	48
692	193	48
693	193	48
694	194	50
695	194	50
696	194	50
697	195	53
698	195	53
699	196	55
700	196	55

Table 3.10. MAP Growth Reading Grade 3 Cut Scores for Ohio's TGRG Program Extended Above and Below the Current Promotion Cuts—OST Reading

OST Reading	MAP Growth	
	RIT	Percentile
43	183	28
44	185	31
45	187	35
46	189	40
47	191	44
48	192	46
49	194	50
50	196	55
51	197	57
52	199	61
53	200	63
54	202	67
55	203	69
56	205	73

3.5. Classification Accuracy

Table 3.11 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 OST tests, providing insight into the predictive validity of MAP Growth. The overall classification accuracy rates range from 0.82 to 0.88 for mathematics, 0.81 to 0.84 for ELA/reading, and 0.82 for science. These values suggest that the RIT cut scores are effective at classifying students as proficient or not proficient on the OST assessment.

Although the results show that MAP Growth scores can be used to predict student proficiency with relatively high accuracy on the OST tests, there is a notable limitation to how these results should be used and interpreted. The OST and MAP Growth assessments are designed for different purposes and measure slightly different constructs even within the same content area. Therefore, scores on these tests cannot be assumed to be interchangeable. MAP Growth may not be used as a substitute for the state tests and vice versa.

Table 3.11. Classification Accuracy Results

Grade	N	Cut Score		Class. Accuracy	Rate		Sensitivity	Specificity	Precision	AUC
		MAP Growth	OST		FP	FN				
Mathematics										
3	12,291	199	700	0.87	0.18	0.09	0.91	0.82	0.88	0.93
4	12,401	205	700	0.88	0.19	0.08	0.92	0.81	0.90	0.94
5	11,440	216	700	0.87	0.14	0.11	0.89	0.86	0.88	0.94
6	11,602	222	700	0.88	0.11	0.13	0.87	0.89	0.88	0.94
7	10,375	227	700	0.87	0.12	0.13	0.87	0.88	0.86	0.94
8	7,697	228	700	0.82	0.18	0.18	0.82	0.82	0.77	0.90
ELA/Reading										
3	12,055	196	700	0.82	0.23	0.14	0.86	0.77	0.84	0.89
4	12,378	203	700	0.84	0.20	0.13	0.87	0.80	0.88	0.91
5	11,828	206	700	0.84	0.23	0.12	0.88	0.77	0.87	0.90
6	11,696	214	700	0.82	0.20	0.16	0.84	0.80	0.84	0.90
7	10,968	215	700	0.83	0.22	0.13	0.87	0.78	0.86	0.90
8	11,062	221	700	0.81	0.20	0.17	0.83	0.80	0.82	0.89
Science										
5	3,626	205	700	0.82	0.25	0.15	0.85	0.75	0.85	0.87
8	4,160	211	700	0.82	0.24	0.14	0.86	0.76	0.86	0.88

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

3.6. Proficiency Projections

Table 3.12 through Table 3.14 present the estimated probability of achieving *Proficient* performance on the OST tests 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 OST. Instead, they indicate a 50% chance that a student will reach a particular performance level. Therefore, these projections further elucidate the *Proficient* cut scores by providing the likelihood of reaching proficiency on the OST in the spring at a given percentile throughout the year. For example, the grade 3 fall proficient RIT cut score for mathematics is 186, which indicates a 50% chance of achieving proficiency in the spring, as shown in Table 3.12. Additionally, an educator can also use the table to estimate that a grade 3 student who obtained a MAP Growth mathematics score of 195 in the winter has a 50% probability of reaching *Proficient* or higher on the OST mathematics spring summative assessment.

Table 3.12. Proficiency Projections 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	189	147	No	<0.01	155	No	<0.01	161	No	<0.01
	10	189	153	No	0.01	161	No	<0.01	167	No	<0.01
	15	189	157	No	0.03	165	No	0.02	171	No	<0.01
	20	189	160	No	0.06	168	No	0.04	174	No	<0.01
	25	189	162	No	0.09	171	No	0.07	177	No	<0.01
	30	189	165	No	0.14	173	No	0.12	179	No	<0.01
	35	189	167	No	0.2	175	No	0.18	181	No	0.01
	40	189	169	No	0.27	177	No	0.25	183	No	0.04
	45	189	171	No	0.36	179	No	0.3	185	No	0.13
	50	189	173	No	0.45	181	No	0.4	187	No	0.28
	55	189	175	Yes	0.5	183	Yes	0.5	189	Yes	0.5
	60	189	177	Yes	0.6	185	Yes	0.6	192	Yes	0.8
	65	189	179	Yes	0.69	187	Yes	0.7	194	Yes	0.92
	70	189	181	Yes	0.77	189	Yes	0.75	196	Yes	0.98
	75	189	183	Yes	0.84	192	Yes	0.86	198	Yes	0.99
	80	189	186	Yes	0.89	194	Yes	0.91	201	Yes	>0.99
	85	189	189	Yes	0.94	197	Yes	0.96	204	Yes	>0.99
	90	189	193	Yes	0.97	201	Yes	0.98	208	Yes	>0.99
	95	189	198	Yes	0.99	207	Yes	>0.99	214	Yes	>0.99
3	5	201	158	No	<0.01	166	No	<0.01	171	No	<0.01
	10	201	164	No	<0.01	172	No	<0.01	177	No	<0.01
	15	201	168	No	0.01	176	No	0.01	181	No	<0.01
	20	201	171	No	0.03	179	No	0.02	185	No	<0.01
	25	201	174	No	0.06	182	No	0.05	188	No	<0.01
	30	201	176	No	0.1	184	No	0.08	190	No	<0.01
	35	201	178	No	0.15	186	No	0.13	193	No	0.01
	40	201	180	No	0.22	189	No	0.24	195	No	0.04

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
	45	201	182	No	0.3	191	No	0.34	197	No	0.13
	50	201	184	No	0.4	193	No	0.39	199	No	0.28
	55	201	186	Yes	0.5	195	Yes	0.5	201	Yes	0.5
	60	201	188	Yes	0.6	197	Yes	0.61	203	Yes	0.72
	65	201	190	Yes	0.7	199	Yes	0.71	206	Yes	0.92
	70	201	192	Yes	0.78	201	Yes	0.8	208	Yes	0.98
	75	201	195	Yes	0.87	204	Yes	0.89	211	Yes	>0.99
	80	201	197	Yes	0.92	206	Yes	0.94	213	Yes	>0.99
	85	201	200	Yes	0.96	210	Yes	0.97	217	Yes	>0.99
	90	201	204	Yes	0.99	214	Yes	0.99	221	Yes	>0.99
	95	201	210	Yes	>0.99	220	Yes	>0.99	227	Yes	>0.99
4	5	209	171	No	<0.01	176	No	<0.01	180	No	<0.01
	10	209	177	No	0.01	183	No	<0.01	187	No	<0.01
	15	209	181	No	0.03	187	No	0.01	191	No	<0.01
	20	209	184	No	0.07	190	No	0.03	195	No	<0.01
	25	209	186	No	0.11	193	No	0.08	198	No	<0.01
	30	209	189	No	0.19	196	No	0.16	201	No	0.01
	35	209	191	No	0.27	198	No	0.24	203	No	0.04
	40	209	193	No	0.35	200	No	0.33	206	No	0.2
	45	209	195	No	0.45	202	No	0.44	208	No	0.39
	50	209	197	Yes	0.55	204	Yes	0.56	210	Yes	0.61
	55	209	199	Yes	0.65	207	Yes	0.72	212	Yes	0.8
	60	209	201	Yes	0.73	209	Yes	0.76	215	Yes	0.96
	65	209	203	Yes	0.81	211	Yes	0.84	217	Yes	0.99
	70	209	205	Yes	0.87	213	Yes	0.9	220	Yes	>0.99
	75	209	208	Yes	0.93	216	Yes	0.96	222	Yes	>0.99
	80	209	210	Yes	0.96	219	Yes	0.98	225	Yes	>0.99
	85	209	214	Yes	0.99	222	Yes	0.99	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	209	217	Yes	>0.99	226	Yes	>0.99	233	Yes	>0.99
	95	209	223	Yes	>0.99	232	Yes	>0.99	240	Yes	>0.99
5	5	219	180	No	<0.01	183	No	<0.01	186	No	<0.01
	10	219	185	No	<0.01	189	No	<0.01	192	No	<0.01
	15	219	189	No	<0.01	194	No	<0.01	197	No	<0.01
	20	219	193	No	0.01	197	No	0.01	200	No	<0.01
	25	219	195	No	0.03	200	No	0.02	204	No	<0.01
	30	219	198	No	0.08	203	No	0.04	206	No	<0.01
	35	219	200	No	0.12	205	No	0.08	209	No	<0.01
	40	219	202	No	0.19	207	No	0.13	211	No	0.01
	45	219	204	No	0.26	210	No	0.24	214	No	0.08
	50	219	206	No	0.35	212	No	0.33	216	No	0.2
	55	219	208	No	0.45	214	No	0.44	218	No	0.39
	60	219	210	Yes	0.55	216	Yes	0.56	221	Yes	0.72
	65	219	212	Yes	0.65	219	Yes	0.72	223	Yes	0.87
	70	219	215	Yes	0.78	221	Yes	0.8	226	Yes	0.98
	75	219	217	Yes	0.85	224	Yes	0.9	228	Yes	0.99
	80	219	220	Yes	0.92	226	Yes	0.94	232	Yes	>0.99
	85	219	223	Yes	0.96	230	Yes	0.98	235	Yes	>0.99
	90	219	227	Yes	0.99	234	Yes	>0.99	240	Yes	>0.99
	95	219	233	Yes	>0.99	240	Yes	>0.99	246	Yes	>0.99
6	5	225	184	No	<0.01	187	No	<0.01	190	No	<0.01
	10	225	190	No	<0.01	194	No	<0.01	197	No	<0.01
	15	225	194	No	<0.01	198	No	<0.01	201	No	<0.01
	20	225	197	No	0.01	201	No	<0.01	205	No	<0.01
	25	225	199	No	0.02	204	No	0.01	208	No	<0.01
	30	225	202	No	0.05	207	No	0.04	211	No	<0.01
	35	225	204	No	0.09	209	No	0.05	213	No	<0.01

Grade	Start Percentile	Spring Cut	Fall			Winter			Spring		
			Fall RIT	Projected Proficiency		Winter RIT	Projected Proficiency		Spring RIT	Projected Proficiency	
				Proficient	Prob.		*Proficient*	Prob.		*Proficient*	Prob.
	40	225	206	No	0.13	212	No	0.11	216	No	0.01
	45	225	208	No	0.19	214	No	0.17	218	No	0.02
	50	225	210	No	0.27	216	No	0.25	220	No	0.08
	55	225	212	No	0.36	218	No	0.34	223	No	0.28
	60	225	214	No	0.45	220	No	0.45	225	Yes	0.5
	65	225	216	Yes	0.55	223	Yes	0.61	227	Yes	0.72
	70	225	219	Yes	0.69	225	Yes	0.71	230	Yes	0.92
	75	225	221	Yes	0.81	228	Yes	0.83	233	Yes	0.99
	80	225	224	Yes	0.89	231	Yes	0.91	236	Yes	>0.99
	85	225	227	Yes	0.95	234	Yes	0.96	239	Yes	>0.99
	90	225	231	Yes	0.98	238	Yes	0.99	244	Yes	>0.99
	95	225	237	Yes	>0.99	245	Yes	>0.99	251	Yes	>0.99
7	5	229	189	No	<0.01	191	No	<0.01	192	No	<0.01
	10	229	195	No	<0.01	197	No	<0.01	199	No	<0.01
	15	229	199	No	<0.01	202	No	<0.01	204	No	<0.01
	20	229	203	No	0.01	206	No	<0.01	208	No	<0.01
	25	229	206	No	0.03	209	No	0.01	211	No	<0.01
	30	229	208	No	0.04	211	No	0.02	214	No	<0.01
	35	229	211	No	0.09	214	No	0.06	216	No	<0.01
	40	229	213	No	0.14	216	No	0.1	219	No	<0.01
	45	229	215	No	0.2	219	No	0.18	221	No	0.01
	50	229	217	No	0.27	221	No	0.26	224	No	0.08
	55	229	219	No	0.36	223	No	0.35	226	No	0.2
	60	229	222	Yes	0.5	226	Yes	0.5	229	Yes	0.5
	65	229	224	Yes	0.6	228	Yes	0.6	231	Yes	0.72
	70	229	226	Yes	0.69	231	Yes	0.7	234	Yes	0.92
	75	229	229	Yes	0.8	233	Yes	0.78	237	Yes	0.99
	80	229	232	Yes	0.89	236	Yes	0.88	240	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.
	85	229	235	Yes	0.94	240	Yes	0.96	244	Yes	>0.99
	90	229	239	Yes	0.98	245	Yes	0.99	249	Yes	>0.99
	95	229	246	Yes	>0.99	251	Yes	>0.99	256	Yes	>0.99
8	5	232	192	No	<0.01	194	No	<0.01	196	No	<0.01
	10	232	199	No	<0.01	201	No	<0.01	203	No	<0.01
	15	232	203	No	0.01	206	No	<0.01	208	No	<0.01
	20	232	207	No	0.02	210	No	0.01	212	No	<0.01
	25	232	210	No	0.04	213	No	0.02	215	No	<0.01
	30	232	212	No	0.07	216	No	0.05	218	No	<0.01
	35	232	215	No	0.13	219	No	0.1	221	No	<0.01
	40	232	217	No	0.18	221	No	0.16	224	No	0.01
	45	232	220	No	0.28	224	No	0.26	226	No	0.04
	50	232	222	No	0.37	226	No	0.35	229	No	0.2
	55	232	224	No	0.45	228	No	0.45	231	No	0.39
	60	232	227	Yes	0.59	231	Yes	0.6	234	Yes	0.72
	65	232	229	Yes	0.68	233	Yes	0.69	237	Yes	0.92
	70	232	232	Yes	0.79	236	Yes	0.81	239	Yes	0.98
	75	232	234	Yes	0.85	239	Yes	0.87	242	Yes	>0.99
	80	232	237	Yes	0.92	242	Yes	0.93	246	Yes	>0.99
	85	232	241	Yes	0.97	246	Yes	0.98	250	Yes	>0.99
	90	232	246	Yes	0.99	251	Yes	>0.99	255	Yes	>0.99
	95	232	252	Yes	>0.99	258	Yes	>0.99	262	Yes	>0.99

Table 3.13. Proficiency Projections 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	184	142	No	<0.01	149	No	<0.01	153	No	<0.01
	10	184	148	No	0.01	155	No	<0.01	159	No	<0.01
	15	184	152	No	0.02	159	No	0.02	164	No	<0.01
	20	184	156	No	0.06	162	No	0.04	167	No	<0.01
	25	184	159	No	0.09	165	No	0.06	170	No	<0.01
	30	184	161	No	0.13	168	No	0.11	173	No	<0.01
	35	184	163	No	0.19	170	No	0.17	175	No	0.01
	40	184	166	No	0.25	172	No	0.24	177	No	0.02
	45	184	168	No	0.33	175	No	0.32	180	No	0.13
	50	184	170	No	0.41	177	No	0.41	182	No	0.28
	55	184	172	No	0.46	179	Yes	0.5	184	Yes	0.5
	60	184	174	Yes	0.54	181	Yes	0.55	186	Yes	0.72
	65	184	177	Yes	0.67	183	Yes	0.64	188	Yes	0.87
	70	184	179	Yes	0.71	186	Yes	0.76	191	Yes	0.98
	75	184	182	Yes	0.81	188	Yes	0.83	193	Yes	0.99
	80	184	184	Yes	0.87	191	Yes	0.89	196	Yes	>0.99
	85	184	188	Yes	0.93	194	Yes	0.94	200	Yes	>0.99
	90	184	192	Yes	0.97	199	Yes	0.98	204	Yes	>0.99
	95	184	198	Yes	0.99	205	Yes	>0.99	210	Yes	>0.99
3	5	196	155	No	<0.01	160	No	<0.01	164	No	<0.01
	10	196	161	No	<0.01	167	No	<0.01	171	No	<0.01
	15	196	166	No	0.02	171	No	0.01	175	No	<0.01
	20	196	169	No	0.04	175	No	0.04	179	No	<0.01
	25	196	172	No	0.07	178	No	0.06	182	No	<0.01
	30	196	175	No	0.11	180	No	0.09	184	No	<0.01
	35	196	178	No	0.18	183	No	0.17	187	No	0.01
	40	196	180	No	0.25	185	No	0.2	189	No	0.02

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	196	182	No	0.29	188	No	0.32	192	No	0.13
	50	196	185	No	0.41	190	No	0.41	194	No	0.28
	55	196	187	Yes	0.5	192	Yes	0.5	196	Yes	0.5
	60	196	189	Yes	0.59	194	Yes	0.55	198	Yes	0.72
	65	196	192	Yes	0.67	197	Yes	0.68	201	Yes	0.92
	70	196	194	Yes	0.75	199	Yes	0.76	203	Yes	0.98
	75	196	197	Yes	0.82	202	Yes	0.86	206	Yes	>0.99
	80	196	200	Yes	0.89	205	Yes	0.91	209	Yes	>0.99
	85	196	204	Yes	0.94	209	Yes	0.96	213	Yes	>0.99
	90	196	208	Yes	0.98	213	Yes	0.98	217	Yes	>0.99
	95	196	215	Yes	>0.99	220	Yes	>0.99	224	Yes	>0.99
4	5	203	166	No	<0.01	170	No	<0.01	173	No	<0.01
	10	203	173	No	0.01	177	No	<0.01	179	No	<0.01
	15	203	177	No	0.02	181	No	0.02	184	No	<0.01
	20	203	181	No	0.05	184	No	0.03	187	No	<0.01
	25	203	184	No	0.1	187	No	0.07	190	No	<0.01
	30	203	186	No	0.12	190	No	0.13	193	No	<0.01
	35	203	189	No	0.2	193	No	0.19	195	No	0.01
	40	203	191	No	0.28	195	No	0.27	198	No	0.08
	45	203	194	No	0.36	197	No	0.35	200	No	0.2
	50	203	196	No	0.45	199	No	0.45	202	No	0.39
	55	203	198	Yes	0.55	202	Yes	0.55	204	Yes	0.61
	60	203	200	Yes	0.64	204	Yes	0.65	207	Yes	0.87
	65	203	203	Yes	0.72	206	Yes	0.73	209	Yes	0.96
	70	203	205	Yes	0.8	209	Yes	0.84	211	Yes	0.99
	75	203	208	Yes	0.88	211	Yes	0.87	214	Yes	>0.99
	80	203	211	Yes	0.92	214	Yes	0.93	217	Yes	>0.99
	85	203	215	Yes	0.97	218	Yes	0.98	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	203	219	Yes	0.99	222	Yes	0.99	225	Yes	>0.99
	95	203	226	Yes	>0.99	229	Yes	>0.99	231	Yes	>0.99
5	5	206	175	No	<0.01	178	No	<0.01	180	No	<0.01
	10	206	181	No	0.02	184	No	0.01	186	No	<0.01
	15	206	186	No	0.06	189	No	0.05	191	No	<0.01
	20	206	189	No	0.11	192	No	0.1	194	No	<0.01
	25	206	192	No	0.16	195	No	0.15	197	No	0.01
	30	206	195	No	0.27	197	No	0.22	199	No	0.02
	35	206	197	No	0.36	200	No	0.35	202	No	0.13
	40	206	199	No	0.4	202	No	0.45	204	No	0.28
	45	206	201	Yes	0.5	204	Yes	0.5	206	Yes	0.5
	50	206	204	Yes	0.64	206	Yes	0.6	208	Yes	0.72
	55	206	206	Yes	0.69	209	Yes	0.74	211	Yes	0.92
	60	206	208	Yes	0.77	211	Yes	0.78	213	Yes	0.98
	65	206	210	Yes	0.84	213	Yes	0.85	215	Yes	0.99
	70	206	213	Yes	0.89	215	Yes	0.9	217	Yes	>0.99
	75	206	215	Yes	0.93	218	Yes	0.95	220	Yes	>0.99
	80	206	218	Yes	0.97	221	Yes	0.98	223	Yes	>0.99
	85	206	222	Yes	0.99	224	Yes	0.99	226	Yes	>0.99
	90	206	226	Yes	>0.99	228	Yes	>0.99	230	Yes	>0.99
	95	206	232	Yes	>0.99	235	Yes	>0.99	237	Yes	>0.99
6	5	214	181	No	<0.01	183	No	<0.01	185	No	<0.01
	10	214	187	No	0.01	189	No	<0.01	191	No	<0.01
	15	214	191	No	0.02	193	No	0.01	195	No	<0.01
	20	214	195	No	0.04	197	No	0.04	198	No	<0.01
	25	214	198	No	0.09	199	No	0.06	201	No	<0.01
	30	214	200	No	0.11	202	No	0.1	203	No	<0.01
	35	214	202	No	0.16	204	No	0.16	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	214	205	No	0.27	206	No	0.22	208	No	0.04
	45	214	207	No	0.31	209	No	0.35	210	No	0.13
	50	214	209	No	0.4	211	No	0.4	212	No	0.28
	55	214	211	Yes	0.5	213	Yes	0.5	214	Yes	0.5
	60	214	213	Yes	0.6	215	Yes	0.6	216	Yes	0.72
	65	214	215	Yes	0.64	217	Yes	0.69	218	Yes	0.87
	70	214	218	Yes	0.77	219	Yes	0.78	221	Yes	0.98
	75	214	220	Yes	0.84	222	Yes	0.87	223	Yes	0.99
	80	214	223	Yes	0.91	225	Yes	0.94	226	Yes	>0.99
	85	214	226	Yes	0.96	228	Yes	0.97	229	Yes	>0.99
	90	214	231	Yes	0.99	232	Yes	0.99	233	Yes	>0.99
	95	214	237	Yes	>0.99	238	Yes	>0.99	239	Yes	>0.99
7	5	215	185	No	<0.01	186	No	<0.01	187	No	<0.01
	10	215	191	No	0.01	192	No	0.01	193	No	<0.01
	15	215	195	No	0.04	196	No	0.03	197	No	<0.01
	20	215	198	No	0.06	200	No	0.07	201	No	<0.01
	25	215	201	No	0.12	202	No	0.09	203	No	<0.01
	30	215	204	No	0.21	205	No	0.16	206	No	0.01
	35	215	206	No	0.24	207	No	0.23	208	No	0.02
	40	215	208	No	0.32	210	No	0.36	211	No	0.13
	45	215	210	No	0.41	212	No	0.4	213	No	0.28
	50	215	212	Yes	0.5	214	Yes	0.5	215	Yes	0.5
	55	215	214	Yes	0.55	216	Yes	0.6	217	Yes	0.72
	60	215	217	Yes	0.68	218	Yes	0.69	219	Yes	0.87
	65	215	219	Yes	0.76	220	Yes	0.77	221	Yes	0.96
	70	215	221	Yes	0.82	223	Yes	0.86	224	Yes	0.99
	75	215	224	Yes	0.9	225	Yes	0.91	226	Yes	>0.99
	80	215	226	Yes	0.94	228	Yes	0.96	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.
	85	215	230	Yes	0.98	231	Yes	0.98	232	Yes	>0.99
	90	215	234	Yes	0.99	235	Yes	0.99	237	Yes	>0.99
	95	215	240	Yes	>0.99	241	Yes	>0.99	243	Yes	>0.99
8	5	221	188	No	<0.01	189	No	<0.01	190	No	<0.01
	10	221	194	No	0.01	195	No	<0.01	196	No	<0.01
	15	221	198	No	0.02	199	No	0.01	200	No	<0.01
	20	221	201	No	0.04	203	No	0.04	203	No	<0.01
	25	221	204	No	0.07	205	No	0.05	206	No	<0.01
	30	221	207	No	0.11	208	No	0.1	209	No	<0.01
	35	221	209	No	0.15	210	No	0.14	211	No	<0.01
	40	221	211	No	0.21	213	No	0.2	213	No	0.01
	45	221	214	No	0.29	215	No	0.28	216	No	0.08
	50	221	216	No	0.37	217	No	0.36	218	No	0.2
	55	221	218	No	0.45	219	No	0.45	220	No	0.39
	60	221	220	Yes	0.55	221	Yes	0.55	222	Yes	0.61
	65	221	222	Yes	0.63	223	Yes	0.64	224	Yes	0.8
	70	221	225	Yes	0.75	226	Yes	0.76	227	Yes	0.96
	75	221	227	Yes	0.82	228	Yes	0.83	229	Yes	0.99
	80	221	230	Yes	0.89	231	Yes	0.9	232	Yes	>0.99
	85	221	233	Yes	0.94	235	Yes	0.96	236	Yes	>0.99
	90	221	238	Yes	0.98	239	Yes	0.99	240	Yes	>0.99
	95	221	244	Yes	>0.99	245	Yes	>0.99	246	Yes	>0.99

Table 3.14. Proficiency Projections Based on RIT Scores—Science

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.
5	5	205	179	No	0.01	182	No	<0.01	184	No	<0.01
	10	205	184	No	0.04	187	No	0.02	189	No	<0.01
	15	205	187	No	0.07	190	No	0.05	192	No	<0.01
	20	205	190	No	0.14	193	No	0.12	195	No	<0.01
	25	205	192	No	0.21	195	No	0.15	197	No	0.01
	30	205	194	No	0.25	197	No	0.23	199	No	0.04
	35	205	196	No	0.34	199	No	0.33	201	No	0.13
	40	205	198	No	0.45	201	No	0.44	203	No	0.28
	45	205	199	Yes	0.5	203	Yes	0.56	205	Yes	0.5
	50	205	201	Yes	0.61	204	Yes	0.56	207	Yes	0.72
	55	205	203	Yes	0.66	206	Yes	0.67	208	Yes	0.8
	60	205	204	Yes	0.71	208	Yes	0.77	210	Yes	0.92
	65	205	206	Yes	0.79	209	Yes	0.81	212	Yes	0.98
	70	205	208	Yes	0.86	211	Yes	0.88	214	Yes	0.99
	75	205	210	Yes	0.91	213	Yes	0.93	216	Yes	>0.99
	80	205	212	Yes	0.95	216	Yes	0.96	218	Yes	>0.99
	85	205	215	Yes	0.97	218	Yes	0.98	221	Yes	>0.99
	90	205	218	Yes	0.99	221	Yes	0.99	224	Yes	>0.99
	95	205	223	Yes	>0.99	226	Yes	>0.99	229	Yes	>0.99
8	5	211	186	No	0.01	187	No	<0.01	188	No	<0.01
	10	211	191	No	0.03	193	No	0.02	194	No	<0.01
	15	211	195	No	0.08	196	No	0.05	197	No	<0.01
	20	211	198	No	0.13	199	No	0.11	200	No	<0.01
	25	211	200	No	0.19	202	No	0.17	203	No	0.01
	30	211	202	No	0.26	204	No	0.25	205	No	0.04
	35	211	204	No	0.35	206	No	0.34	207	No	0.13
	40	211	206	No	0.45	208	No	0.45	209	No	0.28

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	211	208	Yes	0.5	210	Yes	0.55	211	Yes	0.5
	50	211	210	Yes	0.6	211	Yes	0.55	213	Yes	0.72
	55	211	211	Yes	0.65	213	Yes	0.66	215	Yes	0.87
	60	211	213	Yes	0.74	215	Yes	0.75	217	Yes	0.96
	65	211	215	Yes	0.81	217	Yes	0.83	219	Yes	0.99
	70	211	217	Yes	0.84	219	Yes	0.89	221	Yes	>0.99
	75	211	219	Yes	0.9	221	Yes	0.93	223	Yes	>0.99
	80	211	222	Yes	0.95	224	Yes	0.97	226	Yes	>0.99
	85	211	224	Yes	0.97	227	Yes	0.99	228	Yes	>0.99
	90	211	228	Yes	0.99	230	Yes	>0.99	232	Yes	>0.99
	95	211	233	Yes	>0.99	236	Yes	>0.99	238	Yes	>0.99

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