

A Study of the Alignment of the NWEA RIT Scale with the Michigan Assessment System

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May, 2007 – Revised Version

The following report replaces the March, 2007 alignment study and provides updated cut scores and probability tables. Cut scores and probability tables from the March, 2007 report should not be used. NWEA's Dynamic Reporting Suite tables will reflect the cut scores and probability tables in this report.

Recently, NWEA completed a project to connect the scale of the tests used for Michigan mathematics and reading assessments with NWEA's RIT scale. Information from the Michigan assessments was used in a study to establish performance-level scores on the RIT scale that would indicate a good chance of success on these tests.

To perform the analysis, we linked aggregate state test results with NWEA test results for all schools whose NWEA test count for a grade and subject was between 95% and 105% of the count tested on the state assessment. This provided assurance that only schools that had tested a very similar population on both tests were included.

The Michigan state test is administered in fall. For the fall season, an equipercentile method was used to estimate the RIT score equivalent to each state performance level. For fall, we determined the percentage of the population within the selected study group that performed at each level on the state test and found the equivalent percentile ranges within the NWEA dataset to estimate the cut scores. For example, if 40% of the study group population in grade 3 mathematics performed below the proficient level on the state test, we would find the RIT score that would be equivalent to the 40th percentile for the study population (this would not be the same as the 40th percentile in the NWEA norms). This RIT score would be the estimated point on the NWEA RIT scale that would be equivalent to the minimum score for proficiency on the state test.

More complete documentation about this method can be found on our website.

Tables 1 through 4 show the best estimate of the RIT equivalent to each Michigan performance level for same-season (fall) and prior-season (spring) RIT scores. These tables may be used to identify students who may need additional help to perform well on these tests.

Tables 5 through 8 show the proportion of students achieving various RIT score ranges whom we estimate would achieve a proficient score on the state assessment. These tables can be used to assist in identifying students who are not likely to pass these assessments, thereby increasing the probability that intervention strategies will be planned and implemented.

Table 1 - Recommended same-season (fall) RIT cut scores for Michigan performance levels - Reading

Grade	Apprentice		Basic		Met Standards		Exceeded Standards	
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile	
3	<154	154	1	175	16	203	81	
4	<162	162	2	188	20	217	92	
5	<178	178	4	197	23	222	90	
6	<182	182	4	201	21	227	89	
7	<194	194	8	207	25	233	92	
8	<198	198	8	212	28	234	89	

Table 2 - Recommended same-season (fall) RIT cut scores for Michigan performance levels - Mathematics

Grade	Apprentice		Basic		Met Standards		Exceeded Standards	
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile	
3	<159	159	1	173	6	190	41	
4	<176	176	2	189	13	205	57	
5	<186	186	4	201	21	216	65	
6	<194	194	6	209	27	225	69	
7	<200	200	8	218	35	232	69	
8	<208	208	11	222	32	236	65	

Table 3 - Recommended prior-season (spring) RIT cut scores for Michigan performance levels - Reading

Grade	Apprentice	Basic	Met Standards		Exceeded Standards		
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile
3	<154	154	1	174	17	201	82
4	<161	161	2	187	21	216	93
5	<175	175	4	196	23	221	90
6	<182	182	4	201	21	226	90
7	<194	194	8	207	25	233	92
8	<196	196	8	212	30	235	90

Table 4 - Recommended prior-season (spring) RIT cut scores for Michigan performance levels - Mathematics

Grade	Apprentice	Basic	Met Standards		Exceeded Standards		
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile
3	<162	162	1	172	6	188	41
4	<173	173	2	188	13	204	57
5	<185	185	4	200	21	216	66
6	<195	195	6	210	28	226	70
7	<200	200	8	218	35	232	70
8	<206	206	11	221	32	236	66

Table 5 - Proportion of students passing the Michigan state reading assessment based on same-season (fall) reading RIT range

RIT Range	Percent in this range who pass					
	3	4	5	6	7	8
145	6%	2%	1%	0%	0%	0%
150	9%	3%	1%	1%	0%	0%
155	14%	4%	2%	1%	1%	0%
160	22%	7%	3%	2%	1%	1%
165	31%	11%	5%	3%	2%	1%
170	43%	17%	8%	5%	3%	2%
175	55%	25%	12%	8%	5%	3%
180	67%	36%	18%	13%	8%	5%
185	77%	48%	27%	20%	12%	8%
190	84%	60%	38%	29%	18%	12%
195	90%	71%	50%	40%	27%	18%
200	94%	80%	62%	52%	38%	27%
205	96%	87%	73%	64%	50%	38%
210	98%	92%	82%	75%	62%	50%
215	99%	95%	88%	83%	73%	62%
220	99%	97%	92%	89%	82%	73%
225	99%	98%	95%	93%	88%	82%
230	100%	99%	97%	96%	92%	88%
235	100%	99%	98%	97%	95%	92%
240	100%	100%	99%	98%	97%	95%
245	100%	100%	99%	99%	98%	97%
250	100%	100%	100%	99%	99%	98%
255	100%	100%	100%	100%	99%	99%

Table 6 - Proportion of students passing the Michigan state mathematics assessment based on same-season (fall) mathematics RIT range

RIT Range	Percent in this range who pass					
	3	4	5	6	7	8
145	7%	1%	0%	0%	0%	0%
150	11%	2%	1%	0%	0%	0%
155	17%	4%	1%	1%	0%	0%
160	25%	6%	2%	1%	0%	0%
165	36%	10%	3%	1%	1%	0%
170	48%	16%	5%	2%	1%	1%
175	60%	23%	8%	4%	2%	1%
180	71%	33%	13%	6%	3%	2%
185	80%	45%	20%	10%	4%	3%
190	87%	57%	29%	16%	7%	5%
195	92%	69%	40%	23%	11%	8%
200	95%	78%	52%	33%	17%	12%
205	97%	86%	64%	45%	25%	18%
210	98%	91%	75%	57%	36%	27%
215	99%	94%	83%	69%	48%	38%
220	99%	96%	89%	78%	60%	50%
225	100%	98%	93%	86%	71%	62%
230	100%	99%	96%	91%	80%	73%
235	100%	99%	97%	94%	87%	82%
240	100%	99%	98%	96%	92%	88%
245	100%	100%	99%	98%	95%	92%
250	100%	100%	99%	99%	97%	95%
255	100%	100%	100%	99%	98%	97%
260	100%	100%	100%	99%	99%	98%
265	100%	100%	100%	100%	99%	99%

Table 7 - Proportion of students passing the Michigan state reading assessment based on prior-season (spring) reading RIT range

RIT Range	Percent in this range who pass					
	3	4	5	6	7	8
145	6%	2%	1%	0%	0%	0%
150	10%	3%	1%	1%	0%	0%
155	16%	5%	2%	1%	1%	0%
160	23%	8%	3%	2%	1%	1%
165	33%	12%	5%	3%	2%	1%
170	45%	18%	8%	5%	3%	2%
175	57%	27%	13%	8%	5%	3%
180	69%	38%	20%	13%	8%	5%
185	78%	50%	29%	20%	12%	8%
190	86%	62%	40%	29%	18%	12%
195	91%	73%	52%	40%	27%	18%
200	94%	82%	64%	52%	38%	27%
205	96%	88%	75%	64%	50%	38%
210	98%	92%	83%	75%	62%	50%
215	99%	95%	89%	83%	73%	62%
220	99%	97%	93%	89%	82%	73%
225	99%	98%	96%	93%	88%	82%
230	100%	99%	97%	96%	92%	88%
235	100%	99%	98%	97%	95%	92%
240	100%	100%	99%	98%	97%	95%
245	100%	100%	99%	99%	98%	97%
250	100%	100%	100%	99%	99%	98%
255	100%	100%	100%	100%	99%	99%

*Note: the grade indicated in this table is the grade that the student will be in when the state assessment is administered. Example: A 2nd grade student takes the MAP test in the spring and scores a RIT of 180, a teacher would find 180 in the RIT Range column and then follow the 3rd grade column down to the 180 point and see that the probability that the student will pass the 3rd grade state assessment is 69%.

Table 8 - Proportion of students passing the Michigan state mathematics assessment based on prior-season (spring) mathematics RIT range

RIT Range	Percent in this range who pass					
	3	4	5	6	7	8
145	8%	2%	1%	0%	0%	0%
150	12%	3%	1%	0%	0%	0%
155	18%	4%	1%	1%	0%	0%
160	27%	7%	2%	1%	0%	0%
165	38%	11%	4%	1%	1%	0%
170	50%	17%	6%	2%	1%	1%
175	62%	25%	9%	4%	2%	1%
180	73%	36%	14%	6%	3%	2%
185	82%	48%	22%	9%	4%	3%
190	88%	60%	31%	14%	7%	5%
195	92%	71%	43%	22%	11%	8%
200	95%	80%	55%	31%	17%	13%
205	97%	87%	67%	43%	25%	20%
210	98%	92%	77%	55%	36%	29%
215	99%	95%	84%	67%	48%	40%
220	99%	97%	90%	77%	60%	52%
225	100%	98%	94%	84%	71%	64%
230	100%	99%	96%	90%	80%	75%
235	100%	99%	98%	94%	87%	83%
240	100%	100%	99%	96%	92%	89%
245	100%	100%	99%	98%	95%	93%
250	100%	100%	99%	99%	97%	96%
255	100%	100%	100%	99%	98%	97%
260	100%	100%	100%	99%	99%	98%
265	100%	100%	100%	100%	99%	99%

*Note: the grade indicated in this table is the grade that the student will be in when the state assessment is administered. Example: A 2nd grade student takes the MAP test in the spring and scores a RIT of 180, a teacher would find 180 in the RIT Range column and then follow the 3rd grade column down to the 180 point and see that the probability that the student will pass the 3rd grade state assessment is 73%.