

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

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Recently, NWEA completed a project to connect the scale of the tests used for Colorado mathematics and reading assessments with NWEA's RIT scale. Information from the Colorado 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 Colorado state test is administered in spring. For the spring season, an equipercentile method was used to estimate the RIT score equivalent to each state performance level. For spring, 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 Colorado performance level for same-season (spring) and prior-season (fall) 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 (spring) RIT cut scores for Colorado performance levels – Reading

Grade	Unsatisfactory	Partially Proficient		Proficient		Advanced	
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile
3	<175	175	7	191	28	217	94
4	<187	187	11	202	37	224	94
5	<194	194	11	206	32	227	91
6	<199	199	13	212	37	232	91
7	<205	205	17	216	40	237	93
8	<207	207	14	220	41	239	92
9	<201	201	7	220	34	245	96
10	<205	205	9	223	37	243	93

Table 2 – Recommended same-season (spring) RIT cut scores for Colorado performance levels – Mathematics

Grade	Unsatisfactory	Partially Proficient		Proficient		Advanced	
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile
3	<181	181	6	197	33	209	74
4	<191	191	8	204	31	220	77
5	<199	199	9	212	33	226	70
6	<207	207	16	222	45	236	78
7	<213	213	19	232	57	246	85
8	<222	222	25	237	56	250	82
9	<230	230	31	246	66	259	91
10	<234	234	33	251	72	266	96

Table 3 – Recommended prior-season (fall) RIT cut scores for Colorado performance levels – Reading

Grade	Unsatisfactory	Partially Proficient		Proficient		Advanced	
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile
3	<165	165	7	183	29	211	94
4	<180	180	11	197	39	218	94
5	<188	188	11	201	32	223	92
6	<195	195	13	208	37	228	91
7	<202	202	17	213	40	234	94
8	<204	204	14	217	42	236	92
9	<198	198	7	217	34	241	96
10	<205	205	9	222	37	242	93

Table 4 – Recommended prior-season (fall) RIT cut scores for Colorado performance levels – Mathematics

Grade	Unsatisfactory	Partially Proficient		Proficient		Advanced	
	Cut score	Cut score	Percentile	Cut score	Percentile	Cut score	Percentile
3	<173	173	6	188	35	200	74
4	<184	184	8	198	32	211	77
5	<193	193	9	206	34	218	70
6	<203	203	16	217	47	229	79
7	<210	210	20	227	57	240	86
8	<218	218	25	233	58	244	82
9	<225	225	31	241	68	253	91
10	<231	231	33	247	72	262	96

Table 5 – Proportion of students passing the Colorado state reading assessment based on same-season (spring) reading RIT range

RIT Range	Percent in this range who pass							
	3	4	5	6	7	8	9	10
160	5%	2%	1%	1%	0%	0%	0%	0%
165	8%	3%	2%	1%	1%	1%	1%	0%
170	13%	5%	3%	2%	1%	1%	1%	1%
175	20%	8%	5%	3%	2%	1%	1%	1%
180	29%	12%	8%	5%	3%	2%	2%	2%
185	40%	18%	13%	8%	5%	4%	4%	3%
190	52%	27%	20%	12%	8%	6%	6%	4%
195	64%	38%	29%	18%	13%	9%	9%	7%
200	75%	50%	40%	27%	20%	14%	14%	11%
205	83%	62%	52%	38%	29%	22%	22%	17%
210	89%	73%	64%	50%	40%	31%	31%	25%
215	93%	82%	75%	62%	52%	43%	43%	36%
220	96%	88%	83%	73%	64%	55%	55%	48%
225	97%	92%	89%	82%	75%	67%	67%	60%
230	98%	95%	93%	88%	83%	77%	77%	71%
235	99%	97%	96%	92%	89%	84%	84%	80%
240	99%	98%	97%	95%	93%	90%	90%	87%
245	100%	99%	98%	97%	96%	94%	94%	92%
250	100%	99%	99%	98%	97%	96%	96%	95%

Table 6 – Proportion of students passing the Colorado state mathematics assessment based on same-season (spring) mathematics RIT range

RIT Range	Percent in this range who pass							
	3	4	5	6	7	8	9	10
165	5%	2%	1%	0%	0%	0%	0%	0%
170	8%	4%	2%	1%	0%	0%	0%	0%
175	12%	6%	3%	1%	0%	0%	0%	0%
180	18%	10%	5%	2%	1%	0%	0%	0%
185	27%	16%	8%	3%	1%	1%	0%	0%
190	38%	23%	12%	5%	2%	1%	0%	0%
195	50%	33%	18%	8%	3%	2%	1%	0%
200	62%	45%	27%	12%	5%	3%	1%	1%
205	73%	57%	38%	18%	8%	5%	2%	1%
210	82%	69%	50%	27%	12%	8%	3%	2%
215	88%	78%	62%	38%	18%	12%	5%	3%
220	92%	86%	73%	50%	27%	18%	8%	5%
225	95%	91%	82%	62%	38%	27%	13%	8%
230	97%	94%	88%	73%	50%	38%	20%	13%
235	98%	96%	92%	82%	62%	50%	29%	20%
240	99%	98%	95%	88%	73%	62%	40%	29%
245	99%	99%	97%	92%	82%	73%	52%	40%
250	100%	99%	98%	95%	88%	82%	64%	52%
255	100%	99%	99%	97%	92%	88%	75%	64%
260	100%	100%	99%	98%	95%	92%	83%	75%
265	100%	100%	100%	99%	97%	95%	89%	83%
270	100%	100%	100%	99%	98%	97%	93%	89%
275	100%	100%	100%	100%	99%	98%	96%	93%
280	100%	100%	100%	100%	99%	99%	97%	96%

Table 7 – Proportion of students passing the Colorado state reading assessment based on prior-season (fall) reading RIT range

RIT Range	Percent in this range who pass							
	3	4	5	6	7	8	9	10
155	7%	2%	1%	1%	0%	0%	0%	0%
160	11%	3%	2%	1%	1%	0%	0%	0%
165	17%	5%	3%	2%	1%	1%	1%	0%
170	25%	8%	5%	3%	2%	1%	1%	1%
175	36%	12%	8%	4%	3%	2%	2%	1%
180	48%	18%	13%	7%	4%	3%	3%	2%
185	60%	27%	20%	11%	7%	5%	5%	3%
190	71%	38%	29%	17%	11%	8%	8%	5%
195	80%	50%	40%	25%	17%	12%	12%	8%
200	87%	62%	52%	36%	25%	18%	18%	12%
205	92%	73%	64%	48%	36%	27%	27%	18%
210	95%	82%	75%	60%	48%	38%	38%	27%
215	97%	88%	83%	71%	60%	50%	50%	38%
220	98%	92%	89%	80%	71%	62%	62%	50%
225	99%	95%	93%	87%	80%	73%	73%	62%
230	99%	97%	96%	92%	87%	82%	82%	73%
235	100%	98%	97%	95%	92%	88%	88%	82%
240	100%	99%	98%	97%	95%	92%	92%	88%
245	100%	99%	99%	98%	97%	95%	95%	92%
250	100%	100%	99%	99%	98%	97%	97%	95%

Table 8 – Proportion of students passing the Colorado state mathematics assessment based on prior-season (fall) mathematics RIT range

RIT Range	Percent in this range who pass							
	3	4	5	6	7	8	9	10
160	7%	3%	1%	0%	0%	0%	0%	0%
165	11%	4%	2%	1%	0%	0%	0%	0%
170	17%	7%	3%	1%	0%	0%	0%	0%
175	25%	11%	5%	2%	1%	0%	0%	0%
180	36%	17%	8%	3%	1%	1%	0%	0%
185	48%	25%	13%	5%	2%	1%	0%	0%
190	60%	36%	20%	8%	3%	2%	1%	0%
195	71%	48%	29%	12%	5%	3%	1%	1%
200	80%	60%	40%	18%	8%	4%	2%	1%
205	87%	71%	52%	27%	12%	7%	3%	2%
210	92%	80%	64%	38%	18%	11%	5%	3%
215	95%	87%	75%	50%	27%	17%	8%	5%
220	97%	92%	83%	62%	38%	25%	13%	8%
225	98%	95%	89%	73%	50%	36%	20%	12%
230	99%	97%	93%	82%	62%	48%	29%	18%
235	99%	98%	96%	88%	73%	60%	40%	27%
240	100%	99%	97%	92%	82%	71%	52%	38%
245	100%	99%	98%	95%	88%	80%	64%	50%
250	100%	100%	99%	97%	92%	87%	75%	62%
255	100%	100%	99%	98%	95%	92%	83%	73%
260	100%	100%	100%	99%	97%	95%	89%	82%
265	100%	100%	100%	99%	98%	97%	93%	88%
270	100%	100%	100%	100%	99%	98%	96%	92%
275	100%	100%	100%	100%	99%	99%	97%	95%