

# INDIANA ALIGNMENT

A Study of the Alignment of the NWEA RIT Scale  
with the Indiana Statewide Testing for Educational Progress-  
Plus (ISTEP+)

March 2010

The Kingsbury Center at Northwest Evaluation Association

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# A STUDY OF THE ALIGNMENT OF THE NWEA RIT SCALE WITH THE INDIANA STATEWIDE TESTING FOR EDUCATIONAL PROGRESS-PLUS (ISTEP+)

KINGSBURY CENTER AT NWEA

MARCH 2010

Recently, NWEA completed a project to connect the scale of the Indiana Statewide Testing for Educational Progress-Plus (ISTEP+) mathematics, reading, and language assessments with NWEA's RIT scale. Information from the state 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 together state test and NWEA test results for a sample of approximately 115,000 Indiana students from 445 schools, who completed both exams in the spring of 2009. 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 40<sup>th</sup> percentile for the study population (this would not be the same as the 40<sup>th</sup> 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 6 show the best estimate of the minimum RIT equivalent to each state performance level for same-season (spring) and prior-season (fall) RIT scores. These tables can be used to identify students who may need additional help to perform well on these tests.

Tables 7 through 12 show the estimated probability of a student receiving a proficient score on the state assessment, based on that student's RIT score. 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. These tables can also be useful for identifying target RIT-score objectives likely to correspond to successful or "proficient" performance on the state test.

TABLE 1 – MINIMUM ESTIMATED SAME-SEASON (SPRING) RIT CUT SCORES  
CORRESPONDING TO STATE PERFORMANCE LEVELS – MATHEMATICS

MATH-Current Season					
Cut Scores and Percentiles for each State Performance Level					
Grade	Did Not Pass	Pass		Pass Plus	
	Cut Score	Cut Score	Percentile	Cut Score	Percentile
<b>2</b>	<b>&lt;185</b>	<b>185</b>	<b>33</b>	<b>202</b>	<b>83</b>
3	<198	198	33	214	83
4	<207	207	36	225	83
5	<211	211	28	232	79
6	<217	217	31	241	87
7	<223	223	35	245	84
8	<228	228	36	252	87

Note: the cut scores shown in this table are the **minimum** estimated scores. Meeting the minimum MAP cut score corresponds to a 50% probability of achieving that performance level. Use the probabilities in Tables 5-8 to determine the appropriate ‘target’ scores for a desired level of certainty. Bolded, italics represent extrapolated data.

TABLE 2 – MINIMUM ESTIMATED SAME-SEASON (SPRING) RIT CUT SCORES  
CORRESPONDING TO STATE PERFORMANCE LEVELS – READING

Reading-Current Season					
Cut Scores and Percentiles for each State Performance Level					
Grade	Did Not Pass	Pass		Pass Plus	
	Cut Score	Cut Score	Percentile	Cut Score	Percentile
<b>2</b>	<b>&lt;182</b>	<b>182</b>	<b>28</b>	<b>207</b>	<b>91</b>
3	<192	192	28	216	91
4	<200	200	30	220	86
5	<207	207	33	226	87
6	<210	210	31	229	85
7	<214	214	34	234	88
8	<218	218	36	239	92

Note: the cut scores shown in this table are the **minimum** estimated scores. Meeting the minimum MAP cut score corresponds to a 50% probability of achieving that performance level. Use the probabilities in Tables 5-8 to determine the appropriate ‘target’ scores for a desired level of certainty. Bolded, italics represent extrapolated data.

TABLE 3 – MINIMUM ESTIMATED SAME-SEASON (SPRING) RIT CUT SCORES CORRESPONDING TO STATE PERFORMANCE LEVELS – LANGUAGE USAGE

Language Usage-Current Season					
Cut Scores and Percentiles for each State Performance Level					
Grade	Did Not Pass	Pass		Pass Plus	
	Cut Score	Cut Score	Percentile	Cut Score	Percentile
<b>2</b>	<b>&lt;184</b>	<b>184</b>	<b>27</b>	<b>209</b>	<b>93</b>
3	<194	194	27	218	93
4	<202	202	30	222	90
5	<209	209	36	227	91
6	<213	213	37	229	88
7	<216	216	39	233	91
8	<219	219	39	238	95

\*Note: the cut scores shown in this table are the **minimum** estimated scores. Meeting the minimum MAP cut score corresponds to a 50% probability of achieving that performance level. Use the probabilities in Tables 5-8 to determine the appropriate ‘target’ scores for a desired level of certainty. Bolded, italics represent extrapolated data.

TABLE 4 – MINIMUM ESTIMATED PRIOR-SEASON (FALL) RIT CUT SCORES CORRESPONDING TO STATE PERFORMANCE LEVELS – MATHEMATICS

MATH-Prior Season					
Cut Scores and Percentiles for each State Performance Level					
Grade	Did Not Pass	Pass		Pass Plus	
	Cut Score	Cut Score	Percentile	Cut Score	Percentile
<b>2</b>	<b>&lt;174</b>	<b>174</b>	<b>31</b>	<b>190</b>	<b>83</b>
3	<187	187	32	203	82
4	<199	199	35	214	81
5	<204	204	27	223	79
6	<211	211	29	235	87
7	<219	219	35	240	84
8	<224	224	35	248	87

\*Note: the cut scores shown in this table are the **minimum** estimated scores. Meeting the minimum MAP cut score corresponds to a 50% probability of achieving that performance level. Use the probabilities in Tables 5-8 to determine the appropriate ‘target’ scores for a desired level of certainty. Bolded, italics represent extrapolated data.

TABLE 5 – MINIMUM ESTIMATED PRIOR-SEASON (FALL) RIT CUT SCORES CORRESPONDING TO STATE PERFORMANCE LEVELS – READING

READING-Prior Season					
Cut Scores and Percentiles for each State Performance Level					
Grade	Did Not Pass	Pass		Pass Plus	
	Cut Score	Cut Score	Percentile	Cut Score	Percentile
<b>2</b>	<b>&lt;171</b>	<b>171</b>	<b>28</b>	<b>198</b>	<b>91</b>
3	<184	184	28	209	91
4	<194	194	30	214	85
5	<202	202	32	221	86
6	<206	206	30	225	84
7	<211	211	33	231	87
8	<216	216	36	237	92

Note: the cut scores shown in this table are the **minimum** estimated scores. Meeting the minimum MAP cut score corresponds to a 50% probability of achieving that performance level. Use the probabilities in Tables 5-8 to determine the appropriate ‘target’ scores for a desired level of certainty. Bolded, italics represent extrapolated data.

TABLE 6 – MINIMUM ESTIMATED PRIOR-SEASON (FALL) RIT CUT SCORES CORRESPONDING TO STATE PERFORMANCE LEVELS – LANGUAGE USAGE

Language Usage-Prior Season					
Cut Scores and Percentiles for each State Performance Level					
Grade	Did Not Pass	Pass		Pass Plus	
	Cut Score	Cut Score	Percentile	Cut Score	Percentile
<b>2</b>	<b>&lt;172</b>	<b>172</b>	<b>27</b>	<b>200</b>	<b>93</b>
3	<185	185	27	210	93
4	<195	195	30	216	90
5	<204	204	36	223	91
6	<209	209	37	225	88
7	<213	213	39	230	91
8	<217	217	39	236	95

Note: the cut scores shown in this table are the **minimum** estimated scores. Meeting the minimum MAP cut score corresponds to a 50% probability of achieving that performance level. Use the probabilities in Tables 5-8 to determine the appropriate ‘target’ scores for a desired level of certainty. Bolded, italics represent extrapolated data.

TABLE 7 –ESTIMATED PROBABILITY OF SCORING AS “PASSING” OR HIGHER ON THE STATE MATHEMATICS TEST IN SAME SEASON (SPRING), BY STUDENT GRADE AND RIT SCORE RANGE ON MAP MATHEMATICS

Math-Current Season							
Estimated Probability of Passing State Test Based on Observed MAP Score							
RIT Range	2	3	4	5	6	7	8
130	<b>0%</b>	0%	0%	0%	0%	0%	0%
135	<b>1%</b>	0%	0%	0%	0%	0%	0%
140	<b>1%</b>	0%	0%	0%	0%	0%	0%
145	<b>2%</b>	0%	0%	0%	0%	0%	0%
150	<b>3%</b>	1%	0%	0%	0%	0%	0%
155	<b>5%</b>	1%	1%	0%	0%	0%	0%
160	<b>8%</b>	2%	1%	1%	0%	0%	0%
165	<b>12%</b>	4%	1%	1%	1%	0%	0%
170	<b>18%</b>	6%	2%	2%	1%	0%	0%
175	<b>27%</b>	9%	4%	3%	1%	1%	0%
180	<b>38%</b>	14%	6%	4%	2%	1%	1%
185	<b>50%</b>	21%	10%	7%	4%	2%	1%
190	<b>62%</b>	31%	15%	11%	6%	4%	2%
195	<b>73%</b>	43%	23%	17%	10%	6%	4%
200	<b>82%</b>	55%	33%	25%	15%	9%	6%
205	<b>88%</b>	67%	45%	35%	23%	14%	9%
210	<b>92%</b>	77%	57%	48%	33%	21%	14%
215	<b>95%</b>	85%	69%	60%	45%	31%	21%
220	<b>97%</b>	90%	79%	71%	57%	43%	31%
225	<b>98%</b>	94%	86%	80%	69%	55%	43%
230	<b>99%</b>	96%	91%	87%	79%	67%	55%
235	<b>99%</b>	98%	94%	92%	86%	77%	67%
240	<b>100%</b>	99%	96%	95%	91%	85%	77%
245	<b>100%</b>	99%	98%	97%	94%	90%	85%
250	<b>100%</b>	99%	99%	98%	96%	94%	90%
255	<b>100%</b>	100%	99%	99%	98%	96%	94%
260	<b>100%</b>	100%	100%	99%	99%	98%	96%
265	<b>100%</b>	100%	100%	100%	99%	99%	98%
270	<b>100%</b>	100%	100%	100%	100%	99%	99%

\*Note: This table provides the estimated probability of passing the state test based on a MAP test score taken during that same (spring) season. Example: if a fifth grade student scored 200 on a MAP test taken during the spring season, her/his estimated probability of passing the state test is 25%. Bolded, italics represent extrapolated data.

TABLE 8 –ESTIMATED PROBABILITY OF SCORING AS “PASSING” OR HIGHER ON THE STATE ENGLISH LANGUAGE ARTS TEST IN SAME SEASON (SPRING), BY STUDENT GRADE AND RIT SCORE RANGE ON MAP READING

Reading-Current Season							
Estimated Probability of Passing State Test Based on Observed MAP Score							
RIT Range	2	3	4	5	6	7	8
130	1%	0%	0%	0%	0%	0%	0%
135	1%	0%	0%	0%	0%	0%	0%
140	1%	1%	0%	0%	0%	0%	0%
145	2%	1%	0%	0%	0%	0%	0%
150	4%	1%	1%	0%	0%	0%	0%
155	6%	2%	1%	1%	0%	0%	0%
160	10%	4%	2%	1%	1%	0%	0%
165	15%	6%	3%	1%	1%	1%	0%
170	23%	10%	5%	2%	2%	1%	1%
175	33%	15%	8%	4%	3%	2%	1%
180	45%	23%	12%	6%	5%	3%	2%
185	57%	33%	18%	10%	8%	5%	4%
190	69%	45%	27%	15%	12%	8%	6%
195	79%	57%	38%	23%	18%	13%	9%
200	86%	69%	50%	33%	27%	20%	14%
205	91%	79%	62%	45%	38%	29%	21%
210	94%	86%	73%	57%	50%	40%	31%
215	96%	91%	82%	69%	62%	52%	43%
220	98%	94%	88%	79%	73%	65%	55%
225	99%	96%	92%	86%	82%	75%	67%
230	99%	98%	95%	91%	88%	83%	77%
235	100%	99%	97%	94%	92%	89%	85%
240	100%	99%	98%	96%	95%	93%	90%
245	100%	100%	99%	98%	97%	96%	94%
250	100%	100%	99%	99%	98%	97%	96%
255	100%	100%	100%	99%	99%	98%	98%
260	100%	100%	100%	100%	99%	99%	99%
265	100%	100%	100%	100%	100%	99%	99%
270	100%	100%	100%	100%	100%	100%	99%

\*Note: This table provides the estimated probability of passing the state test based on a MAP test score taken during that same (spring) season. Example: if a fifth grade student scored 200 on a MAP test taken during the spring season, her/his estimated probability of passing the state test is 33%. Bolded, italics represent extrapolated data.



TABLE 9 –ESTIMATED PROBABILITY OF SCORING AS “PASSING” OR HIGHER ON THE STATE ENGLISH LANGUAGE ARTS TEST IN SAME SEASON (SPRING), BY STUDENT GRADE AND RIT SCORE RANGE ON MAP LANGUAGE USAGE

Language Usage-Current Season							
Estimated Probability of Passing State Test Based on Observed MAP Score							
RIT Range	2	3	4	5	6	7	8
130	<b>1%</b>	0%	0%	0%	0%	0%	0%
135	<b>1%</b>	0%	0%	0%	0%	0%	0%
140	<b>1%</b>	1%	0%	0%	0%	0%	0%
145	<b>2%</b>	1%	0%	0%	0%	0%	0%
150	<b>4%</b>	1%	1%	0%	0%	0%	0%
155	<b>6%</b>	2%	1%	1%	0%	0%	0%
160	<b>10%</b>	4%	2%	1%	1%	0%	0%
165	<b>16%</b>	6%	3%	1%	1%	1%	1%
170	<b>23%</b>	10%	5%	2%	2%	1%	1%
175	<b>33%</b>	16%	8%	4%	3%	2%	1%
180	<b>45%</b>	23%	12%	6%	4%	3%	2%
185	<b>57%</b>	33%	18%	10%	7%	5%	4%
190	<b>69%</b>	45%	27%	16%	11%	8%	6%
195	<b>78%</b>	57%	38%	23%	17%	13%	10%
200	<b>86%</b>	69%	50%	33%	25%	20%	16%
205	<b>91%</b>	78%	62%	45%	36%	29%	23%
210	<b>94%</b>	86%	73%	57%	48%	40%	33%
215	<b>96%</b>	91%	82%	69%	60%	52%	45%
220	<b>98%</b>	94%	88%	78%	71%	64%	57%
225	<b>99%</b>	96%	92%	86%	80%	75%	69%
230	<b>99%</b>	98%	95%	91%	87%	83%	78%
235	<b>99%</b>	99%	97%	94%	92%	89%	86%
240	<b>100%</b>	99%	98%	96%	95%	93%	91%
245	<b>100%</b>	99%	99%	98%	97%	96%	94%
250	<b>100%</b>	100%	99%	99%	98%	97%	96%
255	<b>100%</b>	100%	100%	99%	99%	98%	98%
260	<b>100%</b>	100%	100%	99%	99%	99%	99%
265	<b>100%</b>	100%	100%	100%	100%	99%	99%
270	<b>100%</b>	100%	100%	100%	100%	100%	99%

\*Note: This table provides the estimated probability of passing the state test based on a MAP test score taken during that same (spring) season. Example: if a fifth grade student scored 200 on a MAP test taken during the spring season, her/his estimated probability of passing the state test is 33%. Bolded, italics represent extrapolated data.

TABLE 10 –ESTIMATED PROBABILITY OF SCORING AS “PASSING” OR HIGHER ON THE STATE MATHEMATICS TEST IN PRIOR SEASON (FALL), BY STUDENT GRADE AND RIT SCORE RANGE ON MAP MATHEMATICS

Math-Prior Season							
Estimated Probability of Passing State Test Based on Observed MAP Score							
RIT Range	2	3	4	5	6	7	8
130	<b>1%</b>	0%	0%	0%	0%	0%	0%
135	<b>2%</b>	1%	0%	0%	0%	0%	0%
140	<b>3%</b>	1%	0%	0%	0%	0%	0%
145	<b>5%</b>	1%	0%	0%	0%	0%	0%
150	<b>8%</b>	2%	1%	0%	0%	0%	0%
155	<b>13%</b>	4%	1%	1%	0%	0%	0%
160	<b>20%</b>	6%	2%	1%	1%	0%	0%
165	<b>29%</b>	10%	3%	2%	1%	0%	0%
170	<b>40%</b>	15%	5%	3%	2%	1%	0%
175	<b>52%</b>	23%	8%	5%	3%	1%	1%
180	<b>65%</b>	33%	13%	8%	4%	2%	1%
185	<b>75%</b>	45%	20%	13%	7%	3%	2%
190	<b>83%</b>	57%	29%	20%	11%	5%	3%
195	<b>89%</b>	69%	40%	29%	17%	8%	5%
200	<b>93%</b>	79%	52%	40%	25%	13%	8%
205	<b>96%</b>	86%	65%	52%	35%	20%	13%
210	<b>97%</b>	91%	75%	65%	48%	29%	20%
215	<b>98%</b>	94%	83%	75%	60%	40%	29%
220	<b>99%</b>	96%	89%	83%	71%	52%	40%
225	<b>99%</b>	98%	93%	89%	80%	65%	52%
230	<b>100%</b>	99%	96%	93%	87%	75%	65%
235	<b>100%</b>	99%	97%	96%	92%	83%	75%
240	<b>100%</b>	100%	98%	97%	95%	89%	83%
245	<b>100%</b>	100%	99%	98%	97%	93%	89%
250	<b>100%</b>	100%	99%	99%	98%	96%	93%
255	<b>100%</b>	100%	100%	99%	99%	97%	96%
260	<b>100%</b>	100%	100%	100%	99%	98%	97%
265	<b>100%</b>	100%	100%	100%	100%	99%	98%
270	<b>100%</b>	100%	100%	100%	100%	99%	99%

\*Note: This table provides the estimated probability of passing the state test based on a MAP test score taken during the prior (fall) season. Example: if a fifth grade student scored 200 on a MAP test taken during the fall season, her/his estimated probability of passing the state test is 40%. Bolded, italics represent extrapolated data.

TABLE 11 –ESTIMATED PROBABILITY OF SCORING AS “PASSING” OR HIGHER ON THE STATE ENGLISH LANGUAGE ARTS TEST IN PRIOR SEASON (FALL), BY STUDENT GRADE AND RIT SCORE RANGE ON MAP READING

Reading-Prior Season							
Estimated Probability of Passing State Test Based on Observed MAP Score							
RIT Range	2	3	4	5	6	7	8
130	<b>2%</b>	0%	0%	0%	0%	0%	0%
135	<b>3%</b>	1%	0%	0%	0%	0%	0%
140	<b>4%</b>	1%	0%	0%	0%	0%	0%
145	<b>7%</b>	2%	1%	0%	0%	0%	0%
150	<b>11%</b>	3%	1%	1%	0%	0%	0%
155	<b>17%</b>	5%	2%	1%	1%	0%	0%
160	<b>25%</b>	8%	3%	1%	1%	1%	0%
165	<b>35%</b>	13%	5%	2%	2%	1%	1%
170	<b>48%</b>	20%	8%	4%	3%	2%	1%
175	<b>60%</b>	29%	13%	6%	4%	3%	2%
180	<b>71%</b>	40%	20%	10%	7%	4%	3%
185	<b>80%</b>	52%	29%	15%	11%	7%	4%
190	<b>87%</b>	65%	40%	23%	17%	11%	7%
195	<b>92%</b>	75%	52%	33%	25%	17%	11%
200	<b>95%</b>	83%	65%	45%	35%	25%	17%
205	<b>97%</b>	89%	75%	57%	48%	35%	25%
210	<b>98%</b>	93%	83%	69%	60%	48%	35%
215	<b>99%</b>	96%	89%	79%	71%	60%	48%
220	<b>99%</b>	97%	93%	86%	80%	71%	60%
225	<b>100%</b>	98%	96%	91%	87%	80%	71%
230	<b>100%</b>	99%	97%	94%	92%	87%	80%
235	<b>100%</b>	99%	98%	96%	95%	92%	87%
240	<b>100%</b>	100%	99%	98%	97%	95%	92%
245	<b>100%</b>	100%	99%	99%	98%	97%	95%
250	<b>100%</b>	100%	100%	99%	99%	98%	97%
255	<b>100%</b>	100%	100%	100%	99%	99%	98%
260	<b>100%</b>	100%	100%	100%	100%	99%	99%
265	<b>100%</b>	100%	100%	100%	100%	100%	99%
270	<b>100%</b>	100%	100%	100%	100%	100%	100%

\*Note: This table provides the estimated probability of passing the state test based on a MAP test score taken during the prior (fall) season. Example: if a fifth grade student scored 200 on a MAP test taken during the fall season, her/his estimated probability of passing the state test is 45%. Bolded, italics represent extrapolated data.

TABLE 12 –ESTIMATED PROBABILITY OF SCORING AS “PASSING” OR HIGHER ON THE STATE ENGLISH LANGUAGE ARTS TEST IN PRIOR SEASON (FALL), BY STUDENT GRADE AND RIT SCORE RANGE ON MAP LANGUAGE USAGE

Language Usage-Prior Season							
Estimated Probability of Passing State Test Based on Observed MAP Score							
RIT Range	2	3	4	5	6	7	8
130	<b>2%</b>	1%	0%	0%	0%	0%	0%
135	<b>3%</b>	1%	0%	0%	0%	0%	0%
140	<b>5%</b>	1%	1%	0%	0%	0%	0%
145	<b>8%</b>	2%	1%	0%	0%	0%	0%
150	<b>12%</b>	4%	1%	1%	0%	0%	0%
155	<b>18%</b>	6%	2%	1%	1%	0%	0%
160	<b>27%</b>	9%	4%	1%	1%	1%	0%
165	<b>38%</b>	14%	6%	2%	1%	1%	1%
170	<b>50%</b>	22%	9%	4%	2%	2%	1%
175	<b>62%</b>	31%	14%	6%	4%	3%	2%
180	<b>73%</b>	43%	22%	10%	6%	4%	3%
185	<b>82%</b>	55%	31%	16%	10%	7%	5%
190	<b>88%</b>	67%	43%	23%	16%	11%	8%
195	<b>92%</b>	77%	55%	33%	23%	17%	12%
200	<b>95%</b>	84%	67%	45%	33%	25%	18%
205	<b>97%</b>	90%	77%	57%	45%	36%	27%
210	<b>98%</b>	94%	84%	69%	57%	48%	38%
215	<b>99%</b>	96%	90%	78%	69%	60%	50%
220	<b>99%</b>	98%	94%	86%	78%	71%	62%
225	<b>100%</b>	99%	96%	91%	86%	80%	73%
230	<b>100%</b>	99%	98%	94%	91%	87%	82%
235	<b>100%</b>	99%	99%	96%	94%	92%	88%
240	<b>100%</b>	100%	99%	98%	96%	95%	92%
245	<b>100%</b>	100%	99%	99%	98%	97%	95%
250	<b>100%</b>	100%	100%	99%	99%	98%	97%
255	<b>100%</b>	100%	100%	99%	99%	99%	98%
260	<b>100%</b>	100%	100%	100%	99%	99%	99%
265	<b>100%</b>	100%	100%	100%	100%	100%	99%
270	<b>100%</b>	100%	100%	100%	100%	100%	100%

\*Note: This table provides the estimated probability of passing the state test based on a MAP test score taken during the prior (fall) season. Example: if a fifth grade student scored 200 on a MAP test taken during the fall season, her/his estimated probability of passing the state test is 45%. Bolded, italics represent extrapolated data.



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**KINGSBURY**  
CENTER AT NWEA

The Kingsbury Center at NWEA  
5885 SW Meadows Road, Suite 200  
Lake Oswego, OR 97035-3526

[www.kingsburycenter.org](http://www.kingsburycenter.org)

Tel 503-624-1951  
Fax 503-639-7873