OHIO ACHIEVEMENT TESTS
MAY 2009 ADMINISTRATION

STATISTICAL SUMMARY

This document provides a summary of information from the May 2009 administration of the Ohio Achievement Tests to students in grades three through eight. The statistics shown are computed from the entire population of Ohio public school students (including community school students) for each subject and grade tested. Tables 1-3 summarize parameters computed from the data. Tables 4-6 show the percent of students at each performance level for each grade and test. Tables 7 and 8 show the raw score cut points computed from test data. Subscale passing bands are shown in Tables 9-11. Tables 12-14 show the conversions of raw scores to scaled scores.

Table 1 - Summary of Parameters from the May 2009 Administration of the Ohio Achievement Tests for Grades 3 and 4.

Parameter	Grade 3		Grade 4		
	Reading	Math	Reading	Math	Writing
N-count	125,177	130,715	129,287	129,283	129,270
Max Raw Score	49	52	49	52	39
Max Scaled Score	503	521	543	550	533
Min Scaled Score	257	241	278	246	282
Raw Score Mean	35.97	38.78	30.95	32.32	25.52
Raw Score Standard Deviation	8.09	8.33	10.01	10.16	6.07
Raw Score SEM	2.99	3.08	3.30	3.36	3.55
Scaled Score Mean	415.35	422.40	427.84	425.04	427.11
Scaled Score Standard Deviation	25.97	28.60	30.55	33.97	30.84
Scaled Score SEM	9.59	10.57	10.09	11.23	18.03
Reliability	0.86	0.86	0.89	0.89	0.66

The Grade 3 Reading test is administered in both fall and spring. The number of examinees (N-count) in Table 1 include only students who were tested in the Spring, so the figures for Grade 3 Reading do not include some students who achieved a Proficient (or above) score on the fall test and did not retake the test during the spring administration.

**Table 2 - Summary of Parameters from the May 2009 Administration
of the Ohio Achievement Tests for Grades 5 and 6.**

Parameter	Grade 5				Grade 6	
	Reading	Math	Science	Social Studies	Reading	Math
N-count	129,581	129,380	129,680	129,642	129,121	128,742
Max Raw Score	49	52	48	48	49	50
Max Scaled Score	530	548	539	567	552	590
Min Scaled Score	242	237	243	219	274	234
Raw Score Mean	32.12	29.20	28.40	28.04	26.29	28.33
Raw Score Standard Deviation	9.01	10.56	8.91	9.18	9.62	10.29
Raw Score SEM	3.16	3.31	3.31	3.23	3.47	3.35
Scaled Score Mean	415.71	410.61	412.41	408.77	424.08	425.11
Scaled Score Standard Deviation	31.27	35.96	29.62	35.57	28.33	39.81
Scaled Score SEM	10.98	11.27	11.02	12.51	10.22	12.95
Reliability	0.88	0.90	0.86	0.88	0.87	0.89

**Table 3 – Summary of Parameters from the May 2009 Administration of the Ohio
Achievement Tests for Grades 7 and 8.**

Parameter	Grade 7			Grade 8			
	Reading	Math	Writing	Reading	Math	Science	Social Studies
N-count	130,891	130,528	130,821	133,970	133,671	133,944	133,795
Max Raw Score	47	50	41	48	46	48	48
Max Scaled Score	530	569	605	536	536	549	555
Min Scaled Score	270	264	257	254	286	245	234
Raw Score Mean	28.75	22.86	24.79	29.82	23.39	26.39	23.71
Raw Score Standard Deviation	9.50	9.66	6.16	8.95	10.05	8.44	8.76
Raw Score SEM	3.24	3.29	2.79	3.28	3.19	3.26	3.04
Scaled Score Mean	418.88	418.23	424.82	415.64	415.81	409.01	399.38
Scaled Score Standard Deviation	29.29	31.71	31.11	27.69	30.27	28.43	32.91
Scaled Score SEM	10.00	10.79	14.08	10.15	9.61	10.98	11.43
Reliability	0.88	0.88	0.80	0.87	0.90	0.85	0.88

Table 4 - Percentage of Students at Each Performance Level for Grades 3 and 4, May 2009 Administration.

	Grade 3		Grade 4		
	Reading	**Math**	**Reading**	**Math**	**Writing**
Standard	**Percent**	**Percent**	**Percent**	**Percent**	**Percent**
Advanced	28.8	22.7	10.7	21.5	6.0
Accelerated	27.8	23.0	32.7	23.9	33.6
Proficient	18.8	36.0	39.1	33.4	44.9
Basic	12.8	11.9	9.3	13.5	8.8
Limited	11.9	6.5	8.1	7.7	6.7

Table 5 - Percentage of Students at Each Performance Level for Grades 5 and 6, May 2009 Administration.

	Grade 5				Grade 6	
	Reading	**Math**	**Science**	**Social Studies**	**Reading**	**Math**
Standard	**Percent**	**Percent**	**Percent**	**Percent**	**Percent**	**Percent**
Advanced	7.0	22.0	10.6	21.0	14.0	28.1
Accelerated	15.7	14.7	37.7	22.4	22.1	20.7
Proficient	49.6	25.8	22.1	17.9	45.8	26.7
Basic	13.5	17.1	24.9	31.8	12.9	12.8
Limited	14.2	20.5	4.7	6.9	5.2	11.8

Table 6 - Percentage of Students at Each Performance Level for Grades 7 and 8, May 2009 Administration.

	Grade 7			Grade 8			
	Reading	**Math**	**Writing**	**Reading**	**Math**	**Science**	**Social Studies**
Standard	**Percent**	**Percent**	**Percent**	**Percent**	**Percent**	**Percent**	**Percent**
Advanced	12.2	12.4	3.5	10.2	7.6	12.8	15.1
Accelerated	24.5	15.2	39.2	25.5	22.9	17.1	13.0
Proficient	40.1	46.9	37.8	36.9	40.3	32.6	22.6
Basic	13.2	17.2	18.4	19.3	17.8	32.3	35.1
Limited	10.0	8.3	1.1	8.1	11.5	5.2	14.3

Equating and Scaling: The Conversion of Raw Scores to Scaled Scores

Ohio uses the Rasch model (a single parameter logistic model) for computing item difficulties and student abilities. The Rasch model is based on the probabilities that examinees answered each item correctly. This model is used because of its widespread acceptance, its ease of use, and commercial availability of software for implementing it. The Rasch model provides estimates of the difficulties of each item on a linear scale in log-odds units, or logits.

Equating and Test Form Construction
Equating is a process where test forms comprised of different items are calibrated to the same performance standards. Because each test form is made up of items that have been field-tested, item difficulty estimates from the field test administration are used to pre-equate operational forms during form construction so that operational test forms are of approximately equal difficulty for each administration.

Common Item Equating
Following administration of the May 2009 Achievement Tests, item difficulty values were estimated using an early return sample for all grades. The early return sample was selected to be statistically representative of all Ohio public school students. Because item difficulty estimates were available from field tests, all the operational items could potentially serve as anchor items in the equating process.

Calibrating, equating and linking proceeded through four steps. First, the current administration difficulty values (from the early return sample) were computed and compared with the "bank" or reference difficulty values. The mean difference between the current and the bank difficulties of the anchor items is called the equating constant. Second, the equating constant was added to each difficulty value for items on the current test so that the mean item difficulties were equal. In step three, the "linked" current values were compared with the bank values to identify the item with the largest absolute difference between the two values. If the absolute value of the difference is greater than 0.3 logits, the item was eliminated as an anchor item. Fourth, this procedure was repeated until the largest difference between a linked current value and bank value was less than 0.3 logits. This procedure ensured that the items used to anchor the operational test to the reference scale were stable. When the equating process was complete, item difficulties from the current administration were calibrated to the same scale as the items used in setting performance standards.

Scaling
Ohio performance standards are expressed in scaled scores. Scaled scores are invariant while raw scores reflect minor differences in the difficulty of test items in any test administration. A scaled score of 400 for the May administration is the same as a scaled score of 400 from the October administration in terms of overall performance, but the number of raw score points corresponding to a 400 may shift slightly from administration to administration.

After the May 2009 operational test administration, test items were calibrated and test forms were equated. Rasch ability estimates (called theta scores) were computed for each

possible raw score. The Rasch ability estimates were then transformed to the appropriate Ohio Achievement Test scale scores, all of which are calibrated so that the proficient standard is equal to a scaled score of 400.

Ohio Rounding Rule

Raw scores are integers that rarely have associated integer scaled scores at the points used to define Ohio performance standards. Therefore Ohio uses a rounding rule to match the raw score with the scaled score nearest the performance standard (e.g. 400 scaled score for Proficient) to establish the raw score cut points (e.g. Proficient). For example, if a raw score of 31 is associated with an observed scaled score of 399.14, and 399.14 is the closest observed scaled score to the proficient level performance standard, the scaled score is rounded up to 400. For that test, an examinee must have a raw score of 31 or more to be judged proficient.

If the closest scaled score value for an integer raw score exceeds the standard, then that raw score serves as the raw score cut point. For example, suppose that a raw score of 30 produces a rounded scaled score of 398 and a raw score of 31 produces a rounded scaled score of 401. The cut would be 31 raw score points.

Table 7 - Cut Score Points for Basic, Proficient, Accelerated, and Advanced Standards, May 2009 Administration

Grade	Subject	Score	Limited	Basic	Proficient	Accelerated	Advanced
3	Reading	Raw	< 26	26	32	37	42
		Scaled	< 385	385	400	415	432
	Math	Raw	< 24	24	32	42	46
		Scaled	< 378	378	400	429	447
4	Reading	Raw	< 15	15	21	35	43
		Scaled	< 384	384	400	435	467
	Math	Raw	< 17	17	24	35	42
		Scaled	< 377	377	400	432	452
	Writing	Raw	< 16	16	20	28	34
		Scaled	< 383	383	400	436	472
5	Reading	Raw	< 22	22	28	40	44
		Scaled	< 384	384	400	441	459
	Math	Raw	< 20	20	26	34	39
		Scaled	< 382	382	400	424	439
	Science	Raw	< 13	13	24	30	40
		Scaled	< 363	363	400	417	448
	Social Studies	Raw	< 14	14	26	31	37
		Scaled	< 360	360	400	418	442

Notes: 1. The raw score cuts apply to the May 2009 administration only.

2. The scaled scores reported in Tables 7 and 8 are the invariant cut scores that are applied to every test administration. Any apparent discrepancies between the cut scores in Tables 7 and 8 and Tables 12, 13 and 14 occur because the scaled score cuts shown in Tables 7 and 8 may not have occurred during the May 2009 test administration.

Table 8 - Cut Score Points for Basic, Proficient, Accelerated, and Advanced Standards, May 2009 Administration

Grade	Subject	Score	Limited	Basic	Proficient	Accelerated	Advanced
6	Reading	Raw	< 11	11	17	31	38
		Scaled	< 380	380	400	436	456
	Math	Raw	< 15	15	21	30	36
		Scaled	< 378	378	400	429	448
7	Reading	Raw	< 15	15	22	34	40
		Scaled	< 379	379	400	432	452
	Math	Raw	< 11	11	16	29	36
		Scaled	< 378	378	400	436	458
	Writing	Raw	< 10	10	20	27	35
		Scaled	< 357	357	400	430	485
8	Reading	Raw	< 16	16	25	35	41
		Scaled	< 378	378	400	428	451
	Math	Raw	< 11	11	17	30	39
		Scaled	< 379	379	400	432	459
	Science	Raw	< 13	13	24	32	37
		Scaled	< 365	365	400	427	445
	Social Studies	Raw	< 14	14	24	30	34
		Scaled	< 365	365	400	421	435

Notes: 1. The raw score cuts apply to the May 2009 administration only.
2. The scaled scores reported in Tables 7 and 8 are the invariant cut scores that are applied to every test administration. Any apparent discrepancies between the cut scores in Tables 7 and 8 and Tables 12, 13 and 14 occur because the scaled score cuts shown in Tables 7 and 8 may not have occurred during the May 2009 test administration.

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Subscale bands

Subscale bands are estimated for all subjects tested. Subscale analysis data are provided for diagnostic purposes.

Table 9 - Subscale Bands for the Minimally Proficient Student in Grades 3 and 4, May 2009 Administration.

| | Content Standard | Raw Score Bands | | | |
		Below	At or Near Proficient	Above	Possible Score
Grade 3 Reading	Vocabulary	0 – 6	7 – 8	9	9
	Reading process	0 – 9	10 – 12	13 – 16	16
	Informational text	0 – 5	6 – 8	9 – 11	11
	Literary text	0 – 9	10 – 12	13	13
Grade 3 Mathematics	Number, Number Sense, and Operations	0 – 8	9 – 11	12 – 15	15
	Measurement	0 – 4	5 – 7	8 – 9	9
	Geometry and Spatial Sense	0 – 5	6 – 8	9	9
	Patterns, Function, and Algebra	0 – 5	6 – 7	8 – 9	9
	Data Analysis and Probability	0 – 5	6 – 8	9 – 10	10
Grade 4 Reading	Vocabulary	0 – 3	4 – 6	7 – 8	8
	Reading process	0 – 5	6 – 8	9 – 16	16
	Informational text	0 – 3	4 – 6	7 – 12	12
	Literary text	0 – 6	7 – 9	10 – 13	13
Grade 4 Mathematics	Number, Number Sense, and Operations	0 – 7	8 – 10	11 – 15	15
	Measurement	0 – 3	4 – 6	7 – 8	8
	Geometry and Spatial Sense	0 – 4	5 – 6	7 – 9	9
	Patterns, Function, and Algebra	0 – 3	4 – 6	7 – 10	10
	Data Analysis and Probability	0 – 3	4 – 6	7 – 10	10
Grade 4 Writing	Writing Process & Applications	0 – 10	11 – 14	15 – 24	24
	Writing Conventions	0 – 8	9 – 11	12 – 15	15

Table 10 - Subscale Bands for the Minimally Proficient Student in Grades 5 and 6, May 2009 Administration.

| | Content Standard | Raw Score Bands | | | |
		Below	At or Near Proficient	Above	Possible Score
Grade 5 Reading	Vocabulary	0 – 5	6 – 7	8	8
	Reading process	0 – 9	10 – 12	13 – 16	16
	Informational text	0 – 4	5 – 8	9 – 13	13
	Literary text	0 – 5	6 – 9	10 – 12	12
Grade 5 Mathematics	Number, Number Sense, and Operations	0 – 8	9 – 11	12 – 15	15
	Measurement	0 – 2	3 – 5	6 – 10	10
	Geometry and Spatial Sense	0 – 5	6 – 7	8 – 9	9
	Patterns, Function, and Algebra	0 – 4	5 – 7	8 – 9	9
	Data Analysis and Probability	0 – 3	4 – 6	7 – 9	9
Grade 5 Science	Earth Science	0 – 5	6 – 8	9 – 10	10
	Life Science	0 – 6	7 – 10	11 – 14	14
	Physical Science	0 – 4	5 – 7	8 – 11	11
	Scientific Processes	0 – 5	6 – 8	9 – 13	13
Grade 5 Social Studies	Economics, Government, Citizenship	0 – 6	7 – 10	11 – 14	14
	Peoples in Societies, Geography	0 – 7	8 – 10	11 – 14	14
	History	0 – 5	6 – 7	8 – 10	10
	Social Studies Methods and Skills	0 – 5	6 – 8	9 – 10	10
Grade 6 Reading	Vocabulary	0 – 2	3 – 5	6 – 8	8
	Reading process	0 – 2	3 – 5	6 – 10	10
	Informational text	0 – 5	6 – 9	10 – 17	17
	Literary text	0 – 4	5 – 8	9 – 14	14
Grade 6 Mathematics	Number, Number Sense, and Operations	0 – 4	5 – 7	8 – 14	14
	Measurement	0 – 3	4 – 6	7 – 8	8
	Geometry and Spatial Sense	0 – 3	4 – 6	7 – 8	8
	Patterns, Function, and Algebra	0 – 4	5 – 7	8 – 11	11
	Data Analysis and Probability	0 – 2	3 – 5	6 – 9	9

Table 11 - Subscale Bands for the Minimally Proficient Student in Grades 7 and 8, May 2009 Administration.

| | Content Standard | Raw Score Bands | | | |
		Below	At or Near Proficient	Above	Possible Score
Grade 7 Reading	Vocabulary	0 – 3	4 – 6	7 – 8	8
	Reading process	0 – 3	4 – 6	7 – 10	10
	Informational text	0 – 7	8 – 11	12 – 16	16
	Literary text	0 – 5	6 – 8	9 – 13	13
Grade 7 Mathematics	Number, Number Sense, and Operations	0 – 3	4 – 7	8 – 12	12
	Measurement	0 – 2	3 – 4	5 – 9	9
	Geometry and Spatial Sense	0 – 2	3 – 5	6 – 10	10
	Patterns, Function, and Algebra	0 – 1	2 – 4	5 – 10	10
	Data Analysis and Probability	0 – 3	4 – 6	7 – 9	9
Grade 7 Writing	Writing Applications	0 – 7	8 – 11	12 – 20	20
	Writing Process	0 – 4	5 – 7	8 – 10	10
	Writing Conventions	0 – 6	7 – 8	9 – 11	11
Grade 8 Reading	Vocabulary	0 – 4	5 – 7	8	8
	Reading process	0 – 5	6 – 8	9 – 10	10
	Informational text	0 – 7	8 – 11	12 – 18	18
	Literary text	0 – 5	6 – 8	9 – 12	12
Grade 8 Mathematics	Number, Number Sense, and Operations	0 – 4	5 – 7	8 – 10	10
	Measurement	0 – 1	2 – 4	5 – 8	8
	Geometry and Spatial Sense	0 – 2	3 – 5	6 – 8	8
	Patterns, Function, and Algebra	0 – 2	3 – 5	6 – 10	10
	Data Analysis and Probability	0 – 4	5 – 7	8 – 10	10
Grade 8 Science	Earth Science	0 – 4	5 – 8	9 – 12	12
	Life Science	0 – 4	5 – 7	8 – 10	10
	Physical Science	0 – 5	6 – 8	9 – 12	12
	Scientific Processes	0 – 6	7 – 9	10 – 14	14
Grade 8 Social Studies	Economics, Government, Citizenship	0 – 5	6 – 8	9 – 13	13
	Peoples in Societies, Geography	0 – 6	7 – 9	10 – 13	13
	History	0 – 5	6 – 8	9 – 13	13
	Social Studies Methods and Skills	0 – 4	5 – 7	8 – 9	9

Tables of Concordance between Raw Scores and Cut Scores

Tables 12, 13 and 14 provide the concordance between raw scores and scaled scores for all tests in the May 2009 administration of the Ohio Achievement Tests[1].

Table 12 - Raw Score to Scaled Score Conversion Grades 3 and 4,
May 2009 Administration.

Scaled Scores Corresponding to Raw Score Points for Each Grade and Subject					
	Grade 3		Grade 4		
Raw Score	**Reading**	**Math**	**Reading**	**Math**	**Writing**
0	257	241	278	246	282
1	276	261	298	270	298
2	295	282	318	293	313
3	306	294	331	307	322
4	314	304	339	317	330
5	321	311	346	326	337
6	327	318	352	333	342
7	332	323	358	339	347
8	336	328	362	344	352
9	340	333	366	349	357
10	344	337	370	353	361
11	347	341	373	358	365
12	350	344	377	362	369
13	353	348	380	365	373
14	356	351	383	369	376
15	359	354	**385**	372	380
16	362	357	388	375	**384**
17	364	360	391	**379**	387
18	367	363	393	382	391
19	369	366	396	385	395
20	371	369	398	388	**400**
21	374	372	**400**	390	403
22	376	374	403	393	407
23	378	377	405	396	412
24	381	**379**	407	**400**	416
25	383	382	410	402	421
26	**385**	384	412	404	426
27	388	387	414	407	431
28	390	389	417	410	**436**
29	392	392	419	413	442
30	395	394	421	416	448
31	397	397	424	419	454
32	**400**	**400**	427	421	460

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[1] Some students were administered a breach form to remedy some inadvertent testing irregularity. Students taking irregular forms may have different tables of concordance than those reported here as Tables 12 - 14.

**Table 12 - Raw Score to Scaled Score Conversion Grades 3 and 4,
May 2009 Administration** (continued).

Scaled Scores Corresponding to Raw Score Points for Each Grade and Subject					
	Grade 3		Grade 4		
Raw Score	**Reading**	**Math**	**Reading**	**Math**	**Writing**
33	403	401	429	424	467
34	405	404	432	427	**474**
35	408	406	**435**	**432**	482
36	411	409	438	433	491
37	**415**	412	441	436	501
38	417	414	445	440	517
39	421	417	448	443	533
40	424	420	453	446	
41	428	424	457	450	
42	**432**	**429**	462	**453**	
43	437	431	**467**	457	
44	443	435	474	462	
45	449	440	481	467	
46	457	**447**	490	472	
47	467	451	503	478	
48	485	459	523	485	
49	503	468	543	494	
50		480		507	
51		501		529	
52		521		550	

Table 13 - Raw Score to Scaled Score Conversion Grades 5 and 6, May 2009 Administration.

	Grade 5				Grade 6	
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Raw Score	Reading	Math	Science	Social Studies	Reading	Math
0	242	237	243	219	274	234
1	264	261	266	245	296	260
2	285	285	289	272	318	287
3	298	299	303	288	331	303
4	308	309	314	300	341	315
5	316	318	322	309	349	324
6	322	325	329	317	356	332
7	328	332	336	324	361	339
8	333	337	341	330	367	345
9	338	342	346	336	371	351
10	342	347	351	341	375	356
11	346	351	355	346	**380**	361
12	350	355	359	350	383	366
13	354	359	**363**	355	387	370
14	358	363	367	**360**	390	375
15	361	366	371	362	393	**379**
16	364	370	374	366	396	382
17	368	373	377	370	**400**	386
18	371	376	381	373	402	390
19	374	379	384	377	405	393
20	377	**382**	387	380	408	397
21	380	385	390	383	411	**400**
22	**384**	388	393	387	413	403
23	386	391	396	390	416	407
24	389	394	**400**	393	418	410
25	392	397	402	396	421	413
26	395	**400**	404	**400**	424	416
27	398	402	407	403	426	419
28	**401**	405	410	406	429	422
29	404	408	413	409	431	425
30	407	411	**417**	413	434	**429**
31	410	414	419	**418**	**436**	432
32	413	417	422	420	439	435
33	416	420	425	423	441	438
34	419	**424**	428	427	444	442
35	423	426	431	431	447	446
36	426	429	434	435	449	**449**
37	429	433	438	**442**	452	453
38	433	436	442	445	**456**	457

Table 13 - Raw Score to Scaled Score Conversion Grades 5 and 6, May 2009 Administration (continued).

Scaled Scores Corresponding to Raw Score Points for Each Grade and Subject						
	Grade 5				**Grade 6**	
Raw Score	**Reading**	**Math**	**Science**	**Social Studies**	**Reading**	**Math**
39	436	**440**	445	450	459	462
40	**441**	444	**450**	455	462	466
41	445	447	454	461	466	471
42	449	452	460	468	471	477
43	455	456	466	476	476	483
44	**461**	460	473	486	482	490
45	468	465	482	498	489	498
46	476	471	495	514	498	508
47	489	477	517	540	510	520
48	509	484	539	567	531	536
49	530	493			552	563
50		505				590
51		527				
52		548				

Table 14 - Raw Score to Scaled Score Conversion Grades 7 and 8, May 2009 Administration.

Scaled Scores Corresponding to Raw Score Points for Each Grade and Subject						
	Grade 7			**Grade 8**		
Raw Score	**Reading**	**Math**	**Writing**	**Reading**	**Math**	**Science**	**Social Studies**
0	270	264	257	254	286	245	234
1	290	287	277	276	306	268	259
2	311	310	297	299	325	291	283
3	323	325	311	312	337	306	298
4	332	335	321	322	346	316	309
5	339	344	330	330	353	325	318
6	345	351	337	337	359	332	325
7	351	358	343	343	364	338	332
8	355	364	349	348	369	344	337
9	360	369	354	352	373	349	343
10	364	374	**359**	357	377	353	348
11	367	**379**	364	361	**381**	358	352
12	371	383	368	364	384	362	357
13	374	387	372	368	387	**366**	361
14	377	391	377	371	390	369	**365**
15	**380**	395	381	374	393	373	369
16	383	**400**	385	**378**	396	376	372
17	386	402	389	380	**400**	380	376
18	389	405	393	383	402	383	380
19	392	408	397	385	405	386	383
20	394	412	**401**	388	407	389	387
21	397	415	406	391	410	392	390
22	**400**	418	410	393	412	395	394
23	402	421	414	396	415	398	397
24	405	423	418	398	418	**401**	**400**
25	407	426	422	**401**	420	404	404
26	410	429	427	403	423	407	407
27	413	432	**432**	406	425	410	411
28	415	434	437	408	428	413	414
29	418	**437**	442	411	430	416	417
30	420	440	448	414	**433**	419	**421**
31	423	442	454	416	435	422	425
32	426	445	461	419	438	**427**	428
33	429	448	468	422	441	429	432
34	**432**	451	477	425	443	432	**436**
35	435	454	**488**	**428**	446	435	440
36	438	**458**	500	431	450	439	444
37	441	460	515	435	453	**445**	449
38	445	463	533	439	457	447	453

Table 14 - Raw Score to Scaled Score Conversion Grades 7 and 8, May 2008 Administration. (continued)

Scaled Scores Corresponding to Raw Score Points for Each Grade and Subject							
	Grade 7			Grade 8			
Raw Score	Reading	Math	Writing	Reading	Math	Science	Social Studies
39	449	466	553	443	**461**	451	458
40	**453**	470	579	447	466	456	463
41	458	474	605	**452**	471	461	468
42	464	478		457	478	467	474
43	470	483		463	486	474	481
44	479	488		471	498	482	488
45	490	494		480	517	491	498
46	510	502		493	536	505	511
47	530	511		514		527	533
48		524		536		549	555
49		547					
50		569					
51							
52							