

Tables for
CMAS Technical Report
2016–2017

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Table 1. CMAS Subject and Grade Combinations

	Grade				
Subject	4	5	7	8	HS
Science		X		X	X
Social Studies	X		X		X

Table 2. Scale Score Ranges

	Partially Met Expectations	Approached Expectation	Met Expectations	Exceeded Expectations
Grade 4 Social Studies	300–556	557–698	699–792	793–900
Grade 7 Social Studies	300–591	592–700	701–769	770–900
HS Social Studies*	n/a	n/a	n/a	n/a
Grade 5 Science	300–545	546–649	650–770	771–900
Grade 8 Science	300–555	556–651	652–784	785–900
HS Science	300–542	543–672	673–773	774–900

*Values are not available for HS SS because no cut scores have been approved.

Table 3. Coefficient Alpha

Content Area	Grade	Content Standard 1	Content Standard 2	Content Standard 3	Content Standard 4	Full Test
Social Studies	4	0.77	0.68	0.69	0.70	0.91
	7	0.80	0.75	0.74	0.76	0.93
	HS	n/a	n/a	n/a	n/a	n/a
Science	5	0.80	0.85	0.84	0.85	0.94
	8	0.84	0.82	0.85	0.79	0.94
	HS	0.81	0.82	0.85	0.79	0.93

Table 4. Grade 4 Performance by Subgroups

Subgroup	N	Mean	SD	Min	Max	Alpha
No IEP	18863	629	106	300	900	0.90
IEP	2102	495	125	300	835	0.89
No Accommodation	17071	638	104	300	900	0.90
Accommodation	4939	513	113	300	835	0.86
Am. Indian/Alaska Native	126	567	115	300	794	0.89
Asian	727	651	111	300	900	0.91
Black	1034	558	115	300	846	0.88
Hispanic	7063	566	110	300	900	0.88
White	11019	650	106	300	900	0.90
Hawaiian/Pacific Islander	58	604	121	300	822	0.91
Two or More Races	935	628	111	300	900	0.91
Missing*	n/a	n/a	n/a	n/a	n/a	n/a
No Economic Disadvantage	11703	658	102	300	900	0.90
Economic Disadvantage	9262	563	110	300	900	0.88
Female	10207	621	110	300	900	0.90
Male	10758	611	121	300	900	0.91
Language Proficiency NA	16261	631	111	300	900	0.91
Language Proficiency NEP	489	449	110	300	721	0.80
Language Proficiency LEP	2553	534	97	300	847	0.82
Language Proficiency FEP	1241	639	82	300	900	0.86
Not Migrant	20899	616	116	300	900	0.91
Migrant	66	513	111	300	715	0.84

*n-count less than 16

Table 5. Grade 5 Performance by Subgroups

Subgroup	N	Mean	SD	Min	Max	Alpha
No IEP	56691	612	103	300	900	0.93
IEP	6521	477	111	300	843	0.92
No Accommodation	52763	618	102	300	900	0.93
Accommodation	13688	491	105	300	900	0.92
Am. Indian/Alaska Native	454	546	103	300	813	0.92
Asian	1960	632	114	300	900	0.94
Black	2896	530	112	300	900	0.93
Hispanic	21849	546	106	300	900	0.92
White	33287	636	98	300	900	0.93
Hawaiian/Pacific Islander	154	575	449	300	865	0.94
Two or More Races	2602	618	107	300	900	0.93
Missing*	n/a	n/a	n/a	n/a	n/a	n/a
No Economic Disadvantage	34770	641	97	300	900	0.93
Economic Disadvantage	28442	546	106	300	900	0.92
Female	30850	601	108	300	900	0.93
Male	32362	595	115	300	900	0.94
Language Proficiency NA	49194	615	107	300	900	0.93
Language Proficiency NEP	993	422	103	300	794	0.89
Language Proficiency LEP	7267	497	90	300	852	0.88
Language Proficiency FEP	5013	611	81	300	895	0.90
Not Migrant	62964	599	111	300	900	0.94
Migrant	248	495	116	300	785	0.92

*n-count less than 16

Table 6. Grade 7 Performance by Subgroups

Subgroup	N	Mean	SD	Min	Max	Alpha
No IEP	17098	610	110	300	900	0.92
IEP	1769	461	113	300	796	0.89
No Accommodation	17089	609	112	300	900	0.92
Accommodation	2450	471	110	300	822	0.89
Am. Indian/Alaska Native	119	549	114	300	781	0.92
Asian	630	645	114	300	900	0.93
Black	832	544	123	300	852	0.92
Hispanic	6444	548	112	300	867	0.91
White	10065	628	110	300	900	0.92
Hawaiian/Pacific Islander	48	592	119	300	860	0.93
Two or More Races	728	615	117	300	900	0.93
Missing*	n/a	n/a	n/a	n/a	n/a	n/a
No Economic Disadvantage	10911	637	106	300	900	0.92
Economic Disadvantage	7956	541	113	300	858	0.91
Female	9167	607	110	300	900	0.92
Male	9700	586	125	300	900	0.93
Language Proficiency NA	14725	611	115	300	900	0.93
Language Proficiency NEP	403	419	98	300	716	0.81
Language Proficiency LEP	1688	498	91	300	726	0.82
Language Proficiency FEP	1786	609	92	300	900	0.90
Not Migrant	18796	597	118	300	900	0.93
Migrant	71	516	100	300	692	0.87

*n-count less than 16

Table 7. Grade 8 Performance by Subgroups

Subgroup	N	Mean	SD	Min	Max	Alpha
No IEP	50342	592	117	300	900	0.94
IEP	5216	444	112	300	844	0.91
No Accommodation	50196	591	118	300	900	0.94
Accommodation	7248	455	113	300	900	0.92
Am. Indian/Alaska Native	396	541	114	300	797	0.93
Asian	1912	627	119	300	900	0.94
Black	2547	509	125	300	855	0.93
Hispanic	19827	524	117	300	900	0.92
White	28735	618	112	300	900	0.93
Hawaiian/Pacific Islander	144	555	122	300	840	0.93
Two or More Races	1993	603	119	300	900	0.94
Missing*	n/a	n/a	n/a	n/a	n/a	n/a
No Economic Disadvantage	31706	621	112	300	900	0.93
Economic Disadvantage	23852	523	117	300	900	0.92
Female	26922	586	119	300	900	0.94
Male	28636	572	128	300	900	0.94
Language Proficiency NA	42700	596	120	300	900	0.94
Language Proficiency NEP	1091	387	88	300	792	0.81
Language Proficiency LEP	5329	461	93	300	757	0.84
Language Proficiency FEP	5616	589	94	300	900	0.91
Not Migrant	55320	579	124	300	900	0.94
Migrant	238	482	119	300	748	0.91

*n-count less than 16

Table 8. HS Science Performance by Subgroups

Subgroup	N	Mean	SD	Min	Max	Alpha
No IEP	34089	600	109	300	900	0.93
IEP	2854	484	105	300	802	0.89
No Accommodation	34493	597	110	300	900	0.93
Accommodation	3153	497	111	300	843	0.92
Am. Indian/Alaska Native	326	561	97	300	834	0.91
Asian	1218	623	111	300	900	0.94
Black	1980	529	113	300	824	0.91
Hispanic	14041	553	104	300	897	0.91
White	18117	625	107	300	900	0.93
Hawaiian/Pacific Islander	100	569	96	300	796	0.92
Two or More Races	1158	612	113	300	900	0.94
Missing*	n/a	n/a	n/a	n/a	n/a	n/a
No Economic Disadvantage	21987	618	110	300	900	0.94
Economic Disadvantage	14956	552	106	300	878	0.91
Female	17631	594	106	300	900	0.93
Male	19312	589	119	300	900	0.94
Language Proficiency NA	27913	605	111	300	900	0.94
Language Proficiency NEP	659	423	92	300	665	0.71
Language Proficiency LEP	2341	486	86	300	800	0.77
Language Proficiency FEP	5365	587	90	300	900	0.90
Not Migrant	36805	592	113	300	900	0.93
Migrant	138	496	108	300	723	0.88

*n-count less than 16

Table 9. SEMs

Content Area	Grade	SEM
Social Studies	4	34.96
	7	31.49
	HS	n/a
Science	5	28.04
	8	30.52
	HS	28.99

Table 10. Accuracy and Consistency Estimates

Content Area	Grade	Accuracy	Consistency	PChance	Kappa
Social Studies	4	.79	.71	.32	.58
	7	.78	.72	.35	.56
	HS	n/a	n/a	n/a	n/a
Science	5	.82	.76	.31	.65
	8	.83	.77	.32	.66
	HS	.82	.75	.34	.62

Table 11. Accuracy of Cuts

Content Area	Grade	Partially Met ExpectationsCut	Met Expectations Cut	Exceeded Expectations Cut
Social Studies	4	.93	.90	.96
	7	.93	.89	.96
	HS	n/a	n/a	n/a
Science	5	.94	.92	.96
	8	.94	.91	.97
	HS	.94	.91	.97

Table 12. Consistency of Cuts

Content Area	Grade	Partially Met Expectations Cut	Met Expectations Cut	Exceeded Expectations Cut
Social Studies	4	.89	.85	.95
	7	.89	.85	.95
	HS	n/a	n/a	n/a
Science	5	.89	.89	.94
	8	.91	.88	.97
	HS	.90	.87	.96

Table 13. Grade 4 Operational Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	3	998	76.9	22.4	0.7	0.85	0.02	0.85
2	3	1003	74.9	23.5	1.6	0.83	0.03	0.83
3	3	998	78.8	18.3	2.9	0.86	0	0.86
4	3	1000	73.2	26.8	0	0.84	0.06	0.84
5	3	1004	70.5	29.2	0.3	0.82	0.05	0.82
6	3	994	84.3	14.8	0.9	0.91	0	0.91
7	3	997	71.2	26.2	2.6	0.85	0.01	0.85
8	3	1001	73.5	26.5	0	0.88	0	0.88
9	3	1004	85.1	14.9	0	0.93	0.01	0.93
10	3	1002	70.9	29.1	0	0.82	0.01	0.82
11	3	998	77.9	22.1	0	0.92	0	0.92
12	3	1002	79.6	20.2	0.2	0.89	0.01	0.89

Table 14. Grade 5 Operational Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	2	3037	95.2	4.6	0.2	0.96	0	0.96
2	2	3037	82.8	17.1	0.1	0.82	0.02	0.82
3	2	3034	82.7	16.3	0.9	0.76	0	0.76
4	2	3042	88.7	11.1	0.1	0.89	0.01	0.89
5	2	3035	94.5	5.4	0.1	0.96	0	0.96
6	2	3041	80.1	19.5	0.4	0.82	0.01	0.82
7	2	3043	86.6	13.2	0.2	0.86	0.02	0.86
8	2	3042	86.2	12.2	1.5	0.76	0.01	0.76
9	2	3042	80.6	19.0	0.4	0.73	0	0.73
10	2	3045	86.8	12.9	0.3	0.89	0.01	0.89
11	2	3035	84.0	15.0	1.0	0.87	0.02	0.87
12	2	3033	82.4	17.1	0.6	0.82	0	0.82
13	2	3041	80.2	19.3	0.6	0.82	0	0.82
14	2	3032	78.0	21.4	0.7	0.75	0.01	0.75
15	3	3044	71.0	25.5	3.4	0.83	0	0.83
16	3	3039	91.0	8.5	0.4	0.95	0.01	0.95
17	3	3039	77.6	21.5	1.0	0.89	0	0.89

Table 15. Grade 7 Operational Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	3	901	69.9	28.3	1.8	0.80	0.03	0.80
2	3	889	70.6	26.5	2.8	0.76	0.03	0.76
3	3	887	71.5	24.8	3.7	0.83	0.03	0.83
4	3	885	88.2	11.5	0.2	0.91	0.01	0.91
5	3	892	89.5	9.3	1.2	0.94	0.01	0.94
6	3	893	72.2	24.4	3.4	0.83	0	0.83
7	3	891	82.6	14.1	3.3	0.90	0.02	0.90
8	3	888	75.0	21.7	3.3	0.83	0	0.83
9	3	897	79.4	19.1	1.6	0.88	0	0.88
10	3	893	75.1	23.1	1.8	0.87	0.02	0.87
11	3	889	71.2	26.5	2.2	0.85	0.03	0.85
12	3	894	83.3	15.8	0.9	0.92	0.03	0.93

Table 16. Grade 8 Operational Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	2	2690	81.2	18.8	0	0.83	0	0.83
2	2	2695	86.8	13.0	0.2	0.87	0.01	0.87
3	2	2695	88.7	11.3	0	0.93	0.01	0.93
4	2	2688	82.5	17.5	0	0.80	0.01	0.80
5	2	2683	71.3	24.7	4	0.72	0.02	0.72
6	2	2685	78.0	22.0	0	0.76	0.02	0.76
7	2	2691	86.8	13.2	0	0.87	0.01	0.87
8	2	2688	89.6	9.8	0.6	0.93	0	0.93
9	2	2693	88.0	11.7	0.3	0.91	0.01	0.91
10	2	2684	82.3	17.4	0.3	0.85	0.01	0.85
11	2	2692	89.9	10.1	0	0.94	0.01	0.94
12	2	2684	90.4	9.6	0	0.90	0	0.90
13	2	2686	89.2	10.8	0	0.86	0.01	0.86
14	2	2690	84.7	15.3	0	0.89	0	0.89
15	3	2686	84.7	15.3	0	0.94	0	0.94
16	3	2690	81.2	18.8	0	0.91	0	0.91
17	3	2684	81.0	18.7	0.4	0.91	0	0.91

Table 17. HS Science Operational Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	2	1764	96.9	3.0	0.1	0.95	0.01	0.95
2	2	1768	97.0	2.9	0.1	0.90	0.01	0.90
3	2	1764	92.2	7.8	0	0.95	0.01	0.95
4	2	1755	81.0	18.1	1.0	0.67	0	0.67
5	2	1764	87.8	12.0	0.3	0.83	0.01	0.83
6	2	1763	79.3	20.5	0.2	0.83	0.01	0.83
7	2	1764	76.0	23.5	0.5	0.78	0.02	0.78
8	2	1769	93.6	6.3	0.1	0.94	0.01	0.94
9	2	1761	85.7	13.9	0.4	0.87	0.01	0.87
10	2	1771	74.1	25.2	0.7	0.74	0.02	0.75
11	2	1769	85.3	14.1	0.6	0.72	0.02	0.72
12	2	1759	87.9	10.0	2.0	0.89	0	0.89
13	2	1772	84.5	15.0	0.5	0.80	0	0.80
14	2	1774	86.6	11.8	1.5	0.84	0.03	0.84
15	3	1764	81.7	15.5	2.8	0.80	0.01	0.80
16	3	1764	84.5	12.8	2.8	0.88	0	0.88
17	3	1766	79.8	15.6	4.6	0.85	0	0.85

Table 18. Grade 4 Field Test Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	3	77	77.9	22.1	0	0.89	0.09	0.89
2	3	76	85.5	14.5	0	0.95	0.01	0.95
3	3	75	85.3	14.7	0	0.95	0.05	0.95
4	3	78	85.9	14.1	0	0.91	0.07	0.91
5	3	73	82.2	17.8	0	0.89	0.01	0.89
6	3	79	82.3	17.7	0	0.91	0.02	0.92
7	3	79	84.8	15.2	0	0.91	0.05	0.92
8	3	78	80.8	19.2	0	0.92	0.01	0.92
9	3	80	82.5	17.5	0	0.90	0.03	0.90
10	3	79	84.8	15.2	0	0.92	0.03	0.92
11	3	81	87.7	11.1	1.2	0.95	0.03	0.95
12	3	79	81.0	19.0	0	0.86	0.05	0.86
13	3	80	85.0	15.0	0	0.92	0.03	0.92
14	3	81	85.2	14.8	0	0.95	0	0.95
15	3	75	76.0	24.0	0	0.79	0.07	0.79
16	3	75	82.7	17.3	0	0.93	0.06	0.93
17	3	77	84.4	15.6	0	0.94	0.07	0.94
18	3	75	72.0	26.7	1.3	0.82	0.03	0.82
19	3	77	94.8	5.2	0	0.98	0.02	0.98
20	3	77	93.5	6.5	0	0.96	0.01	0.96
21	3	83	88.0	12.0	0	0.92	0	0.92
22	3	77	76.6	23.4	0	0.86	0.03	0.87
23	3	80	83.8	16.3	0	0.93	0.03	0.93
24	3	81	80.2	19.8	0	0.85	0.03	0.85

Table 19. Grade 5 Field Test Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	2	76	81.6	17.1	1.3	0.76	0.17	0.77
2	2	81	80.2	17.3	2.5	0.82	0.03	0.82
3	2	75	81.3	18.7	0	0.83	0	0.83
4	2	76	96.1	3.9	0	0.97	0.02	0.97
5	2	81	87.7	12.3	0	0.86	0.04	0.86
6	2	73	75.3	24.7	0	0.79	0.07	0.80
7	2	75	84.0	16.0	0	0.84	0	0.84
8	2	75	81.3	18.7	0	0.82	0.04	0.82
9	2	77	94.8	5.2	0	0.94	0.04	0.94
10	2	76	82.9	17.1	0	0.85	0.02	0.85
11	2	74	95.9	1.4	2.7	0.9	0.02	0.90
12	2	80	100	0	0	1	0	1.00
13	2	72	91.7	8.3	0	0.94	0	0.94
14	2	84	86.9	13.1	0	0.91	0.07	0.91
15	2	77	93.5	6.5	0	0.91	0.06	0.91
16	2	75	81.3	18.7	0	0.79	0.08	0.79
17	2	77	87.0	13.0	0	0.85	0	0.85
18	2	70	91.4	8.6	0	0.65	0.08	0.66
19	2	61	90.2	9.8	0	0.93	0.04	0.93
20	2	95	92.6	7.4	0	0.94	0.01	0.94
21	2	78	80.8	19.2	0	0.59	0.19	0.60
22	2	75	81.3	18.7	0	0.58	0.11	0.59
23	2	72	86.1	13.9	0	0.88	0.07	0.89
24	2	80	96.3	3.8	0	0.94	0.02	0.94
25	2	73	93.2	6.8	0	0.91	0.06	0.92
26	2	74	87.8	12.2	0	0.85	0.11	0.86
27	2	78	88.5	11.5	0	0.91	0.05	0.91
28	2	82	79.3	20.7	0	0.83	0.05	0.84
29	2	69	82.6	14.5	2.9	0.79	0.11	0.79
30	2	81	91.4	8.6	0	0.88	0.15	0.89
31	2	70	90.0	7.1	2.9	0.87	0.05	0.87
32	2	79	81.0	16.5	2.5	0.82	0.01	0.82

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
33	2	76	84.2	15.8	0	0.85	0	0.85
34	3	75	90.7	9.3	0	0.92	0.05	0.92
35	3	77	81.8	18.2	0	0.90	0.05	0.91
36	3	75	86.7	13.3	0	0.89	0.03	0.89
37	3	77	90.9	5.2	3.9	0.89	0.04	0.89
38	3	76	82.9	17.1	0	0.94	0.01	0.94
39	3	89	77.5	22.5	0	0.73	0.03	0.74
40	3	75	82.7	17.3	0	0.92	0.01	0.92
41	3	74	75.7	24.3	0	0.85	0.03	0.85
42	3	77	89.6	10.4	0	0.96	0.04	0.96
43	3	76	81.6	18.4	0	0.94	0.04	0.94
44	3	76	82.9	15.8	1.3	0.86	0.07	0.86

Table 20. Grade 7 Field Test Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	3	78	82.1	16.7	1.3	0.88	0.04	0.88
2	3	75	70.7	26.7	2.7	0.85	0.07	0.85
3	3	74	81.1	16.2	2.7	0.89	0.12	0.90
4	3	73	78.1	20.5	1.4	0.87	0.01	0.87
5	3	80	78.8	20.0	1.3	0.89	0.03	0.89
6	3	75	73.3	26.7	0	0.85	0.17	0.87
7	3	74	73.0	27.0	0	0.85	0.06	0.85
8	3	76	72.4	27.6	0	0.90	0.01	0.90
9	3	74	81.1	18.9	0	0.91	0.03	0.91
10	3	79	72.2	24.1	3.8	0.76	0.08	0.76
11	3	76	78.9	18.4	2.6	0.85	0.01	0.85
12	3	75	78.7	17.3	4	0.86	0.01	0.86
13	3	76	86.8	11.8	1.3	0.92	0.01	0.92
14	3	71	73.2	25.4	1.4	0.84	0.06	0.84
15	3	76	73.7	25.0	1.3	0.83	0.05	0.83
16	3	80	85.0	11.3	3.8	0.77	0.06	0.77
17	3	76	78.9	21.1	0	0.93	0	0.93
18	3	75	77.3	22.7	0	0.85	0.08	0.86
19	3	74	81.1	16.2	2.7	0.90	0.01	0.90
20	3	76	82.9	15.8	1.3	0.90	0.08	0.90
21	3	78	78.2	21.8	0	0.90	0.04	0.91
22	3	76	78.9	19.7	1.3	0.89	0.04	0.89
23	3	74	78.4	20.3	1.4	0.91	0.01	0.91
24	3	79	77.2	22.8	0	0.85	0	0.86
25	3	75	88.0	12.0	0	0.95	0.06	0.95
26	3	75	70.7	29.3	0	0.83	0	0.84
27	3	78	74.4	23.1	2.6	0.80	0	0.81
28	3	77	72.7	23.4	3.9	0.75	0.04	0.75
29	3	75	76.0	24.0	0	0.88	0	0.88

Table 21. Grade 8 Field Test Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	2	79	100	0	0	1	0	1
2	2	83	95.2	4.8	0	0.95	0.03	0.95
3	2	78	87.2	12.8	0	0.90	0.06	0.90
4	2	76	92.1	7.9	0	0.92	0.04	0.92
5	2	76	92.1	7.9	0	0.94	0.03	0.94
6	2	78	98.7	1.3	0	0.97	0.03	0.97
7	2	82	96.3	3.7	0	0.96	0.02	0.96
8	2	89	89.9	10.1	0	0.91	0.05	0.91
9	2	83	84.3	15.7	0	0.85	0.05	0.85
10	2	70	78.6	21.4	0	0.77	0.02	0.77
11	2	90	85.6	14.4	0	0.88	0.04	0.88
12	2	72	83.3	16.7	0	0.86	0.11	0.86
13	2	79	87.3	12.7	0	0.90	0.03	0.90
14	2	81	91.4	8.6	0	0.93	0.02	0.93
15	2	80	88.8	11.3	0	0.92	0.04	0.92
16	2	84	79.8	17.9	2.4	0.75	0.05	0.75
17	2	66	86.4	13.6	0	0.86	0.02	0.86
18	2	74	86.5	13.5	0	0.86	0.04	0.87
19	2	80	86.3	12.5	1.3	0.74	0	0.74
20	2	74	97.3	1.4	1.4	0.96	0.04	0.97
21	2	79	96.2	1.3	2.5	0.94	0.01	0.94
22	2	74	86.5	12.2	1.4	0.81	0.02	0.82
23	2	74	90.5	9.5	0	0.91	0.05	0.91
24	2	78	89.7	9.0	1.3	0.87	0.02	0.87
25	2	85	85.9	14.1	0	0.87	0.03	0.88
26	2	80	90.0	10	0	0.82	0.05	0.82
27	2	81	88.9	11.1	0	0.93	0.04	0.93
28	2	79	92.4	7.6	0	0.95	0.03	0.95
29	2	81	98.8	1.2	0	0.98	0.02	0.98
30	2	81	92.6	7.4	0	0.93	0	0.93
31	2	84	92.9	7.1	0	0.94	0.03	0.94
32	2	75	93.3	6.7	0	0.94	0.02	0.94

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
33	2	89	97.8	2.2	0	0.95	0.05	0.95
34	2	77	92.2	7.8	0	0.91	0.04	0.91
35	2	79	91.1	8.9	0	0.92	0.05	0.92
36	3	83	96.4	3.6	0	0.98	0.01	0.98
37	3	81	96.3	3.7	0	0.99	0.03	0.99
38	3	86	91.9	8.1	0	0.95	0.01	0.95
39	3	81	88.9	11.1	0	0.94	0.04	0.94
40	3	87	94.3	5.7	0	0.97	0.01	0.97
41	3	88	83.0	15.9	1.1	0.9	0	0.90
42	3	79	75.9	22.8	1.3	0.87	0.07	0.88
43	3	77	76.6	20.8	2.6	0.77	0.13	0.78
44	3	78	94.9	5.1	0	0.97	0.03	0.97
45	3	82	85.4	13.4	1.2	0.91	0.01	0.91
46	3	80	96.3	3.8	0	0.98	0.01	0.98

Table 22. HS Science Field Test Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	2	77	88.3	11.7	0	0.83	0.07	0.84
2	2	77	90.9	9.1	0	0.89	0.02	0.89
3	2	77	97.4	2.6	0	0.94	0.05	0.95
4	2	71	91.5	8.5	0	0.85	0.11	0.86
5	2	74	89.2	10.8	0	0.89	0.04	0.89
6	2	74	98.6	1.4	0	0.96	0.03	0.96
7	2	62	95.2	4.8	0	0.90	0.03	0.90
8	2	85	98.8	1.2	0	0.92	0.04	0.92
9	2	70	98.6	1.4	0	0.99	0.02	0.99
10	2	78	91.0	9.0	0	0.92	0.02	0.92
11	2	78	94.9	5.1	0	0.95	0	0.95
12	2	73	84.9	15.1	0	0.72	0.08	0.72
13	2	71	87.3	12.7	0	0.85	0.02	0.85
14	2	77	85.7	14.3	0	0.89	0.08	0.90
15	2	74	93.2	6.8	0	0.82	0.03	0.82
16	2	75	89.3	10.7	0	0.65	0	0.65
17	2	76	90.8	9.2	0	0.76	0.15	0.77
18	2	73	82.2	17.8	0	0.78	0.06	0.78
19	2	77	88.3	11.7	0	0.88	0.02	0.88
20	2	76	78.9	21.1	0	0.59	0	0.59
21	2	69	85.5	14.5	0	0.83	0.04	0.83
22	2	65	86.2	13.8	0	0.90	0.05	0.90
23	2	82	75.6	22.0	2.4	0.78	0.03	0.78
24	2	79	87.3	12.7	0	0.76	0	0.76
25	2	66	90.9	9.1	0	0.82	0.06	0.83
26	2	79	96.2	3.8	0	0.96	0.02	0.96
27	2	72	93.1	6.9	0	0.94	0.05	0.95
28	2	76	89.5	10.5	0	0.93	0.03	0.93
29	2	71	95.8	4.2	0	0.91	0.03	0.92
30	2	75	92.0	6.7	1.3	0.80	0.02	0.80
31	2	74	83.8	16.2	0	0.80	0.04	0.80
32	2	73	80.8	17.8	1.4	0.74	0.14	0.75

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
33	2	76	86.8	13.2	0	0.80	0.09	0.80
34	2	76	85.5	14.5	0	0.81	0.11	0.81
35	2	72	80.6	18.1	1.4	0.76	0.02	0.76
36	3	76	93.4	5.3	1.3	0.88	0.04	0.88
37	3	75	85.3	13.3	1.3	0.88	0.03	0.89
38	3	76	92.1	6.6	1.3	0.85	0.02	0.86
39	3	73	94.5	5.5	0	0.97	0.05	0.98
40	3	74	83.8	16.2	0	0.72	0.1	0.72
41	3	75	86.7	13.3	0	0.90	0	0.90
42	3	81	80.2	19.8	0	0.85	0.12	0.86
43	3	74	86.5	13.5	0	0.86	0	0.86
44	3	77	81.8	18.2	0	0.82	0	0.82
45	3	75	88.0	12.0	0	0.89	0.05	0.90
46	3	74	82.4	16.2	1.4	0.88	0.03	0.88
47	3	70	92.9	7.1	0	0.96	0.02	0.96

Table 23. N-Count by Form

Form	Grade					
	4	5	7	8	HS SS	HS Sci
Online	20,044	60,775	17,810	53,768	n/a	35,312
Spanish Online	192	219	81	214	n/a	99
Paper	566	2289	706	1729	n/a	1218
Spanish Paper	4	55	0	6	n/a	3
Large Print	0	0	0	0	n/a	0
Braille	1	0	0	6	n/a	4
Total	20,807	63,338	18,597	55,723	n/a	36,636

Table 24. Demographic Distributions

Subgroup	Grade and Subject					
	4 SS	5 Sci	7 SS	8 Sci	11 SS	11 Sci
No IEP	18,722	56,734	16,828	50,413	n/a	33,753
IEP	2,085	6,604	1,769	5,310	n/a	2,883
No Accommodation	16,777	52,257	16,700	49,915	n/a	34,074
Accommodation	4,030	11,081	1,897	5,808	n/a	2,562
Am. Indian/Alaska Native	126	457	119	398	n/a	327
Asian	723	1,961	621	1,915	n/a	1,202
Black	1,033	2,906	811	2,563	n/a	1,980
Hispanic	6,969	21,690	6,355	19,727	n/a	13,931
White	10,894	33,346	9,882	28,803	n/a	17,842
Hawaiian/Pacific Islander	57	154	47	144	n/a	100
Two or More Races	1,002	2,811	761	2,167	n/a	1,243
Missing*	n/a	n/a	n/a	n/a	n/a	n/a
No Economic Disadvantage	12,074	36,621	11,123	33,421	n/a	22,758
Economic Disadvantage	8,731	26,713	7,474	22,302	n/a	13,878
Female	10,121	30,896	9,023	26,986	n/a	17,488
Male	10,686	32,442	9,574	28,737	n/a	19,148
Language Proficiency NA	16,122	49,335	14,482	42,864	n/a	27,695
Language Proficiency NEP	487	994	405	1,093	n/a	656
Language Proficiency LEP	2,548	7,280	1,680	5,357	n/a	2,347
Language Proficiency FEP	1,242	5,023	1,780	5,618	n/a	5,325
Not Migrant	20,742	63,092	18,526	55,491	n/a	36,499
Migrant	65	246	71	232	n/a	137

*n-count less than 16

Table 25. Grade 4 Operational Item Parameter Estimates

Item	Item	Model	A	B	C	D1	D2	D3	D4	Misfit
1	CR	GPC	1.147	0.946		0.000	1.296	0.181	-1.477	No
2	CR	GPC	1.323	1.128		0.000	0.953	0.236	-1.189	No
3	CR	GPC	1.014	0.766		0.000	0.807	-0.471	-0.336	No
4	CR	GPC	0.909	-0.117		0.000	1.729	-0.338	-1.390	No
5	CR	GPC	0.706	1.056		0.000	1.363	-0.292	-1.070	No
6	CR	GPC	0.878	1.325		0.000	-0.176	0.332	-0.156	No
7	CR	GPC	0.558	0.374		0.000	0.335	-0.037	-0.298	No
8	CR	GPC	0.590	0.524		0.000	0.513	0.813	-1.326	No
9	CR	GPC	0.585	1.418		0.000	-0.371	0.596	-0.224	No
10	CR	GPC	0.688	1.036		0.000	1.397	-0.206	-1.191	No
11	CR	GPC	0.806	0.369		0.000	0.259	0.121	-0.379	No
12	CR	GPC	0.834	1.344		0.000	0.298	0.202	-0.499	No
13	SR	3PL	1.077	0.247	0.169					No
14	SR	3PL	2.635	1.319	0.257					No
15	SR	3PL	0.642	0.428	0.102					No
16	SR	3PL	1.379	-0.535	0.110					No
17	SR	3PL	2.129	1.058	0.377					No
18	SR	3PL	2.521	1.304	0.244					No
19	SR	3PL	0.676	1.101	0.060					No
20	SR	3PL	1.724	1.030	0.280					No
21	SR	3PL	0.632	-0.104	0.072					No
22	SR	3PL	1.776	0.749	0.139					No
23	SR	3PL	1.925	1.253	0.294					No
24	SR	3PL	1.698	1.857	0.216					No
25	SR	3PL	1.216	0.756	0.134					No
26	SR	3PL	1.639	1.267	0.279					No
27	SR	3PL	1.215	0.986	0.189					No
28	SR	3PL	0.757	0.346	0.060					No
29	SR	3PL	1.692	1.208	0.149					No
30	SR	3PL	1.750	0.537	0.238					No
31	SR	3PL	1.809	-0.164	0.243					No
32	SR	3PL	0.870	-1.062	0.123					No
33	SR	3PL	1.152	2.152	0.377					No
34	SR	3PL	1.681	0.302	0.246					No
35	SR	3PL	1.218	0.937	0.295					No
36	SR	3PL	1.488	1.502	0.310					No
37	XI	2PL	1.464	0.429						No
38	XI	3PL	1.172	-0.043	0.207					No
39	XI	3PL	1.619	-0.482	0.134					No
40	XI	3PL	0.691	0.622	0.222					No
41	XI	3PL	1.117	-0.368	0.151					No
42	XI	3PL	1.119	-1.457	0.131					No
43	XI	3PL	1.761	1.958	0.230					No
44	XI	3PL	1.102	1.921	0.165					No
45	XI	3PL	1.821	1.595	0.345					No

Item	Item	Model	A	B	C	D1	D2	D3	D4	Misfit
46	XI	3PL	1.077	-0.894	0.124					No
47	XI	3PL	2.159	0.840	0.197					No
48	XI	3PL	1.386	-0.405	0.288					No
49	XI	3PL	1.284	0.460	0.009					No
50	XI	3PL	1.010	2.286	0.293					No
51	XI	3PL	1.483	1.015	0.177					No

Table 26. Grade 5 Operational Item Parameter Estimates

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
1	CR	GPC	1.238	0.847		0.000	-0.973	0.973		No
2	CR	GPC	0.947	0.523		0.000	1.042	-1.042		No
3	CR	GPC	0.665	1.789		0.000	-0.032	0.032		No
4	CR	GPC	1.071	0.675		0.000	0.824	-0.824		No
5	CR	GPC	1.248	-0.288		0.000	0.151	-0.151		No
6	CR	GPC	1.215	0.542		0.000	0.497	-0.497		No
7	CR	GPC	1.482	1.000		0.000	0.413	-0.413		No
8	CR	GPC	1.070	1.593		0.000	-0.102	0.102		No
9	CR	GPC	1.008	1.405		0.000	1.131	-1.131		No
10	CR	GPC	1.197	0.374		0.000	0.482	-0.482		No
11	CR	GPC	1.145	-0.056		0.000	-0.018	0.018		No
12	CR	GPC	1.352	0.709		0.000	0.602	-0.602		No
13	CR	GPC	1.084	-0.016		0.000	0.734	-0.734		No
14	CR	GPC	0.557	1.430		0.000	1.144	-1.144		No
15	CR	GPC	0.644	0.438		0.000	0.717	-0.068	-0.649	No
16	CR	GPC	1.090	0.712		0.000	0.379	0.661	-1.040	No
17	CR	GPC	1.079	0.430		0.000	0.810	0.009	-0.819	No
18	SR	3PL	2.041	-0.374	0.232					No
19	SR	3PL	1.663	-1.107	0.178					No
20	SR	3PL	0.540	0.072	0.023					No
21	SR	3PL	2.017	0.829	0.195					No
22	SR	3PL	1.144	0.476	0.043					No
23	SR	3PL	1.574	-0.552	0.342					No
24	SR	3PL	1.595	-1.017	0.406					No
25	SR	3PL	1.880	0.036	0.091					No
26	SR	3PL	1.273	-0.145	0.213					No
27	SR	3PL	1.281	-0.976	0.324					No
28	SR	3PL	0.777	-0.573	0.157					No
29	SR	3PL	1.219	0.391	0.206					No
30	SR	3PL	1.596	1.066	0.116					No
31	SR	3PL	1.342	-0.098	0.280					No
32	SR	3PL	1.217	-0.643	0.110					No
33	SR	3PL	1.851	1.265	0.218					No
34	SR	3PL	1.089	-1.202	0.082					No
35	SR	3PL	0.579	-0.153	0.036					No
36	SR	3PL	1.797	1.495	0.347					No
37	SR	3PL	1.124	-0.686	0.306					No
38	SR	3PL	1.487	1.691	0.292					No
39	SR	3PL	1.682	1.172	0.142					No
40	SR	3PL	0.606	-1.601	0.065					No
41	SR	3PL	1.263	-2.027	0.121					No

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
42	SR	3PL	2.320	-0.118	0.233					No
43	XI	2PL	0.605	-0.575						No
44	XI	2PL	1.051	-1.466						No
45	XI	2PL	1.263	-0.832						No
46	XI	2PL	1.426	1.073						No
47	XI	2PL	1.300	-1.491						No
48	XI	2PL	1.374	-2.049						No
49	XI	2PL	1.493	-0.694						No
50	XI	2PL	1.079	-0.655						No
51	XI	2PL	1.107	1.654						No
52	XI	3PL	1.575	0.870	0.067					No
53	XI	3PL	0.995	-0.058	0.015					No
54	XI	3PL	1.389	-1.055	0.340					No
55	XI	3PL	0.859	-3.001	0.054					No
56	XI	3PL	1.326	-0.505	0.024					No
57	XI	3PL	1.362	0.286	0.234					No
58	XI	3PL	1.343	-0.402	0.031					No
59	XI	3PL	1.920	0.245	0.193					No
60	XI	3PL	0.976	-1.218	0.011					No

Table 27. Grade 7 Operational Item Parameter Estimates

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
1	CR	GPC	0.748	0.650		0.000	1.324	-0.019	-1.305	No
2	CR	GPC	1.054	1.023		0.000	1.084	-0.181	-0.904	No
3	CR	GPC	0.808	0.752		0.000	0.099	0.286	-0.384	No
4	CR	GPC	1.294	0.363		0.000	1.762	-0.333	-1.428	No
5	CR	GPC	0.778	-0.446		0.000	1.013	-0.822	-0.191	Yes
6	CR	GPC	0.972	0.302		0.000	0.727	-0.079	-0.649	Yes
7	CR	GPC	0.775	0.857		0.000	-0.783	0.568	0.215	No
8	CR	GPC	1.107	0.830		0.000	0.589	0.092	-0.681	No
9	CR	GPC	1.483	0.874		0.000	0.621	0.001	-0.622	No
10	CR	GPC	1.184	0.112		0.000	0.620	0.018	-0.638	No
11	CR	GPC	1.115	0.155		0.000	0.703	-0.079	-0.624	No
12	CR	GPC	0.856	0.070		0.000	0.618	-0.204	-0.414	No
13	SR	3PL	1.777	0.763	0.373					No
14	SR	3PL	0.844	1.010	0.150					No
15	SR	3PL	0.840	1.455	0.077					No
16	SR	3PL	1.219	1.160	0.211					No
17	SR	3PL	1.509	0.522	0.273					No
18	SR	3PL	2.076	-0.016	0.257					No
19	SR	3PL	1.531	-0.338	0.163					No
20	SR	3PL	1.818	0.782	0.373					No
21	SR	3PL	2.285	-0.663	0.252					No
22	SR	3PL	2.432	0.039	0.189					No
23	SR	3PL	2.229	0.065	0.232					No
24	SR	3PL	1.994	0.278	0.250					No
25	SR	3PL	1.016	0.846	0.213					No
26	SR	3PL	2.165	1.074	0.240					No
27	SR	3PL	1.756	1.218	0.202					No
28	SR	3PL	1.157	1.685	0.068					No
29	SR	3PL	1.230	0.818	0.092					No
30	SR	3PL	1.463	0.172	0.433					No
31	SR	3PL	2.108	0.696	0.363					No
32	SR	3PL	1.159	-0.225	0.121					No
33	XI	2PL	1.137	2.136						No
34	XI	2PL	0.685	-1.001						No
35	XI	2PL	1.314	0.303						No
36	XI	2PL	1.118	0.051						No
37	XI	2PL	1.227	1.269						No
38	XI	3PL	0.921	1.002	0.012					No
39	XI	3PL	1.364	-0.556	0.114					No
40	XI	3PL	1.748	-0.306	0.139					No
41	XI	3PL	1.017	2.486	0.123					No

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
42	XI	3PL	1.502	-0.975	0.391					No
43	XI	3PL	1.956	0.974	0.045					No
44	XI	3PL	1.895	0.257	0.299					No
45	XI	3PL	1.822	0.206	0.060					No
46	XI	3PL	1.905	0.408	0.054					No
47	XI	3PL	1.383	1.486	0.075					No
48	XI	3PL	1.645	1.813	0.086					No

Table 28. Grade 8 Operational Item Parameter Estimates

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
1	CR	GPC	1.354	-0.037		0.000	0.893	-0.893		No
2	CR	GPC	0.707	1.486		0.000	-1.131	1.131		No
3	CR	GPC	0.698	0.287		0.000	-0.930	0.930		Yes
4	CR	GPC	1.477	1.126		0.000	0.386	-0.386		No
5	CR	GPC	1.051	0.828		0.000	0.908	-0.908		No
6	CR	GPC	1.184	0.803		0.000	0.664	-0.664		Yes
7	CR	GPC	1.059	0.135		0.000	-0.420	0.420		No
8	CR	GPC	1.208	0.129		0.000	0.132	-0.132		No
9	CR	GPC	1.038	-0.262		0.000	0.566	-0.566		No
10	CR	GPC	0.854	-0.634		0.000	-0.761	0.761		No
11	CR	GPC	0.943	1.177		0.000	0.134	-0.134		No
12	CR	GPC	1.110	1.384		0.000	0.027	-0.027		No
13	CR	GPC	0.854	0.304		0.000	0.064	-0.064		No
14	CR	GPC	1.126	0.584		0.000	-0.118	0.446	-0.328	No
15	CR	GPC	1.105	0.585		0.000	0.909	-0.381	-0.527	No
16	CR	GPC	1.263	0.448		0.000	0.827	-0.096	-0.731	No
17	SR	3PL	1.135	0.478	0.223					No
18	SR	3PL	1.136	-0.078	0.312					No
19	SR	3PL	0.943	-0.870	0.000					No
20	SR	3PL	0.897	1.551	0.264					No
21	SR	3PL	1.165	0.822	0.304					No
22	SR	3PL	0.624	0.951	0.048					No
23	SR	3PL	1.178	0.899	0.138					No
24	SR	3PL	1.004	-1.450	0.020					No
25	SR	3PL	1.465	-0.401	0.275					No
26	SR	3PL	1.262	1.146	0.308					No
27	SR	3PL	0.625	-0.062	0.017					No
28	SR	3PL	0.665	0.245	0.191					No
29	SR	3PL	1.386	-0.341	0.247					No
30	SR	3PL	1.162	0.808	0.180					No
31	SR	3PL	1.827	-0.224	0.272					No
32	SR	3PL	1.707	-0.869	0.214					No
33	SR	3PL	1.647	0.836	0.347					No
34	SR	3PL	0.983	0.083	0.401					No
35	SR	3PL	1.068	0.239	0.218					No
36	SR	3PL	1.272	-0.031	0.166					No
37	SR	3PL	0.748	-0.012	0.020					No
38	SR	3PL	1.684	0.358	0.442					No
39	SR	3PL	1.418	0.966	0.126					No
40	XI	2PL	1.983	0.864						No
41	XI	2PL	1.668	0.049						No

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
42	XI	2PL	0.733	1.305						No
43	XI	2PL	1.378	1.094						No
44	XI	2PL	1.023	0.286						No
45	XI	3PL	0.644	-0.568	0.019					No
46	XI	3PL	1.357	2.150	0.112					No
47	XI	3PL	1.158	-1.563	0.219					No
48	XI	3PL	1.344	1.181	0.055					No
49	XI	3PL	1.682	0.481	0.012					No
50	XI	3PL	1.287	0.432	0.329					No
51	XI	3PL	0.754	0.144	0.000					No
52	XI	3PL	1.313	1.448	0.012					No
53	XI	3PL	0.910	0.452	0.048					No
54	XI	3PL	0.898	1.121	0.088					No
55	XI	3PL	0.876	1.342	0.024					No
56	XI	3PL	1.252	0.930	0.120					No
57	XI	3PL	2.137	0.490	0.099					No
58	XI	3PL	1.801	0.520	0.157					No
59	XI	3PL	1.276	0.799	0.022					No

Table 29. HS Science Operational Item Parameter Estimates

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
1	CR	GPC	1.788	1.434		0.000	-0.402	0.402		No
2	CR	GPC	2.051	1.833		0.000	-0.165	0.165		No
3	CR	GPC	0.647	0.631		0.000	-0.784	0.784		No
4	CR	GPC	1.505	1.509		0.000	0.697	-0.697		No
5	CR	GPC	1.156	1.303		0.000	1.050	-1.050		No
6	CR	GPC	1.545	0.205		0.000	0.466	-0.466		No
7	CR	GPC	1.363	0.312		0.000	0.638	-0.638		No
8	CR	GPC	1.884	0.665		0.000	0.309	-0.309		No
9	CR	GPC	1.161	-0.330		0.000	0.600	-0.600		No
10	CR	GPC	1.174	0.760		0.000	0.619	-0.619		No
11	CR	GPC	1.495	1.507		0.000	0.375	-0.375		No
12	CR	GPC	1.193	0.456		0.000	-0.559	0.559		No
13	CR	GPC	1.580	1.147		0.000	0.286	-0.286		No
14	CR	GPC	1.558	0.954		0.000	-0.175	0.175		No
15	CR	GPC	1.209	1.370		0.000	0.834	0.146	-0.980	No
16	CR	GPC	0.877	0.669		0.000	0.876	-0.677	-0.199	Yes
17	CR	GPC	0.836	0.810		0.000	-0.409	0.605	-0.196	No
18	SR	3PL	2.094	1.392	0.108					No
19	SR	3PL	1.021	2.080	0.176					No
20	SR	3PL	1.317	-0.883	0.152					No
21	SR	3PL	2.860	1.533	0.372					No
22	SR	3PL	0.940	0.555	0.020					No
23	SR	3PL	1.504	1.640	0.253					No
24	SR	3PL	1.988	0.303	0.107					No
25	SR	3PL	1.840	1.196	0.307					No
26	SR	3PL	1.907	1.173	0.200					No
27	SR	3PL	1.798	2.019	0.408					No
28	SR	3PL	1.630	0.793	0.313					No
29	SR	3PL	2.138	1.675	0.227					No
30	SR	3PL	1.749	1.196	0.206					No
31	SR	3PL	1.505	0.091	0.068					No
32	SR	3PL	1.203	-0.666	0.033					No
33	SR	3PL	2.000	1.282	0.209					No
34	SR	3PL	1.527	0.620	0.288					No
35	SR	3PL	1.760	0.684	0.253					No
36	SR	3PL	1.247	0.619	0.197					No
37	SR	3PL	1.554	0.700	0.140					No
38	SR	3PL	1.274	1.335	0.117					No
39	SR	3PL	1.121	-0.508	0.135					No
40	SR	3PL	0.707	0.289	0.034					No
41	SR	3PL	2.024	1.410	0.217					No

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
42	SR	3PL	0.625	0.979	0.037					No
43	SR	3PL	0.962	1.297	0.088					No
44	XI	2PL	1.561	0.844						No
45	XI	2PL	1.124	2.573						No
46	XI	2PL	1.007	1.984						No
47	XI	2PL	1.477	0.892						No
48	XI	2PL	1.154	1.770						No
49	XI	2PL	1.381	-0.558						No
50	XI	2PL	0.813	-0.086						No
51	XI	2PL	1.573	1.093						No
52	XI	2PL	1.669	0.561						No
53	XI	2PL	0.913	0.746						No
54	XI	3PL	1.138	0.365	0.152					No
55	XI	3PL	1.558	1.600	0.164					No
56	XI	3PL	1.190	-2.576	0.107					No
57	XI	3PL	2.444	0.423	0.009					No
58	XI	3PL	1.174	0.904	0.011					No
59	XI	3PL	1.811	-0.246	0.057					No
60	XI	3PL	1.121	1.708	0.007					No

Table 30. Grade 4 Cumulative Frequency Distribution of Scale Scores

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
300	460	2.21	460	2.21	347	7	0.03	650	3.12	392	9	0.04	996	4.79
301	3	0.01	463	2.23	348	9	0.04	659	3.17	393	5	0.02	1,001	4.81
302	3	0.01	466	2.24	349	2	0.01	661	3.18	394	16	0.08	1,017	4.89
303	6	0.03	472	2.27	350	7	0.03	668	3.21	395	16	0.08	1,033	4.96
304	2	0.01	474	2.28	351	5	0.02	673	3.23	396	6	0.03	1,039	4.99
305	5	0.02	479	2.30	352	4	0.02	677	3.25	397	11	0.05	1,050	5.05
306	4	0.02	483	2.32	353	5	0.02	682	3.28	398	8	0.04	1,058	5.08
307	3	0.01	486	2.34	354	7	0.03	689	3.31	399	10	0.05	1,068	5.13
308	2	0.01	488	2.35	355	8	0.04	697	3.35	400	11	0.05	1,079	5.19
309	3	0.01	491	2.36	356	6	0.03	703	3.38	401	19	0.09	1,098	5.28
310	2	0.01	493	2.37	357	4	0.02	707	3.40	402	9	0.04	1,107	5.32
311	2	0.01	495	2.38	358	5	0.02	712	3.42	403	11	0.05	1,118	5.37
312	3	0.01	498	2.39	359	5	0.02	717	3.45	404	7	0.03	1,125	5.41
313	4	0.02	502	2.41	360	7	0.03	724	3.48	405	11	0.05	1,136	5.46
314	5	0.02	507	2.44	361	10	0.05	734	3.53	406	11	0.05	1,147	5.51
315	7	0.03	514	2.47	362	5	0.02	739	3.55	407	11	0.05	1,158	5.57
316	8	0.04	522	2.51	363	12	0.06	751	3.61	408	15	0.07	1,173	5.64
317	3	0.01	525	2.52	364	6	0.03	757	3.64	409	7	0.03	1,180	5.67
318	6	0.03	531	2.55	365	10	0.05	767	3.69	410	20	0.10	1,200	5.77
319	8	0.04	539	2.59	366	8	0.04	775	3.72	411	10	0.05	1,210	5.82
320	6	0.03	545	2.62	367	5	0.02	780	3.75	412	9	0.04	1,219	5.86
321	4	0.02	549	2.64	368	8	0.04	788	3.79	413	12	0.06	1,231	5.92
322	2	0.01	551	2.65	369	12	0.06	800	3.84	414	13	0.06	1,244	5.98
323	5	0.02	556	2.67	370	3	0.01	803	3.86	415	18	0.09	1,262	6.07
324	2	0.01	558	2.68	371	5	0.02	808	3.88	416	17	0.08	1,279	6.15
326	4	0.02	562	2.70	372	4	0.02	812	3.90	417	13	0.06	1,292	6.21
327	3	0.01	565	2.72	373	12	0.06	824	3.96	418	8	0.04	1,300	6.25
328	3	0.01	568	2.73	374	7	0.03	831	3.99	419	15	0.07	1,315	6.32
329	4	0.02	572	2.75	375	10	0.05	841	4.04	420	14	0.07	1,329	6.39
330	1	0.00	573	2.75	376	10	0.05	851	4.09	421	16	0.08	1,345	6.46
331	6	0.03	579	2.78	377	15	0.07	866	4.16	422	20	0.10	1,365	6.56
332	4	0.02	583	2.80	378	11	0.05	877	4.21	423	20	0.10	1,385	6.66
333	2	0.01	585	2.81	379	12	0.06	889	4.27	424	12	0.06	1,397	6.71
334	1	0.00	586	2.82	380	12	0.06	901	4.33	425	17	0.08	1,414	6.80
335	5	0.02	591	2.84	381	6	0.03	907	4.36	426	10	0.05	1,424	6.84
336	2	0.01	593	2.85	382	4	0.02	911	4.38	427	10	0.05	1,434	6.89
337	3	0.01	596	2.86	383	13	0.06	924	4.44	428	16	0.08	1,450	6.97
338	4	0.02	600	2.88	384	9	0.04	933	4.48	429	13	0.06	1,463	7.03
340	4	0.02	604	2.90	385	7	0.03	940	4.52	430	15	0.07	1,478	7.10
341	8	0.04	612	2.94	386	6	0.03	946	4.55	431	24	0.12	1,502	7.22
342	4	0.02	616	2.96	387	9	0.04	955	4.59	432	12	0.06	1,514	7.28
343	11	0.05	627	3.01	388	10	0.05	965	4.64	433	13	0.06	1,527	7.34
344	9	0.04	636	3.06	389	10	0.05	975	4.69	434	15	0.07	1,542	7.41
345	3	0.01	639	3.07	390	7	0.03	982	4.72	435	17	0.08	1,559	7.49
346	4	0.02	643	3.09	391	5	0.02	987	4.74	436	18	0.09	1,577	7.58

Table 30. Grade 4 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
437	20	0.10	1,597	7.68	482	23	0.11	2,607	12.53	527	49	0.24	4,254	20.45
438	15	0.07	1,612	7.75	483	30	0.14	2,637	12.67	528	47	0.23	4,301	20.67
439	12	0.06	1,624	7.81	484	30	0.14	2,667	12.82	529	48	0.23	4,349	20.90
440	11	0.05	1,635	7.86	485	31	0.15	2,698	12.97	530	40	0.19	4,389	21.09
441	18	0.09	1,653	7.94	486	31	0.15	2,729	13.12	531	48	0.23	4,437	21.32
442	20	0.10	1,673	8.04	487	34	0.16	2,763	13.28	532	41	0.20	4,478	21.52
443	12	0.06	1,685	8.10	488	29	0.14	2,792	13.42	533	43	0.21	4,521	21.73
444	19	0.09	1,704	8.19	489	29	0.14	2,821	13.56	534	50	0.24	4,571	21.97
445	22	0.11	1,726	8.30	490	37	0.18	2,858	13.74	535	48	0.23	4,619	22.20
446	16	0.08	1,742	8.37	491	28	0.13	2,886	13.87	536	45	0.22	4,664	22.42
447	24	0.12	1,766	8.49	492	36	0.17	2,922	14.04	537	56	0.27	4,720	22.68
448	19	0.09	1,785	8.58	493	27	0.13	2,949	14.17	538	57	0.27	4,777	22.96
449	20	0.10	1,805	8.67	494	36	0.17	2,985	14.35	539	53	0.25	4,830	23.21
450	20	0.10	1,825	8.77	495	37	0.18	3,022	14.52	540	50	0.24	4,880	23.45
451	20	0.10	1,845	8.87	496	36	0.17	3,058	14.70	541	38	0.18	4,918	23.64
452	21	0.10	1,866	8.97	497	28	0.13	3,086	14.83	542	56	0.27	4,974	23.91
453	19	0.09	1,885	9.06	498	32	0.15	3,118	14.99	543	42	0.20	5,016	24.11
454	21	0.10	1,906	9.16	499	33	0.16	3,151	15.14	544	46	0.22	5,062	24.33
455	25	0.12	1,931	9.28	500	32	0.15	3,183	15.30	545	48	0.23	5,110	24.56
456	17	0.08	1,948	9.36	501	38	0.18	3,221	15.48	546	59	0.28	5,169	24.84
457	18	0.09	1,966	9.45	502	28	0.13	3,249	15.61	547	50	0.24	5,219	25.08
458	23	0.11	1,989	9.56	503	41	0.20	3,290	15.81	548	47	0.23	5,266	25.31
459	25	0.12	2,014	9.68	504	41	0.20	3,331	16.01	549	44	0.21	5,310	25.52
460	30	0.14	2,044	9.82	505	41	0.20	3,372	16.21	550	56	0.27	5,366	25.79
461	20	0.10	2,064	9.92	506	48	0.23	3,420	16.44	551	69	0.33	5,435	26.12
462	23	0.11	2,087	10.03	507	39	0.19	3,459	16.62	552	65	0.31	5,500	26.43
463	18	0.09	2,105	10.12	508	46	0.22	3,505	16.85	553	62	0.30	5,562	26.73
464	19	0.09	2,124	10.21	509	38	0.18	3,543	17.03	554	48	0.23	5,610	26.96
465	30	0.14	2,154	10.35	510	31	0.15	3,574	17.18	555	54	0.26	5,664	27.22
466	22	0.11	2,176	10.46	511	38	0.18	3,612	17.36	556	50	0.24	5,714	27.46
467	24	0.12	2,200	10.57	512	45	0.22	3,657	17.58	557	52	0.25	5,766	27.71
468	28	0.13	2,228	10.71	513	30	0.14	3,687	17.72	558	50	0.24	5,816	27.95
469	33	0.16	2,261	10.87	514	28	0.13	3,715	17.85	559	58	0.28	5,874	28.23
470	30	0.14	2,291	11.01	515	45	0.22	3,760	18.07	560	57	0.27	5,931	28.50
471	23	0.11	2,314	11.12	516	32	0.15	3,792	18.22	561	46	0.22	5,977	28.73
472	24	0.12	2,338	11.24	517	52	0.25	3,844	18.47	562	56	0.27	6,033	29.00
473	32	0.15	2,370	11.39	518	39	0.19	3,883	18.66	563	72	0.35	6,105	29.34
474	19	0.09	2,389	11.48	519	36	0.17	3,919	18.84	564	59	0.28	6,164	29.62
475	25	0.12	2,414	11.60	520	35	0.17	3,954	19.00	565	45	0.22	6,209	29.84
476	26	0.12	2,440	11.73	521	42	0.20	3,996	19.21	566	54	0.26	6,263	30.10
477	31	0.15	2,471	11.88	522	43	0.21	4,039	19.41	567	73	0.35	6,336	30.45
478	26	0.12	2,497	12.00	523	38	0.18	4,077	19.59	568	60	0.29	6,396	30.74
479	23	0.11	2,520	12.11	524	50	0.24	4,127	19.83	569	59	0.28	6,455	31.02
480	35	0.17	2,555	12.28	525	41	0.20	4,168	20.03	570	58	0.28	6,513	31.30
481	29	0.14	2,584	12.42	526	37	0.18	4,205	20.21	571	73	0.35	6,586	31.65

Table 30. Grade 4 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
572	73	0.35	6,659	32.00	617	73	0.35	9,739	46.81	662	81	0.39	13,013	62.54
573	70	0.34	6,729	32.34	618	63	0.30	9,802	47.11	663	74	0.36	13,087	62.90
574	67	0.32	6,796	32.66	619	80	0.38	9,882	47.49	664	90	0.43	13,177	63.33
575	70	0.34	6,866	33.00	620	72	0.35	9,954	47.84	665	90	0.43	13,267	63.76
576	57	0.27	6,923	33.27	621	93	0.45	10,047	48.29	666	94	0.45	13,361	64.21
577	64	0.31	6,987	33.58	622	66	0.32	10,113	48.60	667	82	0.39	13,443	64.61
578	78	0.37	7,065	33.95	623	69	0.33	10,182	48.94	668	73	0.35	13,516	64.96
579	45	0.22	7,110	34.17	624	63	0.30	10,245	49.24	669	76	0.37	13,592	65.32
580	66	0.32	7,176	34.49	625	73	0.35	10,318	49.59	670	70	0.34	13,662	65.66
581	55	0.26	7,231	34.75	626	59	0.28	10,377	49.87	671	63	0.30	13,725	65.96
582	60	0.29	7,291	35.04	627	81	0.39	10,458	50.26	672	69	0.33	13,794	66.29
583	51	0.25	7,342	35.29	628	88	0.42	10,546	50.68	673	76	0.37	13,870	66.66
584	66	0.32	7,408	35.60	629	68	0.33	10,614	51.01	674	76	0.37	13,946	67.03
585	61	0.29	7,469	35.90	630	72	0.35	10,686	51.36	675	75	0.36	14,021	67.39
586	58	0.28	7,527	36.18	631	66	0.32	10,752	51.67	676	74	0.36	14,095	67.74
587	71	0.34	7,598	36.52	632	85	0.41	10,837	52.08	677	62	0.30	14,157	68.04
588	66	0.32	7,664	36.83	633	81	0.39	10,918	52.47	678	74	0.36	14,231	68.40
589	69	0.33	7,733	37.17	634	63	0.30	10,981	52.78	679	79	0.38	14,310	68.77
590	84	0.40	7,817	37.57	635	65	0.31	11,046	53.09	680	79	0.38	14,389	69.15
591	61	0.29	7,878	37.86	636	63	0.30	11,109	53.39	681	79	0.38	14,468	69.53
592	73	0.35	7,951	38.21	637	78	0.37	11,187	53.77	682	75	0.36	14,543	69.89
593	63	0.30	8,014	38.52	638	65	0.31	11,252	54.08	683	79	0.38	14,622	70.27
594	68	0.33	8,082	38.84	639	78	0.37	11,330	54.45	684	61	0.29	14,683	70.57
595	69	0.33	8,151	39.17	640	74	0.36	11,404	54.81	685	89	0.43	14,772	71.00
596	60	0.29	8,211	39.46	641	70	0.34	11,474	55.14	686	78	0.37	14,850	71.37
597	66	0.32	8,277	39.78	642	67	0.32	11,541	55.47	687	88	0.42	14,938	71.79
598	76	0.37	8,353	40.15	643	62	0.30	11,603	55.76	688	78	0.37	15,016	72.17
599	78	0.37	8,431	40.52	644	73	0.35	11,676	56.12	689	69	0.33	15,085	72.50
600	70	0.34	8,501	40.86	645	81	0.39	11,757	56.51	690	66	0.32	15,151	72.82
601	64	0.31	8,565	41.16	646	86	0.41	11,843	56.92	691	71	0.34	15,222	73.16
602	76	0.37	8,641	41.53	647	62	0.30	11,905	57.22	692	66	0.32	15,288	73.48
603	54	0.26	8,695	41.79	648	69	0.33	11,974	57.55	693	73	0.35	15,361	73.83
604	74	0.36	8,769	42.14	649	67	0.32	12,041	57.87	694	72	0.35	15,433	74.17
605	75	0.36	8,844	42.50	650	67	0.32	12,108	58.19	695	76	0.37	15,509	74.54
606	88	0.42	8,932	42.93	651	80	0.38	12,188	58.58	696	81	0.39	15,590	74.93
607	69	0.33	9,001	43.26	652	69	0.33	12,257	58.91	697	50	0.24	15,640	75.17
608	87	0.42	9,088	43.68	653	80	0.38	12,337	59.29	698	59	0.28	15,699	75.45
609	60	0.29	9,148	43.97	654	74	0.36	12,411	59.65	699	65	0.31	15,764	75.76
610	54	0.26	9,202	44.23	655	83	0.40	12,494	60.05	700	54	0.26	15,818	76.02
611	74	0.36	9,276	44.58	656	73	0.35	12,567	60.40	701	64	0.31	15,882	76.33
612	73	0.35	9,349	44.93	657	78	0.37	12,645	60.77	702	75	0.36	15,957	76.69
613	69	0.33	9,418	45.26	658	79	0.38	12,724	61.15	703	63	0.30	16,020	76.99
614	85	0.41	9,503	45.67	659	74	0.36	12,798	61.51	704	62	0.30	16,082	77.29
615	88	0.42	9,591	46.10	660	63	0.30	12,861	61.81	705	81	0.39	16,163	77.68
616	75	0.36	9,666	46.46	661	71	0.34	12,932	62.15	706	53	0.25	16,216	77.94

Table 30. Grade 4 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
707	62	0.30	16,278	78.23	752	53	0.25	18,762	90.17	797	21	0.10	20,100	96.60
708	66	0.32	16,344	78.55	753	50	0.24	18,812	90.41	798	27	0.13	20,127	96.73
709	70	0.34	16,414	78.89	754	38	0.18	18,850	90.59	799	22	0.11	20,149	96.84
710	62	0.30	16,476	79.18	755	38	0.18	18,888	90.78	800	13	0.06	20,162	96.90
711	65	0.31	16,541	79.50	756	39	0.19	18,927	90.96	801	13	0.06	20,175	96.96
712	62	0.30	16,603	79.80	757	38	0.18	18,965	91.15	802	12	0.06	20,187	97.02
713	65	0.31	16,668	80.11	758	35	0.17	19,000	91.32	803	15	0.07	20,202	97.09
714	66	0.32	16,734	80.42	759	32	0.15	19,032	91.47	804	20	0.10	20,222	97.19
715	59	0.28	16,793	80.71	760	35	0.17	19,067	91.64	805	11	0.05	20,233	97.24
716	54	0.26	16,847	80.97	761	32	0.15	19,099	91.79	806	19	0.09	20,252	97.33
717	66	0.32	16,913	81.29	762	28	0.13	19,127	91.93	807	16	0.08	20,268	97.41
718	56	0.27	16,969	81.55	763	39	0.19	19,166	92.11	808	14	0.07	20,282	97.48
719	63	0.30	17,032	81.86	764	29	0.14	19,195	92.25	809	12	0.06	20,294	97.53
720	53	0.25	17,085	82.11	765	28	0.13	19,223	92.39	810	13	0.06	20,307	97.60
721	61	0.29	17,146	82.40	766	33	0.16	19,256	92.55	811	14	0.07	20,321	97.66
722	60	0.29	17,206	82.69	767	25	0.12	19,281	92.67	812	18	0.09	20,339	97.75
723	58	0.28	17,264	82.97	768	31	0.15	19,312	92.81	813	17	0.08	20,356	97.83
724	55	0.26	17,319	83.24	769	36	0.17	19,348	92.99	814	14	0.07	20,370	97.90
725	60	0.29	17,379	83.52	770	41	0.20	19,389	93.18	815	10	0.05	20,380	97.95
726	69	0.33	17,448	83.86	771	36	0.17	19,425	93.36	816	17	0.08	20,397	98.03
727	47	0.23	17,495	84.08	772	37	0.18	19,462	93.54	817	15	0.07	20,412	98.10
728	58	0.28	17,553	84.36	773	26	0.12	19,488	93.66	818	15	0.07	20,427	98.17
729	60	0.29	17,613	84.65	774	35	0.17	19,523	93.83	819	12	0.06	20,439	98.23
730	53	0.25	17,666	84.90	775	33	0.16	19,556	93.99	820	10	0.05	20,449	98.28
731	66	0.32	17,732	85.22	776	24	0.12	19,580	94.10	821	13	0.06	20,462	98.34
732	54	0.26	17,786	85.48	777	19	0.09	19,599	94.19	822	16	0.08	20,478	98.42
733	50	0.24	17,836	85.72	778	31	0.15	19,630	94.34	823	15	0.07	20,493	98.49
734	47	0.23	17,883	85.95	779	26	0.12	19,656	94.47	824	8	0.04	20,501	98.53
735	57	0.27	17,940	86.22	780	44	0.21	19,700	94.68	825	7	0.03	20,508	98.56
736	65	0.31	18,005	86.53	781	22	0.11	19,722	94.79	826	9	0.04	20,517	98.61
737	63	0.30	18,068	86.84	782	31	0.15	19,753	94.93	827	8	0.04	20,525	98.64
738	42	0.20	18,110	87.04	783	17	0.08	19,770	95.02	828	9	0.04	20,534	98.69
739	37	0.18	18,147	87.22	784	33	0.16	19,803	95.17	829	4	0.02	20,538	98.71
740	47	0.23	18,194	87.44	785	21	0.10	19,824	95.28	830	7	0.03	20,545	98.74
741	43	0.21	18,237	87.65	786	29	0.14	19,853	95.42	831	5	0.02	20,550	98.76
742	53	0.25	18,290	87.90	787	19	0.09	19,872	95.51	832	8	0.04	20,558	98.80
743	50	0.24	18,340	88.14	788	27	0.13	19,899	95.64	833	15	0.07	20,573	98.88
744	42	0.20	18,382	88.35	789	25	0.12	19,924	95.76	834	8	0.04	20,581	98.91
745	55	0.26	18,437	88.61	790	20	0.10	19,944	95.85	835	7	0.03	20,588	98.95
746	44	0.21	18,481	88.82	791	19	0.09	19,963	95.94	836	9	0.04	20,597	98.99
747	49	0.24	18,530	89.06	792	22	0.11	19,985	96.05	837	3	0.01	20,600	99.01
748	45	0.22	18,575	89.27	793	22	0.11	20,007	96.16	838	4	0.02	20,604	99.02
749	52	0.25	18,627	89.52	794	33	0.16	20,040	96.31	839	9	0.04	20,613	99.07
750	37	0.18	18,664	89.70	795	21	0.10	20,061	96.41	840	8	0.04	20,621	99.11
751	45	0.22	18,709	89.92	796	18	0.09	20,079	96.50	841	2	0.01	20,623	99.12

Table 30. Grade 4 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
842	3	0.01	20,626	99.13	892	1	0.00	20,775	99.85
843	8	0.04	20,634	99.17	893	3	0.01	20,778	99.86
844	2	0.01	20,636	99.18	894	1	0.00	20,779	99.87
845	5	0.02	20,641	99.20	896	1	0.00	20,780	99.87
846	3	0.01	20,644	99.22	897	1	0.00	20,781	99.88
847	7	0.03	20,651	99.25	899	1	0.00	20,782	99.88
848	6	0.03	20,657	99.28	900	25	0.12	20,807	100.00
849	3	0.01	20,660	99.29					
850	6	0.03	20,666	99.32					
851	5	0.02	20,671	99.35					
852	8	0.04	20,679	99.38					
853	3	0.01	20,682	99.40					
854	2	0.01	20,684	99.41					
855	2	0.01	20,686	99.42					
856	7	0.03	20,693	99.45					
857	5	0.02	20,698	99.48					
858	2	0.01	20,700	99.49					
859	3	0.01	20,703	99.50					
860	4	0.02	20,707	99.52					
861	3	0.01	20,710	99.53					
862	3	0.01	20,713	99.55					
863	5	0.02	20,718	99.57					
864	4	0.02	20,722	99.59					
865	4	0.02	20,726	99.61					
866	3	0.01	20,729	99.63					
867	3	0.01	20,732	99.64					
868	2	0.01	20,734	99.65					
869	3	0.01	20,737	99.66					
870	4	0.02	20,741	99.68					
871	3	0.01	20,744	99.70					
872	1	0.00	20,745	99.70					
873	3	0.01	20,748	99.72					
874	1	0.00	20,749	99.72					
875	4	0.02	20,753	99.74					
876	3	0.01	20,756	99.75					
877	1	0.00	20,757	99.76					
878	1	0.00	20,758	99.76					
879	1	0.00	20,759	99.77					
881	2	0.01	20,761	99.78					
882	3	0.01	20,764	99.79					
883	3	0.01	20,767	99.81					
884	2	0.01	20,769	99.82					
885	2	0.01	20,771	99.83					
887	1	0.00	20,772	99.83					
890	2	0.01	20,774	99.84					

Table 31. Grade 5 Cumulative Frequency Distribution of Scale Scores

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
300	878	1.39	878	1.39	345	14	0.02	1,658	2.62	390	40	0.06	3,045	4.81
301	18	0.03	896	1.41	346	25	0.04	1,683	2.66	391	31	0.05	3,076	4.86
302	12	0.02	908	1.43	347	24	0.04	1,707	2.70	392	37	0.06	3,113	4.91
303	15	0.02	923	1.46	348	21	0.03	1,728	2.73	393	35	0.06	3,148	4.97
304	11	0.02	934	1.47	349	28	0.04	1,756	2.77	394	49	0.08	3,197	5.05
305	8	0.01	942	1.49	350	28	0.04	1,784	2.82	395	47	0.07	3,244	5.12
306	8	0.01	950	1.50	351	24	0.04	1,808	2.85	396	38	0.06	3,282	5.18
307	13	0.02	963	1.52	352	31	0.05	1,839	2.90	397	38	0.06	3,320	5.24
308	10	0.02	973	1.54	353	19	0.03	1,858	2.93	398	41	0.06	3,361	5.31
309	15	0.02	988	1.56	354	28	0.04	1,886	2.98	399	43	0.07	3,404	5.37
310	11	0.02	999	1.58	355	29	0.05	1,915	3.02	400	44	0.07	3,448	5.44
311	18	0.03	1,017	1.61	356	28	0.04	1,943	3.07	401	49	0.08	3,497	5.52
312	5	0.01	1,022	1.61	357	29	0.05	1,972	3.11	402	51	0.08	3,548	5.60
313	18	0.03	1,040	1.64	358	28	0.04	2,000	3.16	403	59	0.09	3,607	5.69
314	12	0.02	1,052	1.66	359	24	0.04	2,024	3.20	404	55	0.09	3,662	5.78
315	18	0.03	1,070	1.69	360	30	0.05	2,054	3.24	405	48	0.08	3,710	5.86
316	12	0.02	1,082	1.71	361	19	0.03	2,073	3.27	406	43	0.07	3,753	5.93
317	18	0.03	1,100	1.74	362	29	0.05	2,102	3.32	407	70	0.11	3,823	6.04
318	13	0.02	1,113	1.76	363	26	0.04	2,128	3.36	408	53	0.08	3,876	6.12
319	19	0.03	1,132	1.79	364	36	0.06	2,164	3.42	409	58	0.09	3,934	6.21
320	12	0.02	1,144	1.81	365	20	0.03	2,184	3.45	410	47	0.07	3,981	6.29
321	26	0.04	1,170	1.85	366	33	0.05	2,217	3.50	411	53	0.08	4,034	6.37
322	17	0.03	1,187	1.87	367	20	0.03	2,237	3.53	412	49	0.08	4,083	6.45
323	21	0.03	1,208	1.91	368	38	0.06	2,275	3.59	413	64	0.10	4,147	6.55
324	24	0.04	1,232	1.95	369	30	0.05	2,305	3.64	414	50	0.08	4,197	6.63
325	19	0.03	1,251	1.98	370	32	0.05	2,337	3.69	415	53	0.08	4,250	6.71
326	8	0.01	1,259	1.99	371	28	0.04	2,365	3.73	416	60	0.09	4,310	6.80
327	13	0.02	1,272	2.01	372	36	0.06	2,401	3.79	417	56	0.09	4,366	6.89
328	20	0.03	1,292	2.04	373	37	0.06	2,438	3.85	418	50	0.08	4,416	6.97
329	19	0.03	1,311	2.07	374	36	0.06	2,474	3.91	419	61	0.10	4,477	7.07
330	16	0.03	1,327	2.10	375	36	0.06	2,510	3.96	420	71	0.11	4,548	7.18
331	24	0.04	1,351	2.13	376	29	0.05	2,539	4.01	421	56	0.09	4,604	7.27
332	21	0.03	1,372	2.17	377	34	0.05	2,573	4.06	422	54	0.09	4,658	7.35
333	23	0.04	1,395	2.20	378	25	0.04	2,598	4.10	423	65	0.10	4,723	7.46
334	24	0.04	1,419	2.24	379	37	0.06	2,635	4.16	424	65	0.10	4,788	7.56
335	18	0.03	1,437	2.27	380	30	0.05	2,665	4.21	425	55	0.09	4,843	7.65
336	32	0.05	1,469	2.32	381	31	0.05	2,696	4.26	426	58	0.09	4,901	7.74
337	21	0.03	1,490	2.35	382	39	0.06	2,735	4.32	427	63	0.10	4,964	7.84
338	18	0.03	1,508	2.38	383	30	0.05	2,765	4.37	428	72	0.11	5,036	7.95
339	20	0.03	1,528	2.41	384	34	0.05	2,799	4.42	429	51	0.08	5,087	8.03
340	19	0.03	1,547	2.44	385	39	0.06	2,838	4.48	430	61	0.10	5,148	8.13
341	27	0.04	1,574	2.49	386	52	0.08	2,890	4.56	431	56	0.09	5,204	8.22
342	22	0.03	1,596	2.52	387	30	0.05	2,920	4.61	432	65	0.10	5,269	8.32
343	28	0.04	1,624	2.56	388	37	0.06	2,957	4.67	433	74	0.12	5,343	8.44
344	20	0.03	1,644	2.60	389	48	0.08	3,005	4.74	434	64	0.10	5,407	8.54

Table 31. Grade 5 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
435	75	0.12	5,482	8.66	480	96	0.15	9,460	14.94	525	156	0.25	15,470	24.42
436	68	0.11	5,550	8.76	481	125	0.20	9,585	15.13	526	137	0.22	15,607	24.64
437	59	0.09	5,609	8.86	482	121	0.19	9,706	15.32	527	158	0.25	15,765	24.89
438	70	0.11	5,679	8.97	483	106	0.17	9,812	15.49	528	138	0.22	15,903	25.11
439	67	0.11	5,746	9.07	484	106	0.17	9,918	15.66	529	158	0.25	16,061	25.36
440	63	0.10	5,809	9.17	485	136	0.21	10,054	15.87	530	168	0.27	16,229	25.62
441	71	0.11	5,880	9.28	486	127	0.20	10,181	16.07	531	172	0.27	16,401	25.89
442	76	0.12	5,956	9.40	487	118	0.19	10,299	16.26	532	156	0.25	16,557	26.14
443	69	0.11	6,025	9.51	488	97	0.15	10,396	16.41	533	172	0.27	16,729	26.41
444	77	0.12	6,102	9.63	489	116	0.18	10,512	16.60	534	177	0.28	16,906	26.69
445	88	0.14	6,190	9.77	490	96	0.15	10,608	16.75	535	170	0.27	17,076	26.96
446	78	0.12	6,268	9.90	491	130	0.21	10,738	16.95	536	191	0.30	17,267	27.26
447	77	0.12	6,345	10.02	492	110	0.17	10,848	17.13	537	155	0.24	17,422	27.51
448	84	0.13	6,429	10.15	493	110	0.17	10,958	17.30	538	185	0.29	17,607	27.80
449	80	0.13	6,509	10.28	494	105	0.17	11,063	17.47	539	174	0.27	17,781	28.07
450	76	0.12	6,585	10.40	495	120	0.19	11,183	17.66	540	178	0.28	17,959	28.35
451	84	0.13	6,669	10.53	496	117	0.18	11,300	17.84	541	188	0.30	18,147	28.65
452	76	0.12	6,745	10.65	497	147	0.23	11,447	18.07	542	174	0.27	18,321	28.93
453	79	0.12	6,824	10.77	498	134	0.21	11,581	18.28	543	170	0.27	18,491	29.19
454	77	0.12	6,901	10.90	499	119	0.19	11,700	18.47	544	173	0.27	18,664	29.47
455	81	0.13	6,982	11.02	500	136	0.21	11,836	18.69	545	173	0.27	18,837	29.74
456	84	0.13	7,066	11.16	501	125	0.20	11,961	18.88	546	179	0.28	19,016	30.02
457	94	0.15	7,160	11.30	502	135	0.21	12,096	19.10	547	163	0.26	19,179	30.28
458	83	0.13	7,243	11.44	503	130	0.21	12,226	19.30	548	193	0.30	19,372	30.59
459	95	0.15	7,338	11.59	504	151	0.24	12,377	19.54	549	204	0.32	19,576	30.91
460	92	0.15	7,430	11.73	505	141	0.22	12,518	19.76	550	178	0.28	19,754	31.19
461	90	0.14	7,520	11.87	506	127	0.20	12,645	19.96	551	194	0.31	19,948	31.49
462	91	0.14	7,611	12.02	507	123	0.19	12,768	20.16	552	179	0.28	20,127	31.78
463	105	0.17	7,716	12.18	508	139	0.22	12,907	20.38	553	186	0.29	20,313	32.07
464	93	0.15	7,809	12.33	509	119	0.19	13,026	20.57	554	186	0.29	20,499	32.36
465	102	0.16	7,911	12.49	510	158	0.25	13,184	20.82	555	199	0.31	20,698	32.68
466	81	0.13	7,992	12.62	511	162	0.26	13,346	21.07	556	202	0.32	20,900	33.00
467	97	0.15	8,089	12.77	512	147	0.23	13,493	21.30	557	192	0.30	21,092	33.30
468	94	0.15	8,183	12.92	513	151	0.24	13,644	21.54	558	184	0.29	21,276	33.59
469	102	0.16	8,285	13.08	514	133	0.21	13,777	21.75	559	174	0.27	21,450	33.87
470	99	0.16	8,384	13.24	515	150	0.24	13,927	21.99	560	181	0.29	21,631	34.15
471	90	0.14	8,474	13.38	516	156	0.25	14,083	22.23	561	185	0.29	21,816	34.44
472	91	0.14	8,565	13.52	517	153	0.24	14,236	22.48	562	207	0.33	22,023	34.77
473	136	0.21	8,701	13.74	518	163	0.26	14,399	22.73	563	183	0.29	22,206	35.06
474	88	0.14	8,789	13.88	519	148	0.23	14,547	22.97	564	198	0.31	22,404	35.37
475	121	0.19	8,910	14.07	520	150	0.24	14,697	23.20	565	218	0.34	22,622	35.72
476	116	0.18	9,026	14.25	521	154	0.24	14,851	23.45	566	209	0.33	22,831	36.05
477	106	0.17	9,132	14.42	522	156	0.25	15,007	23.69	567	174	0.27	23,005	36.32
478	113	0.18	9,245	14.60	523	159	0.25	15,166	23.94	568	183	0.29	23,188	36.61
479	119	0.19	9,364	14.78	524	148	0.23	15,314	24.18	569	204	0.32	23,392	36.93

Table 31. Grade 5 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
570	196	0.31	23,588	37.24	615	249	0.39	33,414	52.76	660	246	0.39	43,750	69.07
571	192	0.30	23,780	37.54	616	233	0.37	33,647	53.12	661	218	0.34	43,968	69.42
572	200	0.32	23,980	37.86	617	244	0.39	33,891	53.51	662	247	0.39	44,215	69.81
573	192	0.30	24,172	38.16	618	230	0.36	34,121	53.87	663	206	0.33	44,421	70.13
574	219	0.35	24,391	38.51	619	251	0.40	34,372	54.27	664	225	0.36	44,646	70.49
575	200	0.32	24,591	38.83	620	220	0.35	34,592	54.61	665	214	0.34	44,860	70.83
576	196	0.31	24,787	39.13	621	255	0.40	34,847	55.02	666	214	0.34	45,074	71.16
577	228	0.36	25,015	39.49	622	218	0.34	35,065	55.36	667	223	0.35	45,297	71.52
578	199	0.31	25,214	39.81	623	214	0.34	35,279	55.70	668	209	0.33	45,506	71.85
579	197	0.31	25,411	40.12	624	242	0.38	35,521	56.08	669	205	0.32	45,711	72.17
580	213	0.34	25,624	40.46	625	198	0.31	35,719	56.39	670	210	0.33	45,921	72.50
581	221	0.35	25,845	40.80	626	229	0.36	35,948	56.76	671	225	0.36	46,146	72.86
582	220	0.35	26,065	41.15	627	237	0.37	36,185	57.13	672	202	0.32	46,348	73.18
583	204	0.32	26,269	41.47	628	254	0.40	36,439	57.53	673	188	0.30	46,536	73.47
584	211	0.33	26,480	41.81	629	257	0.41	36,696	57.94	674	209	0.33	46,745	73.80
585	236	0.37	26,716	42.18	630	209	0.33	36,905	58.27	675	193	0.30	46,938	74.11
586	218	0.34	26,934	42.52	631	234	0.37	37,139	58.64	676	194	0.31	47,132	74.41
587	222	0.35	27,156	42.87	632	215	0.34	37,354	58.98	677	235	0.37	47,367	74.78
588	221	0.35	27,377	43.22	633	241	0.38	37,595	59.36	678	209	0.33	47,576	75.11
589	209	0.33	27,586	43.55	634	250	0.39	37,845	59.75	679	217	0.34	47,793	75.46
590	223	0.35	27,809	43.91	635	223	0.35	38,068	60.10	680	200	0.32	47,993	75.77
591	228	0.36	28,037	44.27	636	211	0.33	38,279	60.44	681	210	0.33	48,203	76.10
592	211	0.33	28,248	44.60	637	224	0.35	38,503	60.79	682	198	0.31	48,401	76.42
593	212	0.33	28,460	44.93	638	242	0.38	38,745	61.17	683	187	0.30	48,588	76.71
594	229	0.36	28,689	45.30	639	217	0.34	38,962	61.51	684	195	0.31	48,783	77.02
595	188	0.30	28,877	45.59	640	220	0.35	39,182	61.86	685	206	0.33	48,989	77.35
596	207	0.33	29,084	45.92	641	220	0.35	39,402	62.21	686	195	0.31	49,184	77.65
597	243	0.38	29,327	46.30	642	227	0.36	39,629	62.57	687	207	0.33	49,391	77.98
598	214	0.34	29,541	46.64	643	233	0.37	39,862	62.94	688	198	0.31	49,589	78.29
599	222	0.35	29,763	46.99	644	240	0.38	40,102	63.31	689	196	0.31	49,785	78.60
600	230	0.36	29,993	47.35	645	221	0.35	40,323	63.66	690	199	0.31	49,984	78.92
601	241	0.38	30,234	47.73	646	219	0.35	40,542	64.01	691	207	0.33	50,191	79.24
602	229	0.36	30,463	48.10	647	230	0.36	40,772	64.37	692	189	0.30	50,380	79.54
603	236	0.37	30,699	48.47	648	248	0.39	41,020	64.76	693	180	0.28	50,560	79.83
604	199	0.31	30,898	48.78	649	244	0.39	41,264	65.15	694	176	0.28	50,736	80.10
605	242	0.38	31,140	49.16	650	207	0.33	41,471	65.48	695	176	0.28	50,912	80.38
606	227	0.36	31,367	49.52	651	232	0.37	41,703	65.84	696	190	0.30	51,102	80.68
607	218	0.34	31,585	49.87	652	229	0.36	41,932	66.20	697	176	0.28	51,278	80.96
608	218	0.34	31,803	50.21	653	235	0.37	42,167	66.57	698	160	0.25	51,438	81.21
609	240	0.38	32,043	50.59	654	241	0.38	42,408	66.96	699	182	0.29	51,620	81.50
610	212	0.33	32,255	50.93	655	212	0.33	42,620	67.29	700	192	0.30	51,812	81.80
611	222	0.35	32,477	51.28	656	212	0.33	42,832	67.62	701	196	0.31	52,008	82.11
612	229	0.36	32,706	51.64	657	208	0.33	43,040	67.95	702	174	0.27	52,182	82.39
613	215	0.34	32,921	51.98	658	249	0.39	43,289	68.35	703	182	0.29	52,364	82.67
614	244	0.39	33,165	52.36	659	215	0.34	43,504	68.69	704	187	0.30	52,551	82.97

Table 31. Grade 5 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
705	166	0.26	52,717	83.23	750	88	0.14	58,880	92.96	795	33	0.05	61,950	97.81
706	191	0.30	52,908	83.53	751	102	0.16	58,982	93.12	796	42	0.07	61,992	97.87
707	175	0.28	53,083	83.81	752	98	0.15	59,080	93.28	797	40	0.06	62,032	97.94
708	158	0.25	53,241	84.06	753	92	0.15	59,172	93.42	798	44	0.07	62,076	98.01
709	150	0.24	53,391	84.30	754	89	0.14	59,261	93.56	799	40	0.06	62,116	98.07
710	150	0.24	53,541	84.53	755	89	0.14	59,350	93.70	800	39	0.06	62,155	98.13
711	181	0.29	53,722	84.82	756	92	0.15	59,442	93.85	801	34	0.05	62,189	98.19
712	171	0.27	53,893	85.09	757	78	0.12	59,520	93.97	802	29	0.05	62,218	98.23
713	168	0.27	54,061	85.35	758	115	0.18	59,635	94.15	803	27	0.04	62,245	98.27
714	156	0.25	54,217	85.60	759	89	0.14	59,724	94.29	804	36	0.06	62,281	98.33
715	134	0.21	54,351	85.81	760	86	0.14	59,810	94.43	805	29	0.05	62,310	98.38
716	155	0.24	54,506	86.06	761	96	0.15	59,906	94.58	806	35	0.06	62,345	98.43
717	145	0.23	54,651	86.28	762	100	0.16	60,006	94.74	807	37	0.06	62,382	98.49
718	159	0.25	54,810	86.54	763	97	0.15	60,103	94.89	808	26	0.04	62,408	98.53
719	166	0.26	54,976	86.80	764	80	0.13	60,183	95.02	809	26	0.04	62,434	98.57
720	132	0.21	55,108	87.01	765	65	0.10	60,248	95.12	810	39	0.06	62,473	98.63
721	161	0.25	55,269	87.26	766	87	0.14	60,335	95.26	811	29	0.05	62,502	98.68
722	150	0.24	55,419	87.50	767	70	0.11	60,405	95.37	812	17	0.03	62,519	98.71
723	151	0.24	55,570	87.74	768	78	0.12	60,483	95.49	813	36	0.06	62,555	98.76
724	150	0.24	55,720	87.97	769	67	0.11	60,550	95.60	814	19	0.03	62,574	98.79
725	141	0.22	55,861	88.20	770	61	0.10	60,611	95.69	815	20	0.03	62,594	98.83
726	157	0.25	56,018	88.44	771	68	0.11	60,679	95.80	816	23	0.04	62,617	98.86
727	148	0.23	56,166	88.68	772	64	0.10	60,743	95.90	817	16	0.03	62,633	98.89
728	142	0.22	56,308	88.90	773	65	0.10	60,808	96.01	818	20	0.03	62,653	98.92
729	141	0.22	56,449	89.12	774	57	0.09	60,865	96.10	819	21	0.03	62,674	98.95
730	146	0.23	56,595	89.35	775	74	0.12	60,939	96.21	820	21	0.03	62,695	98.98
731	126	0.20	56,721	89.55	776	65	0.10	61,004	96.32	821	16	0.03	62,711	99.01
732	139	0.22	56,860	89.77	777	58	0.09	61,062	96.41	822	28	0.04	62,739	99.05
733	134	0.21	56,994	89.98	778	57	0.09	61,119	96.50	823	18	0.03	62,757	99.08
734	124	0.20	57,118	90.18	779	60	0.09	61,179	96.59	824	20	0.03	62,777	99.11
735	114	0.18	57,232	90.36	780	56	0.09	61,235	96.68	825	11	0.02	62,788	99.13
736	114	0.18	57,346	90.54	781	50	0.08	61,285	96.76	826	17	0.03	62,805	99.16
737	107	0.17	57,453	90.71	782	61	0.10	61,346	96.85	827	15	0.02	62,820	99.18
738	122	0.19	57,575	90.90	783	48	0.08	61,394	96.93	828	14	0.02	62,834	99.20
739	124	0.20	57,699	91.10	784	57	0.09	61,451	97.02	829	15	0.02	62,849	99.23
740	110	0.17	57,809	91.27	785	50	0.08	61,501	97.10	830	14	0.02	62,863	99.25
741	126	0.20	57,935	91.47	786	65	0.10	61,566	97.20	831	17	0.03	62,880	99.28
742	104	0.16	58,039	91.63	787	53	0.08	61,619	97.29	832	13	0.02	62,893	99.30
743	121	0.19	58,160	91.82	788	44	0.07	61,663	97.36	833	13	0.02	62,906	99.32
744	132	0.21	58,292	92.03	789	51	0.08	61,714	97.44	834	13	0.02	62,919	99.34
745	88	0.14	58,380	92.17	790	42	0.07	61,756	97.50	835	11	0.02	62,930	99.36
746	99	0.16	58,479	92.33	791	39	0.06	61,795	97.56	836	11	0.02	62,941	99.37
747	96	0.15	58,575	92.48	792	34	0.05	61,829	97.62	837	16	0.03	62,957	99.40
748	116	0.18	58,691	92.66	793	53	0.08	61,882	97.70	838	13	0.02	62,970	99.42
749	101	0.16	58,792	92.82	794	35	0.06	61,917	97.76	839	18	0.03	62,988	99.45

Table 31. Grade 5 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
840	10	0.02	62,998	99.46	885	7	0.01	63,261	99.88
841	15	0.02	63,013	99.49	886	2	0.00	63,263	99.88
842	13	0.02	63,026	99.51	887	1	0.00	63,264	99.88
843	8	0.01	63,034	99.52	888	1	0.00	63,265	99.88
844	5	0.01	63,039	99.53	889	5	0.01	63,270	99.89
845	12	0.02	63,051	99.55	891	6	0.01	63,276	99.90
846	11	0.02	63,062	99.56	892	1	0.00	63,277	99.90
847	5	0.01	63,067	99.57	893	1	0.00	63,278	99.91
848	11	0.02	63,078	99.59	895	1	0.00	63,279	99.91
849	11	0.02	63,089	99.61	897	2	0.00	63,281	99.91
850	8	0.01	63,097	99.62	899	3	0.00	63,284	99.91
851	9	0.01	63,106	99.63	900	54	0.09	63,338	100.00
852	9	0.01	63,115	99.65					
853	5	0.01	63,120	99.66					
854	7	0.01	63,127	99.67					
855	11	0.02	63,138	99.68					
856	8	0.01	63,146	99.70					
857	2	0.00	63,148	99.70					
858	5	0.01	63,153	99.71					
859	3	0.00	63,156	99.71					
860	8	0.01	63,164	99.73					
861	7	0.01	63,171	99.74					
862	4	0.01	63,175	99.74					
863	5	0.01	63,180	99.75					
864	5	0.01	63,185	99.76					
865	2	0.00	63,187	99.76					
866	3	0.00	63,190	99.77					
867	6	0.01	63,196	99.78					
868	1	0.00	63,197	99.78					
869	2	0.00	63,199	99.78					
870	3	0.00	63,202	99.79					
871	4	0.01	63,206	99.79					
872	4	0.01	63,210	99.80					
873	9	0.01	63,219	99.81					
874	2	0.00	63,221	99.82					
875	4	0.01	63,225	99.82					
876	6	0.01	63,231	99.83					
877	5	0.01	63,236	99.84					
878	3	0.00	63,239	99.84					
879	1	0.00	63,240	99.85					
880	3	0.00	63,243	99.85					
881	7	0.01	63,250	99.86					
882	1	0.00	63,251	99.86					
883	1	0.00	63,252	99.86					
884	2	0.00	63,254	99.87					

Table 32. Grade 7 Cumulative Frequency Distribution of Scale Scores

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
300	642	3.45	642	3.45	345	9	0.05	913	4.91	390	7	0.04	1,300	6.99
301	4	0.02	646	3.47	346	4	0.02	917	4.93	391	9	0.05	1,309	7.04
302	4	0.02	650	3.50	347	6	0.03	923	4.96	392	10	0.05	1,319	7.09
303	9	0.05	659	3.54	348	8	0.04	931	5.01	393	19	0.10	1,338	7.19
304	3	0.02	662	3.56	349	4	0.02	935	5.03	394	12	0.06	1,350	7.26
305	4	0.02	666	3.58	350	7	0.04	942	5.07	395	8	0.04	1,358	7.30
306	3	0.02	669	3.60	351	4	0.02	946	5.09	396	14	0.08	1,372	7.38
307	4	0.02	673	3.62	352	9	0.05	955	5.14	397	12	0.06	1,384	7.44
308	5	0.03	678	3.65	353	6	0.03	961	5.17	398	12	0.06	1,396	7.51
309	3	0.02	681	3.66	354	14	0.08	975	5.24	399	10	0.05	1,406	7.56
310	5	0.03	686	3.69	355	5	0.03	980	5.27	400	15	0.08	1,421	7.64
311	4	0.02	690	3.71	356	11	0.06	991	5.33	401	12	0.06	1,433	7.71
312	4	0.02	694	3.73	357	10	0.05	1,001	5.38	402	8	0.04	1,441	7.75
313	4	0.02	698	3.75	358	6	0.03	1,007	5.41	403	13	0.07	1,454	7.82
314	7	0.04	705	3.79	359	5	0.03	1,012	5.44	404	14	0.08	1,468	7.89
315	10	0.05	715	3.84	360	9	0.05	1,021	5.49	405	18	0.10	1,486	7.99
316	4	0.02	719	3.87	361	9	0.05	1,030	5.54	406	9	0.05	1,495	8.04
317	6	0.03	725	3.90	362	11	0.06	1,041	5.60	407	22	0.12	1,517	8.16
318	2	0.01	727	3.91	363	7	0.04	1,048	5.64	408	11	0.06	1,528	8.22
319	8	0.04	735	3.95	364	5	0.03	1,053	5.66	409	13	0.07	1,541	8.29
320	5	0.03	740	3.98	365	4	0.02	1,057	5.68	410	12	0.06	1,553	8.35
321	6	0.03	746	4.01	366	10	0.05	1,067	5.74	411	8	0.04	1,561	8.39
322	3	0.02	749	4.03	367	11	0.06	1,078	5.80	412	11	0.06	1,572	8.45
323	10	0.05	759	4.08	368	9	0.05	1,087	5.85	413	9	0.05	1,581	8.50
324	8	0.04	767	4.12	369	12	0.06	1,099	5.91	414	16	0.09	1,597	8.59
325	7	0.04	774	4.16	370	8	0.04	1,107	5.95	415	15	0.08	1,612	8.67
326	4	0.02	778	4.18	371	5	0.03	1,112	5.98	416	12	0.06	1,624	8.73
327	8	0.04	786	4.23	372	6	0.03	1,118	6.01	417	11	0.06	1,635	8.79
328	9	0.05	795	4.27	373	7	0.04	1,125	6.05	418	6	0.03	1,641	8.82
329	2	0.01	797	4.29	374	16	0.09	1,141	6.14	419	18	0.10	1,659	8.92
330	5	0.03	802	4.31	375	7	0.04	1,148	6.17	420	15	0.08	1,674	9.00
331	3	0.02	805	4.33	376	14	0.08	1,162	6.25	421	17	0.09	1,691	9.09
332	11	0.06	816	4.39	377	8	0.04	1,170	6.29	422	22	0.12	1,713	9.21
333	4	0.02	820	4.41	378	11	0.06	1,181	6.35	423	12	0.06	1,725	9.28
334	9	0.05	829	4.46	379	9	0.05	1,190	6.40	424	5	0.03	1,730	9.30
335	9	0.05	838	4.51	380	5	0.03	1,195	6.43	425	21	0.11	1,751	9.42
336	11	0.06	849	4.57	381	8	0.04	1,203	6.47	426	14	0.08	1,765	9.49
337	5	0.03	854	4.59	382	11	0.06	1,214	6.53	427	20	0.11	1,785	9.60
338	9	0.05	863	4.64	383	10	0.05	1,224	6.58	428	14	0.08	1,799	9.67
339	5	0.03	868	4.67	384	2	0.01	1,226	6.59	429	13	0.07	1,812	9.74
340	7	0.04	875	4.71	385	14	0.08	1,240	6.67	430	13	0.07	1,825	9.81
341	10	0.05	885	4.76	386	10	0.05	1,250	6.72	431	9	0.05	1,834	9.86
342	5	0.03	890	4.79	387	12	0.06	1,262	6.79	432	18	0.10	1,852	9.96
343	7	0.04	897	4.82	388	10	0.05	1,272	6.84	433	12	0.06	1,864	10.02
344	7	0.04	904	4.86	389	21	0.11	1,293	6.95	434	14	0.08	1,878	10.10

Table 32. Grade 7 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
435	20	0.11	1,898	10.21	480	38	0.20	2,967	15.95	525	47	0.25	4,552	24.48
436	19	0.10	1,917	10.31	481	23	0.12	2,990	16.08	526	51	0.27	4,603	24.75
437	18	0.10	1,935	10.40	482	25	0.13	3,015	16.21	527	35	0.19	4,638	24.94
438	23	0.12	1,958	10.53	483	22	0.12	3,037	16.33	528	43	0.23	4,681	25.17
439	23	0.12	1,981	10.65	484	40	0.22	3,077	16.55	529	38	0.20	4,719	25.38
440	17	0.09	1,998	10.74	485	22	0.12	3,099	16.66	530	33	0.18	4,752	25.55
441	12	0.06	2,010	10.81	486	30	0.16	3,129	16.83	531	55	0.30	4,807	25.85
442	24	0.13	2,034	10.94	487	38	0.20	3,167	17.03	532	43	0.23	4,850	26.08
443	19	0.10	2,053	11.04	488	28	0.15	3,195	17.18	533	40	0.22	4,890	26.29
444	22	0.12	2,075	11.16	489	36	0.19	3,231	17.37	534	59	0.32	4,949	26.61
445	18	0.10	2,093	11.25	490	30	0.16	3,261	17.54	535	42	0.23	4,991	26.84
446	16	0.09	2,109	11.34	491	34	0.18	3,295	17.72	536	46	0.25	5,037	27.09
447	23	0.12	2,132	11.46	492	45	0.24	3,340	17.96	537	50	0.27	5,087	27.35
448	18	0.10	2,150	11.56	493	31	0.17	3,371	18.13	538	41	0.22	5,128	27.57
449	17	0.09	2,167	11.65	494	41	0.22	3,412	18.35	539	60	0.32	5,188	27.90
450	19	0.10	2,186	11.75	495	49	0.26	3,461	18.61	540	48	0.26	5,236	28.16
451	25	0.13	2,211	11.89	496	28	0.15	3,489	18.76	541	51	0.27	5,287	28.43
452	27	0.15	2,238	12.03	497	30	0.16	3,519	18.92	542	59	0.32	5,346	28.75
453	20	0.11	2,258	12.14	498	26	0.14	3,545	19.06	543	46	0.25	5,392	28.99
454	15	0.08	2,273	12.22	499	28	0.15	3,573	19.21	544	45	0.24	5,437	29.24
455	25	0.13	2,298	12.36	500	34	0.18	3,607	19.40	545	41	0.22	5,478	29.46
456	23	0.12	2,321	12.48	501	34	0.18	3,641	19.58	546	46	0.25	5,524	29.70
457	21	0.11	2,342	12.59	502	37	0.20	3,678	19.78	547	50	0.27	5,574	29.97
458	30	0.16	2,372	12.75	503	30	0.16	3,708	19.94	548	42	0.23	5,616	30.20
459	31	0.17	2,403	12.92	504	38	0.20	3,746	20.14	549	51	0.27	5,667	30.47
460	21	0.11	2,424	13.03	505	35	0.19	3,781	20.33	550	49	0.26	5,716	30.74
461	23	0.12	2,447	13.16	506	42	0.23	3,823	20.56	551	49	0.26	5,765	31.00
462	24	0.13	2,471	13.29	507	36	0.19	3,859	20.75	552	41	0.22	5,806	31.22
463	21	0.11	2,492	13.40	508	40	0.22	3,899	20.97	553	45	0.24	5,851	31.46
464	31	0.17	2,523	13.57	509	42	0.23	3,941	21.19	554	65	0.35	5,916	31.81
465	35	0.19	2,558	13.75	510	34	0.18	3,975	21.37	555	43	0.23	5,959	32.04
466	29	0.16	2,587	13.91	511	31	0.17	4,006	21.54	556	58	0.31	6,017	32.35
467	19	0.10	2,606	14.01	512	35	0.19	4,041	21.73	557	61	0.33	6,078	32.68
468	15	0.08	2,621	14.09	513	42	0.23	4,083	21.96	558	60	0.32	6,138	33.01
469	27	0.15	2,648	14.24	514	41	0.22	4,124	22.18	559	52	0.28	6,190	33.28
470	25	0.13	2,673	14.37	515	41	0.22	4,165	22.40	560	53	0.28	6,243	33.57
471	25	0.13	2,698	14.51	516	35	0.19	4,200	22.58	561	52	0.28	6,295	33.85
472	30	0.16	2,728	14.67	517	46	0.25	4,246	22.83	562	50	0.27	6,345	34.12
473	26	0.14	2,754	14.81	518	36	0.19	4,282	23.03	563	46	0.25	6,391	34.37
474	22	0.12	2,776	14.93	519	46	0.25	4,328	23.27	564	44	0.24	6,435	34.60
475	32	0.17	2,808	15.10	520	34	0.18	4,362	23.46	565	50	0.27	6,485	34.87
476	25	0.13	2,833	15.23	521	38	0.20	4,400	23.66	566	52	0.28	6,537	35.15
477	23	0.12	2,856	15.36	522	33	0.18	4,433	23.84	567	48	0.26	6,585	35.41
478	36	0.19	2,892	15.55	523	35	0.19	4,468	24.03	568	47	0.25	6,632	35.66
479	37	0.20	2,929	15.75	524	37	0.20	4,505	24.22	569	71	0.38	6,703	36.04

Table 32. Grade 7 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
570	66	0.35	6,769	36.40	615	70	0.38	9,584	51.54	660	64	0.34	12,722	68.41
571	61	0.33	6,830	36.73	616	66	0.35	9,650	51.89	661	60	0.32	12,782	68.73
572	58	0.31	6,888	37.04	617	75	0.40	9,725	52.29	662	64	0.34	12,846	69.08
573	55	0.30	6,943	37.33	618	68	0.37	9,793	52.66	663	59	0.32	12,905	69.39
574	57	0.31	7,000	37.64	619	85	0.46	9,878	53.12	664	55	0.30	12,960	69.69
575	47	0.25	7,047	37.89	620	85	0.46	9,963	53.57	665	61	0.33	13,021	70.02
576	67	0.36	7,114	38.25	621	66	0.35	10,029	53.93	666	81	0.44	13,102	70.45
577	58	0.31	7,172	38.57	622	80	0.43	10,109	54.36	667	71	0.38	13,173	70.83
578	70	0.38	7,242	38.94	623	71	0.38	10,180	54.74	668	74	0.40	13,247	71.23
579	64	0.34	7,306	39.29	624	65	0.35	10,245	55.09	669	69	0.37	13,316	71.60
580	47	0.25	7,353	39.54	625	74	0.40	10,319	55.49	670	44	0.24	13,360	71.84
581	63	0.34	7,416	39.88	626	70	0.38	10,389	55.86	671	67	0.36	13,427	72.20
582	63	0.34	7,479	40.22	627	77	0.41	10,466	56.28	672	66	0.35	13,493	72.55
583	46	0.25	7,525	40.46	628	79	0.42	10,545	56.70	673	80	0.43	13,573	72.98
584	41	0.22	7,566	40.68	629	75	0.40	10,620	57.11	674	59	0.32	13,632	73.30
585	55	0.30	7,621	40.98	630	76	0.41	10,696	57.51	675	62	0.33	13,694	73.64
586	61	0.33	7,682	41.31	631	63	0.34	10,759	57.85	676	61	0.33	13,755	73.96
587	75	0.40	7,757	41.71	632	70	0.38	10,829	58.23	677	63	0.34	13,818	74.30
588	70	0.38	7,827	42.09	633	73	0.39	10,902	58.62	678	63	0.34	13,881	74.64
589	65	0.35	7,892	42.44	634	61	0.33	10,963	58.95	679	77	0.41	13,958	75.06
590	59	0.32	7,951	42.75	635	55	0.30	11,018	59.25	680	68	0.37	14,026	75.42
591	59	0.32	8,010	43.07	636	64	0.34	11,082	59.59	681	64	0.34	14,090	75.76
592	69	0.37	8,079	43.44	637	63	0.34	11,145	59.93	682	68	0.37	14,158	76.13
593	70	0.38	8,149	43.82	638	66	0.35	11,211	60.28	683	63	0.34	14,221	76.47
594	61	0.33	8,210	44.15	639	66	0.35	11,277	60.64	684	51	0.27	14,272	76.74
595	61	0.33	8,271	44.47	640	77	0.41	11,354	61.05	685	56	0.30	14,328	77.04
596	79	0.42	8,350	44.90	641	66	0.35	11,420	61.41	686	59	0.32	14,387	77.36
597	62	0.33	8,412	45.23	642	56	0.30	11,476	61.71	687	61	0.33	14,448	77.69
598	57	0.31	8,469	45.54	643	75	0.40	11,551	62.11	688	59	0.32	14,507	78.01
599	52	0.28	8,521	45.82	644	71	0.38	11,622	62.49	689	57	0.31	14,564	78.31
600	62	0.33	8,583	46.15	645	68	0.37	11,690	62.86	690	46	0.25	14,610	78.56
601	66	0.35	8,649	46.51	646	67	0.36	11,757	63.22	691	67	0.36	14,677	78.92
602	60	0.32	8,709	46.83	647	53	0.28	11,810	63.50	692	62	0.33	14,739	79.25
603	67	0.36	8,776	47.19	648	73	0.39	11,883	63.90	693	57	0.31	14,796	79.56
604	66	0.35	8,842	47.55	649	69	0.37	11,952	64.27	694	68	0.37	14,864	79.93
605	69	0.37	8,911	47.92	650	76	0.41	12,028	64.68	695	55	0.30	14,919	80.22
606	72	0.39	8,983	48.30	651	67	0.36	12,095	65.04	696	64	0.34	14,983	80.57
607	78	0.42	9,061	48.72	652	75	0.40	12,170	65.44	697	60	0.32	15,043	80.89
608	61	0.33	9,122	49.05	653	66	0.35	12,236	65.80	698	61	0.33	15,104	81.22
609	70	0.38	9,192	49.43	654	64	0.34	12,300	66.14	699	58	0.31	15,162	81.53
610	69	0.37	9,261	49.80	655	67	0.36	12,367	66.50	700	58	0.31	15,220	81.84
611	52	0.28	9,313	50.08	656	68	0.37	12,435	66.87	701	58	0.31	15,278	82.15
612	61	0.33	9,374	50.41	657	67	0.36	12,502	67.23	702	76	0.41	15,354	82.56
613	72	0.39	9,446	50.79	658	76	0.41	12,578	67.63	703	48	0.26	15,402	82.82
614	68	0.37	9,514	51.16	659	80	0.43	12,658	68.06	704	50	0.27	15,452	83.09

Table 32. Grade 7 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
705	63	0.34	15,515	83.43	750	36	0.19	17,417	93.65	795	9	0.05	18,262	98.20
706	56	0.30	15,571	83.73	751	32	0.17	17,449	93.83	796	11	0.06	18,273	98.26
707	50	0.27	15,621	84.00	752	27	0.15	17,476	93.97	797	12	0.06	18,285	98.32
708	41	0.22	15,662	84.22	753	27	0.15	17,503	94.12	798	10	0.05	18,295	98.38
709	52	0.28	15,714	84.50	754	29	0.16	17,532	94.27	799	15	0.08	18,310	98.46
710	52	0.28	15,766	84.78	755	24	0.13	17,556	94.40	800	8	0.04	18,318	98.50
711	51	0.27	15,817	85.05	756	27	0.15	17,583	94.55	801	12	0.06	18,330	98.56
712	69	0.37	15,886	85.42	757	20	0.11	17,603	94.66	802	9	0.05	18,339	98.61
713	44	0.24	15,930	85.66	758	27	0.15	17,630	94.80	803	7	0.04	18,346	98.65
714	54	0.29	15,984	85.95	759	19	0.10	17,649	94.90	804	4	0.02	18,350	98.67
715	46	0.25	16,030	86.20	760	22	0.12	17,671	95.02	805	11	0.06	18,361	98.73
716	50	0.27	16,080	86.47	761	19	0.10	17,690	95.12	806	1	0.01	18,362	98.74
717	47	0.25	16,127	86.72	762	23	0.12	17,713	95.25	807	6	0.03	18,368	98.77
718	42	0.23	16,169	86.94	763	23	0.12	17,736	95.37	808	3	0.02	18,371	98.78
719	49	0.26	16,218	87.21	764	18	0.10	17,754	95.47	809	9	0.05	18,380	98.83
720	40	0.22	16,258	87.42	765	21	0.11	17,775	95.58	810	6	0.03	18,386	98.87
721	60	0.32	16,318	87.75	766	21	0.11	17,796	95.69	811	6	0.03	18,392	98.90
722	45	0.24	16,363	87.99	767	24	0.13	17,820	95.82	812	4	0.02	18,396	98.92
723	42	0.23	16,405	88.21	768	32	0.17	17,852	95.99	813	5	0.03	18,401	98.95
724	42	0.23	16,447	88.44	769	15	0.08	17,867	96.07	814	5	0.03	18,406	98.97
725	49	0.26	16,496	88.70	770	20	0.11	17,887	96.18	815	10	0.05	18,416	99.03
726	40	0.22	16,536	88.92	771	20	0.11	17,907	96.29	816	5	0.03	18,421	99.05
727	30	0.16	16,566	89.08	772	15	0.08	17,922	96.37	817	4	0.02	18,425	99.08
728	38	0.20	16,604	89.28	773	24	0.13	17,946	96.50	818	6	0.03	18,431	99.11
729	40	0.22	16,644	89.50	774	20	0.11	17,966	96.61	819	7	0.04	18,438	99.15
730	39	0.21	16,683	89.71	775	19	0.10	17,985	96.71	820	2	0.01	18,440	99.16
731	37	0.20	16,720	89.91	776	18	0.10	18,003	96.81	821	1	0.01	18,441	99.16
732	34	0.18	16,754	90.09	777	16	0.09	18,019	96.89	822	4	0.02	18,445	99.18
733	37	0.20	16,791	90.29	778	20	0.11	18,039	97.00	823	3	0.02	18,448	99.20
734	49	0.26	16,840	90.55	779	12	0.06	18,051	97.06	824	4	0.02	18,452	99.22
735	39	0.21	16,879	90.76	780	12	0.06	18,063	97.13	825	5	0.03	18,457	99.25
736	36	0.19	16,915	90.96	781	16	0.09	18,079	97.21	826	4	0.02	18,461	99.27
737	45	0.24	16,960	91.20	782	23	0.12	18,102	97.34	827	6	0.03	18,467	99.30
738	44	0.24	17,004	91.43	783	14	0.08	18,116	97.41	828	1	0.01	18,468	99.31
739	28	0.15	17,032	91.58	784	21	0.11	18,137	97.53	829	4	0.02	18,472	99.33
740	41	0.22	17,073	91.81	785	13	0.07	18,150	97.60	830	3	0.02	18,475	99.34
741	44	0.24	17,117	92.04	786	12	0.06	18,162	97.66	831	6	0.03	18,481	99.38
742	35	0.19	17,152	92.23	787	12	0.06	18,174	97.73	832	3	0.02	18,484	99.39
743	23	0.12	17,175	92.35	788	14	0.08	18,188	97.80	833	4	0.02	18,488	99.41
744	33	0.18	17,208	92.53	789	11	0.06	18,199	97.86	834	6	0.03	18,494	99.45
745	40	0.22	17,248	92.75	790	16	0.09	18,215	97.95	835	3	0.02	18,497	99.46
746	33	0.18	17,281	92.92	791	12	0.06	18,227	98.01	836	3	0.02	18,500	99.48
747	41	0.22	17,322	93.14	792	8	0.04	18,235	98.05	837	2	0.01	18,502	99.49
748	28	0.15	17,350	93.29	793	10	0.05	18,245	98.11	838	2	0.01	18,504	99.50
749	31	0.17	17,381	93.46	794	8	0.04	18,253	98.15	839	2	0.01	18,506	99.51

Table 32. Grade 7 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %
840	1	0.01	18,507	99.52
841	3	0.02	18,510	99.53
842	2	0.01	18,512	99.54
843	2	0.01	18,514	99.55
844	1	0.01	18,515	99.56
845	5	0.03	18,520	99.59
846	2	0.01	18,522	99.60
849	2	0.01	18,524	99.61
850	1	0.01	18,525	99.61
851	3	0.02	18,528	99.63
852	6	0.03	18,534	99.66
853	1	0.01	18,535	99.67
855	2	0.01	18,537	99.68
856	2	0.01	18,539	99.69
857	4	0.02	18,543	99.71
858	1	0.01	18,544	99.72
859	1	0.01	18,545	99.72
860	3	0.02	18,548	99.74
861	1	0.01	18,549	99.74
862	3	0.02	18,552	99.76
863	3	0.02	18,555	99.77
864	1	0.01	18,556	99.78
865	2	0.01	18,558	99.79
867	1	0.01	18,559	99.80
868	1	0.01	18,560	99.80
869	3	0.02	18,563	99.82
870	1	0.01	18,564	99.82
871	2	0.01	18,566	99.83
873	1	0.01	18,567	99.84
874	3	0.02	18,570	99.85
876	2	0.01	18,572	99.87
877	1	0.01	18,573	99.87
878	1	0.01	18,574	99.88
879	3	0.02	18,577	99.89
885	1	0.01	18,578	99.90
887	2	0.01	18,580	99.91
889	1	0.01	18,581	99.91
890	2	0.01	18,583	99.92
893	1	0.01	18,584	99.93
897	1	0.01	18,585	99.94
900	12	0.06	18,597	100.00

Table 33. Grade 8 Cumulative Frequency Distribution of Scale Scores

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
300	2167	3.89	2,167	3.89	345	29	0.05	3,332	5.98	390	48	0.09	5,151	9.24
301	20	0.04	2,187	3.92	346	23	0.04	3,355	6.02	391	41	0.07	5,192	9.32
302	23	0.04	2,210	3.97	347	37	0.07	3,392	6.09	392	48	0.09	5,240	9.40
303	26	0.05	2,236	4.01	348	27	0.05	3,419	6.14	393	50	0.09	5,290	9.49
304	22	0.04	2,258	4.05	349	24	0.04	3,443	6.18	394	53	0.10	5,343	9.59
305	30	0.05	2,288	4.11	350	30	0.05	3,473	6.23	395	51	0.09	5,394	9.68
306	14	0.03	2,302	4.13	351	48	0.09	3,521	6.32	396	46	0.08	5,440	9.76
307	22	0.04	2,324	4.17	352	36	0.06	3,557	6.38	397	59	0.11	5,499	9.87
308	22	0.04	2,346	4.21	353	33	0.06	3,590	6.44	398	47	0.08	5,546	9.95
309	20	0.04	2,366	4.25	354	30	0.05	3,620	6.50	399	51	0.09	5,597	10.04
310	23	0.04	2,389	4.29	355	28	0.05	3,648	6.55	400	52	0.09	5,649	10.14
311	19	0.03	2,408	4.32	356	36	0.06	3,684	6.61	401	58	0.10	5,707	10.24
312	23	0.04	2,431	4.36	357	40	0.07	3,724	6.68	402	54	0.10	5,761	10.34
313	26	0.05	2,457	4.41	358	44	0.08	3,768	6.76	403	57	0.10	5,818	10.44
314	32	0.06	2,489	4.47	359	39	0.07	3,807	6.83	404	55	0.10	5,873	10.54
315	28	0.05	2,517	4.52	360	30	0.05	3,837	6.89	405	54	0.10	5,927	10.64
316	33	0.06	2,550	4.58	361	40	0.07	3,877	6.96	406	45	0.08	5,972	10.72
317	21	0.04	2,571	4.61	362	44	0.08	3,921	7.04	407	60	0.11	6,032	10.82
318	24	0.04	2,595	4.66	363	24	0.04	3,945	7.08	408	53	0.10	6,085	10.92
319	29	0.05	2,624	4.71	364	48	0.09	3,993	7.17	409	50	0.09	6,135	11.01
320	22	0.04	2,646	4.75	365	38	0.07	4,031	7.23	410	67	0.12	6,202	11.13
321	19	0.03	2,665	4.78	366	34	0.06	4,065	7.30	411	49	0.09	6,251	11.22
322	27	0.05	2,692	4.83	367	31	0.06	4,096	7.35	412	60	0.11	6,311	11.33
323	29	0.05	2,721	4.88	368	37	0.07	4,133	7.42	413	48	0.09	6,359	11.41
324	26	0.05	2,747	4.93	369	38	0.07	4,171	7.49	414	57	0.10	6,416	11.51
325	28	0.05	2,775	4.98	370	42	0.08	4,213	7.56	415	58	0.10	6,474	11.62
326	21	0.04	2,796	5.02	371	43	0.08	4,256	7.64	416	63	0.11	6,537	11.73
327	29	0.05	2,825	5.07	372	33	0.06	4,289	7.70	417	53	0.10	6,590	11.83
328	22	0.04	2,847	5.11	373	48	0.09	4,337	7.78	418	65	0.12	6,655	11.94
329	19	0.03	2,866	5.14	374	46	0.08	4,383	7.87	419	74	0.13	6,729	12.08
330	15	0.03	2,881	5.17	375	45	0.08	4,428	7.95	420	62	0.11	6,791	12.19
331	28	0.05	2,909	5.22	376	49	0.09	4,477	8.03	421	61	0.11	6,852	12.30
332	22	0.04	2,931	5.26	377	41	0.07	4,518	8.11	422	61	0.11	6,913	12.41
333	30	0.05	2,961	5.31	378	37	0.07	4,555	8.17	423	65	0.12	6,978	12.52
334	30	0.05	2,991	5.37	379	43	0.08	4,598	8.25	424	78	0.14	7,056	12.66
335	26	0.05	3,017	5.41	380	44	0.08	4,642	8.33	425	72	0.13	7,128	12.79
336	29	0.05	3,046	5.47	381	44	0.08	4,686	8.41	426	61	0.11	7,189	12.90
337	28	0.05	3,074	5.52	382	48	0.09	4,734	8.50	427	57	0.10	7,246	13.00
338	36	0.06	3,110	5.58	383	55	0.10	4,789	8.59	428	69	0.12	7,315	13.13
339	34	0.06	3,144	5.64	384	55	0.10	4,844	8.69	429	56	0.10	7,371	13.23
340	41	0.07	3,185	5.72	385	46	0.08	4,890	8.78	430	64	0.11	7,435	13.34
341	31	0.06	3,216	5.77	386	61	0.11	4,951	8.89	431	67	0.12	7,502	13.46
342	29	0.05	3,245	5.82	387	65	0.12	5,016	9.00	432	80	0.14	7,582	13.61
343	30	0.05	3,275	5.88	388	40	0.07	5,056	9.07	433	99	0.18	7,681	13.78
344	28	0.05	3,303	5.93	389	47	0.08	5,103	9.16	434	68	0.12	7,749	13.91

Table 33. Grade 8 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
435	68	0.12	7,817	14.03	480	103	0.18	11,752	21.09	525	147	0.26	17,123	30.73
436	57	0.10	7,874	14.13	481	105	0.19	11,857	21.28	526	135	0.24	17,258	30.97
437	70	0.13	7,944	14.26	482	99	0.18	11,956	21.46	527	154	0.28	17,412	31.25
438	88	0.16	8,032	14.41	483	135	0.24	12,091	21.70	528	157	0.28	17,569	31.53
439	79	0.14	8,111	14.56	484	114	0.20	12,205	21.90	529	148	0.27	17,717	31.79
440	61	0.11	8,172	14.67	485	115	0.21	12,320	22.11	530	155	0.28	17,872	32.07
441	86	0.15	8,258	14.82	486	124	0.22	12,444	22.33	531	122	0.22	17,994	32.29
442	79	0.14	8,337	14.96	487	86	0.15	12,530	22.49	532	143	0.26	18,137	32.55
443	64	0.11	8,401	15.08	488	101	0.18	12,631	22.67	533	137	0.25	18,274	32.79
444	85	0.15	8,486	15.23	489	119	0.21	12,750	22.88	534	139	0.25	18,413	33.04
445	86	0.15	8,572	15.38	490	104	0.19	12,854	23.07	535	133	0.24	18,546	33.28
446	81	0.15	8,653	15.53	491	112	0.20	12,966	23.27	536	149	0.27	18,695	33.55
447	83	0.15	8,736	15.68	492	106	0.19	13,072	23.46	537	142	0.25	18,837	33.80
448	77	0.14	8,813	15.82	493	107	0.19	13,179	23.65	538	153	0.27	18,990	34.08
449	113	0.20	8,926	16.02	494	98	0.18	13,277	23.83	539	162	0.29	19,152	34.37
450	87	0.16	9,013	16.17	495	112	0.20	13,389	24.03	540	134	0.24	19,286	34.61
451	93	0.17	9,106	16.34	496	102	0.18	13,491	24.21	541	145	0.26	19,431	34.87
452	80	0.14	9,186	16.49	497	129	0.23	13,620	24.44	542	145	0.26	19,576	35.13
453	84	0.15	9,270	16.64	498	98	0.18	13,718	24.62	543	146	0.26	19,722	35.39
454	88	0.16	9,358	16.79	499	105	0.19	13,823	24.81	544	165	0.30	19,887	35.69
455	89	0.16	9,447	16.95	500	118	0.21	13,941	25.02	545	160	0.29	20,047	35.98
456	85	0.15	9,532	17.11	501	113	0.20	14,054	25.22	546	163	0.29	20,210	36.27
457	84	0.15	9,616	17.26	502	120	0.22	14,174	25.44	547	140	0.25	20,350	36.52
458	83	0.15	9,699	17.41	503	126	0.23	14,300	25.66	548	160	0.29	20,510	36.81
459	80	0.14	9,779	17.55	504	131	0.24	14,431	25.90	549	141	0.25	20,651	37.06
460	92	0.17	9,871	17.71	505	133	0.24	14,564	26.14	550	139	0.25	20,790	37.31
461	72	0.13	9,943	17.84	506	128	0.23	14,692	26.37	551	163	0.29	20,953	37.60
462	70	0.13	10,013	17.97	507	117	0.21	14,809	26.58	552	164	0.29	21,117	37.90
463	95	0.17	10,108	18.14	508	126	0.23	14,935	26.80	553	165	0.30	21,282	38.19
464	109	0.20	10,217	18.34	509	119	0.21	15,054	27.02	554	136	0.24	21,418	38.44
465	74	0.13	10,291	18.47	510	120	0.22	15,174	27.23	555	151	0.27	21,569	38.71
466	76	0.14	10,367	18.60	511	118	0.21	15,292	27.44	556	145	0.26	21,714	38.97
467	78	0.14	10,445	18.74	512	106	0.19	15,398	27.63	557	128	0.23	21,842	39.20
468	100	0.18	10,545	18.92	513	127	0.23	15,525	27.86	558	172	0.31	22,014	39.51
469	94	0.17	10,639	19.09	514	130	0.23	15,655	28.09	559	161	0.29	22,175	39.80
470	99	0.18	10,738	19.27	515	110	0.20	15,765	28.29	560	191	0.34	22,366	40.14
471	100	0.18	10,838	19.45	516	142	0.25	15,907	28.55	561	181	0.32	22,547	40.46
472	97	0.17	10,935	19.62	517	122	0.22	16,029	28.77	562	145	0.26	22,692	40.72
473	102	0.18	11,037	19.81	518	134	0.24	16,163	29.01	563	165	0.30	22,857	41.02
474	92	0.17	11,129	19.97	519	164	0.29	16,327	29.30	564	158	0.28	23,015	41.30
475	104	0.19	11,233	20.16	520	139	0.25	16,466	29.55	565	159	0.29	23,174	41.59
476	120	0.22	11,353	20.37	521	124	0.22	16,590	29.77	566	164	0.29	23,338	41.88
477	100	0.18	11,453	20.55	522	123	0.22	16,713	29.99	567	186	0.33	23,524	42.22
478	93	0.17	11,546	20.72	523	130	0.23	16,843	30.23	568	164	0.29	23,688	42.51
479	103	0.18	11,649	20.91	524	133	0.24	16,976	30.46	569	179	0.32	23,867	42.83

Table 33. Grade 8 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
570	155	0.28	24,022	43.11	615	205	0.37	32,120	57.64	660	192	0.34	40,557	72.78
571	152	0.27	24,174	43.38	616	162	0.29	32,282	57.93	661	158	0.28	40,715	73.07
572	145	0.26	24,319	43.64	617	186	0.33	32,468	58.27	662	184	0.33	40,899	73.40
573	157	0.28	24,476	43.92	618	196	0.35	32,664	58.62	663	178	0.32	41,077	73.72
574	195	0.35	24,671	44.27	619	207	0.37	32,871	58.99	664	183	0.33	41,260	74.04
575	180	0.32	24,851	44.60	620	190	0.34	33,061	59.33	665	149	0.27	41,409	74.31
576	166	0.30	25,017	44.90	621	190	0.34	33,251	59.67	666	181	0.32	41,590	74.64
577	165	0.30	25,182	45.19	622	214	0.38	33,465	60.06	667	168	0.30	41,758	74.94
578	176	0.32	25,358	45.51	623	218	0.39	33,683	60.45	668	165	0.30	41,923	75.23
579	167	0.30	25,525	45.81	624	187	0.34	33,870	60.78	669	179	0.32	42,102	75.56
580	182	0.33	25,707	46.13	625	193	0.35	34,063	61.13	670	167	0.30	42,269	75.86
581	166	0.30	25,873	46.43	626	174	0.31	34,237	61.44	671	181	0.32	42,450	76.18
582	171	0.31	26,044	46.74	627	170	0.31	34,407	61.75	672	150	0.27	42,600	76.45
583	169	0.30	26,213	47.04	628	198	0.36	34,605	62.10	673	179	0.32	42,779	76.77
584	161	0.29	26,374	47.33	629	205	0.37	34,810	62.47	674	145	0.26	42,924	77.03
585	169	0.30	26,543	47.63	630	196	0.35	35,006	62.82	675	145	0.26	43,069	77.29
586	182	0.33	26,725	47.96	631	162	0.29	35,168	63.11	676	174	0.31	43,243	77.60
587	184	0.33	26,909	48.29	632	165	0.30	35,333	63.41	677	163	0.29	43,406	77.90
588	159	0.29	27,068	48.58	633	191	0.34	35,524	63.75	678	153	0.27	43,559	78.17
589	204	0.37	27,272	48.94	634	165	0.30	35,689	64.05	679	159	0.29	43,718	78.46
590	186	0.33	27,458	49.28	635	215	0.39	35,904	64.43	680	166	0.30	43,884	78.75
591	207	0.37	27,665	49.65	636	192	0.34	36,096	64.78	681	172	0.31	44,056	79.06
592	169	0.30	27,834	49.95	637	204	0.37	36,300	65.14	682	162	0.29	44,218	79.35
593	164	0.29	27,998	50.24	638	168	0.30	36,468	65.45	683	154	0.28	44,372	79.63
594	179	0.32	28,177	50.57	639	188	0.34	36,656	65.78	684	155	0.28	44,527	79.91
595	166	0.30	28,343	50.86	640	189	0.34	36,845	66.12	685	155	0.28	44,682	80.19
596	165	0.30	28,508	51.16	641	190	0.34	37,035	66.46	686	136	0.24	44,818	80.43
597	190	0.34	28,698	51.50	642	181	0.32	37,216	66.79	687	168	0.30	44,986	80.73
598	180	0.32	28,878	51.82	643	212	0.38	37,428	67.17	688	154	0.28	45,140	81.01
599	173	0.31	29,051	52.13	644	174	0.31	37,602	67.48	689	140	0.25	45,280	81.26
600	223	0.40	29,274	52.53	645	191	0.34	37,793	67.82	690	164	0.29	45,444	81.55
601	176	0.32	29,450	52.85	646	201	0.36	37,994	68.18	691	160	0.29	45,604	81.84
602	177	0.32	29,627	53.17	647	203	0.36	38,197	68.55	692	139	0.25	45,743	82.09
603	187	0.34	29,814	53.50	648	170	0.31	38,367	68.85	693	152	0.27	45,895	82.36
604	192	0.34	30,006	53.85	649	189	0.34	38,556	69.19	694	159	0.29	46,054	82.65
605	192	0.34	30,198	54.19	650	180	0.32	38,736	69.52	695	156	0.28	46,210	82.93
606	182	0.33	30,380	54.52	651	168	0.30	38,904	69.82	696	151	0.27	46,361	83.20
607	189	0.34	30,569	54.86	652	186	0.33	39,090	70.15	697	138	0.25	46,499	83.45
608	195	0.35	30,764	55.21	653	202	0.36	39,292	70.51	698	125	0.22	46,624	83.67
609	194	0.35	30,958	55.56	654	174	0.31	39,466	70.83	699	136	0.24	46,760	83.92
610	187	0.34	31,145	55.89	655	186	0.33	39,652	71.16	700	142	0.25	46,902	84.17
611	183	0.33	31,328	56.22	656	168	0.30	39,820	71.46	701	148	0.27	47,050	84.44
612	185	0.33	31,513	56.55	657	174	0.31	39,994	71.77	702	121	0.22	47,171	84.65
613	216	0.39	31,729	56.94	658	177	0.32	40,171	72.09	703	132	0.24	47,303	84.89
614	186	0.33	31,915	57.27	659	194	0.35	40,365	72.44	704	125	0.22	47,428	85.11

Table 33. Grade 8 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
705	141	0.25	47,569	85.37	750	71	0.13	52,191	93.66	795	34	0.06	54,639	98.05
706	136	0.24	47,705	85.61	751	80	0.14	52,271	93.81	796	25	0.04	54,664	98.10
707	154	0.28	47,859	85.89	752	83	0.15	52,354	93.95	797	27	0.05	54,691	98.15
708	115	0.21	47,974	86.09	753	93	0.17	52,447	94.12	798	36	0.06	54,727	98.21
709	144	0.26	48,118	86.35	754	89	0.16	52,536	94.28	799	30	0.05	54,757	98.27
710	117	0.21	48,235	86.56	755	78	0.14	52,614	94.42	800	31	0.06	54,788	98.32
711	134	0.24	48,369	86.80	756	71	0.13	52,685	94.55	801	21	0.04	54,809	98.36
712	116	0.21	48,485	87.01	757	63	0.11	52,748	94.66	802	23	0.04	54,832	98.40
713	119	0.21	48,604	87.22	758	66	0.12	52,814	94.78	803	24	0.04	54,856	98.44
714	104	0.19	48,708	87.41	759	57	0.10	52,871	94.88	804	21	0.04	54,877	98.48
715	110	0.20	48,818	87.61	760	81	0.15	52,952	95.03	805	15	0.03	54,892	98.51
716	120	0.22	48,938	87.82	761	55	0.10	53,007	95.13	806	28	0.05	54,920	98.56
717	121	0.22	49,059	88.04	762	73	0.13	53,080	95.26	807	20	0.04	54,940	98.59
718	92	0.17	49,151	88.21	763	67	0.12	53,147	95.38	808	28	0.05	54,968	98.65
719	123	0.22	49,274	88.43	764	62	0.11	53,209	95.49	809	21	0.04	54,989	98.68
720	106	0.19	49,380	88.62	765	53	0.10	53,262	95.58	810	22	0.04	55,011	98.72
721	84	0.15	49,464	88.77	766	65	0.12	53,327	95.70	811	28	0.05	55,039	98.77
722	101	0.18	49,565	88.95	767	50	0.09	53,377	95.79	812	28	0.05	55,067	98.82
723	118	0.21	49,683	89.16	768	56	0.10	53,433	95.89	813	19	0.03	55,086	98.86
724	111	0.20	49,794	89.36	769	55	0.10	53,488	95.99	814	13	0.02	55,099	98.88
725	132	0.24	49,926	89.60	770	37	0.07	53,525	96.06	815	24	0.04	55,123	98.92
726	120	0.22	50,046	89.81	771	46	0.08	53,571	96.14	816	19	0.03	55,142	98.96
727	108	0.19	50,154	90.01	772	55	0.10	53,626	96.24	817	26	0.05	55,168	99.00
728	101	0.18	50,255	90.19	773	53	0.10	53,679	96.33	818	11	0.02	55,179	99.02
729	107	0.19	50,362	90.38	774	54	0.10	53,733	96.43	819	18	0.03	55,197	99.06
730	108	0.19	50,470	90.57	775	64	0.11	53,797	96.54	820	13	0.02	55,210	99.08
731	69	0.12	50,539	90.70	776	54	0.10	53,851	96.64	821	15	0.03	55,225	99.11
732	93	0.17	50,632	90.86	777	47	0.08	53,898	96.72	822	21	0.04	55,246	99.14
733	89	0.16	50,721	91.02	778	44	0.08	53,942	96.80	823	17	0.03	55,263	99.17
734	84	0.15	50,805	91.17	779	52	0.09	53,994	96.90	824	15	0.03	55,278	99.20
735	90	0.16	50,895	91.34	780	48	0.09	54,042	96.98	825	19	0.03	55,297	99.24
736	101	0.18	50,996	91.52	781	43	0.08	54,085	97.06	826	10	0.02	55,307	99.25
737	85	0.15	51,081	91.67	782	43	0.08	54,128	97.14	827	19	0.03	55,326	99.29
738	91	0.16	51,172	91.83	783	51	0.09	54,179	97.23	828	11	0.02	55,337	99.31
739	90	0.16	51,262	91.99	784	36	0.06	54,215	97.29	829	13	0.02	55,350	99.33
740	81	0.15	51,343	92.14	785	52	0.09	54,267	97.39	830	17	0.03	55,367	99.36
741	102	0.18	51,445	92.32	786	39	0.07	54,306	97.46	831	15	0.03	55,382	99.39
742	90	0.16	51,535	92.48	787	36	0.06	54,342	97.52	832	6	0.01	55,388	99.40
743	99	0.18	51,634	92.66	788	44	0.08	54,386	97.60	833	18	0.03	55,406	99.43
744	105	0.19	51,739	92.85	789	39	0.07	54,425	97.67	834	7	0.01	55,413	99.44
745	68	0.12	51,807	92.97	790	48	0.09	54,473	97.76	835	6	0.01	55,419	99.45
746	67	0.12	51,874	93.09	791	39	0.07	54,512	97.83	836	5	0.01	55,424	99.46
747	83	0.15	51,957	93.24	792	34	0.06	54,546	97.89	837	11	0.02	55,435	99.48
748	90	0.16	52,047	93.40	793	32	0.06	54,578	97.95	838	3	0.01	55,438	99.49
749	73	0.13	52,120	93.53	794	27	0.05	54,605	97.99	839	8	0.01	55,446	99.50

Table 33. Grade 8 Cumulative Frequency Distribution of Scale Scores (Continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
840	12	0.02	55,458	99.52	886	1	0.00	55,671	99.91
841	9	0.02	55,467	99.54	887	5	0.01	55,676	99.92
842	8	0.01	55,475	99.55	889	2	0.00	55,678	99.92
843	11	0.02	55,486	99.57	890	1	0.00	55,679	99.92
844	10	0.02	55,496	99.59	891	2	0.00	55,681	99.92
845	8	0.01	55,504	99.61	893	2	0.00	55,683	99.93
846	11	0.02	55,515	99.63	894	1	0.00	55,684	99.93
847	10	0.02	55,525	99.64	896	3	0.01	55,687	99.94
848	6	0.01	55,531	99.66	898	2	0.00	55,689	99.94
849	3	0.01	55,534	99.66	899	1	0.00	55,690	99.94
850	4	0.01	55,538	99.67	900	33	0.06	55,723	100.00
851	5	0.01	55,543	99.68					
852	3	0.01	55,546	99.68					
853	5	0.01	55,551	99.69					
854	7	0.01	55,558	99.70					
855	8	0.01	55,566	99.72					
856	5	0.01	55,571	99.73					
857	4	0.01	55,575	99.73					
858	8	0.01	55,583	99.75					
859	5	0.01	55,588	99.76					
860	3	0.01	55,591	99.76					
861	8	0.01	55,599	99.78					
862	5	0.01	55,604	99.79					
863	3	0.01	55,607	99.79					
864	5	0.01	55,612	99.80					
865	4	0.01	55,616	99.81					
866	5	0.01	55,621	99.82					
867	2	0.00	55,623	99.82					
868	5	0.01	55,628	99.83					
869	1	0.00	55,629	99.83					
871	2	0.00	55,631	99.83					
872	4	0.01	55,635	99.84					
873	3	0.01	55,638	99.85					
874	3	0.01	55,641	99.85					
875	2	0.00	55,643	99.86					
876	4	0.01	55,647	99.86					
877	2	0.00	55,649	99.87					
878	4	0.01	55,653	99.87					
879	2	0.00	55,655	99.88					
880	4	0.01	55,659	99.89					
881	2	0.00	55,661	99.89					
882	2	0.00	55,663	99.89					
883	4	0.01	55,667	99.90					
884	2	0.00	55,669	99.90					
885	1	0.00	55,670	99.90					

Table 34. HS Science Frequency Distribution of Scale Scores

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
300	847	2.31	847	2.31	345	8	0.02	1,352	3.69	390	21	0.06	2,207	6.02
301	5	0.01	852	2.33	346	11	0.03	1,363	3.72	391	25	0.07	2,232	6.09
302	8	0.02	860	2.35	347	15	0.04	1,378	3.76	392	27	0.07	2,259	6.17
303	13	0.04	873	2.38	348	16	0.04	1,394	3.81	393	29	0.08	2,288	6.25
304	9	0.02	882	2.41	349	16	0.04	1,410	3.85	394	21	0.06	2,309	6.30
305	11	0.03	893	2.44	350	13	0.04	1,423	3.88	395	21	0.06	2,330	6.36
306	12	0.03	905	2.47	351	18	0.05	1,441	3.93	396	28	0.08	2,358	6.44
307	8	0.02	913	2.49	352	11	0.03	1,452	3.96	397	25	0.07	2,383	6.50
308	12	0.03	925	2.52	353	20	0.05	1,472	4.02	398	30	0.08	2,413	6.59
309	5	0.01	930	2.54	354	15	0.04	1,487	4.06	399	25	0.07	2,438	6.65
310	11	0.03	941	2.57	355	19	0.05	1,506	4.11	400	27	0.07	2,465	6.73
311	4	0.01	945	2.58	356	19	0.05	1,525	4.16	401	32	0.09	2,497	6.82
312	13	0.04	958	2.61	357	16	0.04	1,541	4.21	402	31	0.08	2,528	6.90
313	6	0.02	964	2.63	358	16	0.04	1,557	4.25	403	32	0.09	2,560	6.99
314	13	0.04	977	2.67	359	15	0.04	1,572	4.29	404	29	0.08	2,589	7.07
315	8	0.02	985	2.69	360	14	0.04	1,586	4.33	405	35	0.10	2,624	7.16
316	6	0.02	991	2.70	361	14	0.04	1,600	4.37	406	31	0.08	2,655	7.25
317	10	0.03	1,001	2.73	362	22	0.06	1,622	4.43	407	34	0.09	2,689	7.34
318	11	0.03	1,012	2.76	363	17	0.05	1,639	4.47	408	21	0.06	2,710	7.40
319	8	0.02	1,020	2.78	364	23	0.06	1,662	4.54	409	35	0.10	2,745	7.49
320	2	0.01	1,022	2.79	365	13	0.04	1,675	4.57	410	26	0.07	2,771	7.56
321	11	0.03	1,033	2.82	366	24	0.07	1,699	4.64	411	25	0.07	2,796	7.63
322	7	0.02	1,040	2.84	367	16	0.04	1,715	4.68	412	34	0.09	2,830	7.72
323	9	0.02	1,049	2.86	368	23	0.06	1,738	4.74	413	25	0.07	2,855	7.79
324	17	0.05	1,066	2.91	369	15	0.04	1,753	4.78	414	31	0.08	2,886	7.88
325	14	0.04	1,080	2.95	370	16	0.04	1,769	4.83	415	31	0.08	2,917	7.96
326	13	0.04	1,093	2.98	371	30	0.08	1,799	4.91	416	31	0.08	2,948	8.05
327	12	0.03	1,105	3.02	372	22	0.06	1,821	4.97	417	33	0.09	2,981	8.14
328	8	0.02	1,113	3.04	373	17	0.05	1,838	5.02	418	37	0.10	3,018	8.24
329	15	0.04	1,128	3.08	374	20	0.05	1,858	5.07	419	22	0.06	3,040	8.30
330	8	0.02	1,136	3.10	375	9	0.02	1,867	5.10	420	23	0.06	3,063	8.36
331	16	0.04	1,152	3.14	376	32	0.09	1,899	5.18	421	37	0.10	3,100	8.46
332	18	0.05	1,170	3.19	377	23	0.06	1,922	5.25	422	40	0.11	3,140	8.57
333	18	0.05	1,188	3.24	378	22	0.06	1,944	5.31	423	40	0.11	3,180	8.68
334	11	0.03	1,199	3.27	379	21	0.06	1,965	5.36	424	33	0.09	3,213	8.77
335	9	0.02	1,208	3.30	380	20	0.05	1,985	5.42	425	36	0.10	3,249	8.87
336	14	0.04	1,222	3.34	381	22	0.06	2,007	5.48	426	43	0.12	3,292	8.99
337	18	0.05	1,240	3.38	382	21	0.06	2,028	5.54	427	36	0.10	3,328	9.08
338	11	0.03	1,251	3.41	383	24	0.07	2,052	5.60	428	44	0.12	3,372	9.20
339	16	0.04	1,267	3.46	384	17	0.05	2,069	5.65	429	46	0.13	3,418	9.33
340	13	0.04	1,280	3.49	385	27	0.07	2,096	5.72	430	37	0.10	3,455	9.43
341	16	0.04	1,296	3.54	386	17	0.05	2,113	5.77	431	27	0.07	3,482	9.50
342	16	0.04	1,312	3.58	387	18	0.05	2,131	5.82	432	36	0.10	3,518	9.60
343	16	0.04	1,328	3.62	388	30	0.08	2,161	5.90	433	32	0.09	3,550	9.69
344	16	0.04	1,344	3.67	389	25	0.07	2,186	5.97	434	36	0.10	3,586	9.79

Table 34. HS Science Cumulative Frequency Distribution of Scale Scores (continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
435	35	0.10	3,621	9.88	480	58	0.16	5,861	16.00	525	88	0.24	9,419	25.71
436	37	0.10	3,658	9.98	481	63	0.17	5,924	16.17	526	97	0.26	9,516	25.97
437	40	0.11	3,698	10.09	482	72	0.20	5,996	16.37	527	94	0.26	9,610	26.23
438	33	0.09	3,731	10.18	483	61	0.17	6,057	16.53	528	92	0.25	9,702	26.48
439	41	0.11	3,772	10.30	484	69	0.19	6,126	16.72	529	76	0.21	9,778	26.69
440	42	0.11	3,814	10.41	485	85	0.23	6,211	16.95	530	108	0.29	9,886	26.98
441	35	0.10	3,849	10.51	486	60	0.16	6,271	17.12	531	108	0.29	9,994	27.28
442	34	0.09	3,883	10.60	487	63	0.17	6,334	17.29	532	97	0.26	10,091	27.54
443	35	0.10	3,918	10.69	488	65	0.18	6,399	17.47	533	100	0.27	10,191	27.82
444	44	0.12	3,962	10.81	489	60	0.16	6,459	17.63	534	90	0.25	10,281	28.06
445	46	0.13	4,008	10.94	490	73	0.20	6,532	17.83	535	100	0.27	10,381	28.34
446	43	0.12	4,051	11.06	491	76	0.21	6,608	18.04	536	96	0.26	10,477	28.60
447	43	0.12	4,094	11.17	492	70	0.19	6,678	18.23	537	102	0.28	10,579	28.88
448	49	0.13	4,143	11.31	493	86	0.23	6,764	18.46	538	93	0.25	10,672	29.13
449	51	0.14	4,194	11.45	494	61	0.17	6,825	18.63	539	95	0.26	10,767	29.39
450	43	0.12	4,237	11.57	495	65	0.18	6,890	18.81	540	121	0.33	10,888	29.72
451	62	0.17	4,299	11.73	496	78	0.21	6,968	19.02	541	110	0.30	10,998	30.02
452	44	0.12	4,343	11.85	497	76	0.21	7,044	19.23	542	104	0.28	11,102	30.30
453	41	0.11	4,384	11.97	498	69	0.19	7,113	19.42	543	107	0.29	11,209	30.60
454	35	0.10	4,419	12.06	499	78	0.21	7,191	19.63	544	97	0.26	11,306	30.86
455	43	0.12	4,462	12.18	500	70	0.19	7,261	19.82	545	118	0.32	11,424	31.18
456	58	0.16	4,520	12.34	501	74	0.20	7,335	20.02	546	120	0.33	11,544	31.51
457	53	0.14	4,573	12.48	502	77	0.21	7,412	20.23	547	100	0.27	11,644	31.78
458	47	0.13	4,620	12.61	503	86	0.23	7,498	20.47	548	108	0.29	11,752	32.08
459	61	0.17	4,681	12.78	504	86	0.23	7,584	20.70	549	100	0.27	11,852	32.35
460	57	0.16	4,738	12.93	505	77	0.21	7,661	20.91	550	110	0.30	11,962	32.65
461	56	0.15	4,794	13.09	506	96	0.26	7,757	21.17	551	111	0.30	12,073	32.95
462	49	0.13	4,843	13.22	507	77	0.21	7,834	21.38	552	118	0.32	12,191	33.28
463	48	0.13	4,891	13.35	508	78	0.21	7,912	21.60	553	109	0.30	12,300	33.57
464	49	0.13	4,940	13.48	509	107	0.29	8,019	21.89	554	112	0.31	12,412	33.88
465	46	0.13	4,986	13.61	510	80	0.22	8,099	22.11	555	106	0.29	12,518	34.17
466	46	0.13	5,032	13.74	511	79	0.22	8,178	22.32	556	122	0.33	12,640	34.50
467	52	0.14	5,084	13.88	512	101	0.28	8,279	22.60	557	121	0.33	12,761	34.83
468	63	0.17	5,147	14.05	513	90	0.25	8,369	22.84	558	113	0.31	12,874	35.14
469	50	0.14	5,197	14.19	514	94	0.26	8,463	23.10	559	128	0.35	13,002	35.49
470	56	0.15	5,253	14.34	515	89	0.24	8,552	23.34	560	127	0.35	13,129	35.84
471	57	0.16	5,310	14.49	516	88	0.24	8,640	23.58	561	106	0.29	13,235	36.13
472	59	0.16	5,369	14.65	517	92	0.25	8,732	23.83	562	111	0.30	13,346	36.43
473	57	0.16	5,426	14.81	518	84	0.23	8,816	24.06	563	112	0.31	13,458	36.73
474	60	0.16	5,486	14.97	519	77	0.21	8,893	24.27	564	143	0.39	13,601	37.12
475	68	0.19	5,554	15.16	520	76	0.21	8,969	24.48	565	128	0.35	13,729	37.47
476	56	0.15	5,610	15.31	521	114	0.31	9,083	24.79	566	122	0.33	13,851	37.81
477	74	0.20	5,684	15.51	522	80	0.22	9,163	25.01	567	126	0.34	13,977	38.15
478	53	0.14	5,737	15.66	523	83	0.23	9,246	25.24	568	107	0.29	14,084	38.44
479	66	0.18	5,803	15.84	524	85	0.23	9,331	25.47	569	134	0.37	14,218	38.81

Table 34. HS Science Cumulative Frequency Distribution of Scale Scores (continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
570	117	0.32	14,335	39.13	615	141	0.38	20,318	55.46	660	145	0.40	26,215	71.56
571	124	0.34	14,459	39.47	616	130	0.35	20,448	55.81	661	116	0.32	26,331	71.87
572	130	0.35	14,589	39.82	617	125	0.34	20,573	56.16	662	128	0.35	26,459	72.22
573	129	0.35	14,718	40.17	618	141	0.38	20,714	56.54	663	160	0.44	26,619	72.66
574	134	0.37	14,852	40.54	619	125	0.34	20,839	56.88	664	124	0.34	26,743	73.00
575	108	0.29	14,960	40.83	620	136	0.37	20,975	57.25	665	135	0.37	26,878	73.36
576	148	0.40	15,108	41.24	621	144	0.39	21,119	57.65	666	117	0.32	26,995	73.68
577	122	0.33	15,230	41.57	622	110	0.30	21,229	57.95	667	124	0.34	27,119	74.02
578	115	0.31	15,345	41.89	623	132	0.36	21,361	58.31	668	133	0.36	27,252	74.39
579	124	0.34	15,469	42.22	624	122	0.33	21,483	58.64	669	113	0.31	27,365	74.69
580	130	0.35	15,599	42.58	625	120	0.33	21,603	58.97	670	135	0.37	27,500	75.06
581	156	0.43	15,755	43.00	626	148	0.40	21,751	59.37	671	120	0.33	27,620	75.39
582	130	0.35	15,885	43.36	627	137	0.37	21,888	59.74	672	121	0.33	27,741	75.72
583	138	0.38	16,023	43.74	628	141	0.38	22,029	60.13	673	115	0.31	27,856	76.03
584	121	0.33	16,144	44.07	629	142	0.39	22,171	60.52	674	108	0.29	27,964	76.33
585	128	0.35	16,272	44.42	630	141	0.38	22,312	60.90	675	130	0.35	28,094	76.68
586	131	0.36	16,403	44.77	631	121	0.33	22,433	61.23	676	119	0.32	28,213	77.01
587	142	0.39	16,545	45.16	632	148	0.40	22,581	61.64	677	131	0.36	28,344	77.37
588	130	0.35	16,675	45.52	633	147	0.40	22,728	62.04	678	119	0.32	28,463	77.69
589	124	0.34	16,799	45.85	634	144	0.39	22,872	62.43	679	105	0.29	28,568	77.98
590	130	0.35	16,929	46.21	635	121	0.33	22,993	62.76	680	117	0.32	28,685	78.30
591	130	0.35	17,059	46.56	636	135	0.37	23,128	63.13	681	114	0.31	28,799	78.61
592	119	0.32	17,178	46.89	637	132	0.36	23,260	63.49	682	105	0.29	28,904	78.90
593	122	0.33	17,300	47.22	638	139	0.38	23,399	63.87	683	119	0.32	29,023	79.22
594	142	0.39	17,442	47.61	639	145	0.40	23,544	64.26	684	103	0.28	29,126	79.50
595	137	0.37	17,579	47.98	640	140	0.38	23,684	64.65	685	107	0.29	29,233	79.79
596	159	0.43	17,738	48.42	641	132	0.36	23,816	65.01	686	100	0.27	29,333	80.07
597	126	0.34	17,864	48.76	642	152	0.41	23,968	65.42	687	107	0.29	29,440	80.36
598	139	0.38	18,003	49.14	643	122	0.33	24,090	65.75	688	105	0.29	29,545	80.64
599	139	0.38	18,142	49.52	644	135	0.37	24,225	66.12	689	112	0.31	29,657	80.95
600	130	0.35	18,272	49.87	645	109	0.30	24,334	66.42	690	102	0.28	29,759	81.23
601	143	0.39	18,415	50.26	646	137	0.37	24,471	66.79	691	113	0.31	29,872	81.54
602	127	0.35	18,542	50.61	647	134	0.37	24,605	67.16	692	103	0.28	29,975	81.82
603	146	0.40	18,688	51.01	648	109	0.30	24,714	67.46	693	101	0.28	30,076	82.09
604	139	0.38	18,827	51.39	649	120	0.33	24,834	67.79	694	105	0.29	30,181	82.38
605	112	0.31	18,939	51.70	650	116	0.32	24,950	68.10	695	84	0.23	30,265	82.61
606	142	0.39	19,081	52.08	651	130	0.35	25,080	68.46	696	117	0.32	30,382	82.93
607	128	0.35	19,209	52.43	652	131	0.36	25,211	68.81	697	90	0.25	30,472	83.18
608	125	0.34	19,334	52.77	653	136	0.37	25,347	69.19	698	102	0.28	30,574	83.45
609	133	0.36	19,467	53.14	654	124	0.34	25,471	69.52	699	85	0.23	30,659	83.69
610	126	0.34	19,593	53.48	655	126	0.34	25,597	69.87	700	95	0.26	30,754	83.94
611	153	0.42	19,746	53.90	656	101	0.28	25,698	70.14	701	99	0.27	30,853	84.21
612	136	0.37	19,882	54.27	657	117	0.32	25,815	70.46	702	98	0.27	30,951	84.48
613	138	0.38	20,020	54.65	658	132	0.36	25,947	70.82	703	100	0.27	31,051	84.76
614	157	0.43	20,177	55.07	659	123	0.34	26,070	71.16	704	96	0.26	31,147	85.02

Table 34. HS Science Cumulative Frequency Distribution of Scale Scores (continued)

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
705	89	0.24	31,236	85.26	750	56	0.15	34,489	94.14	795	21	0.06	36,071	98.46
706	86	0.23	31,322	85.50	751	51	0.14	34,540	94.28	796	17	0.05	36,088	98.50
707	89	0.24	31,411	85.74	752	50	0.14	34,590	94.42	797	16	0.04	36,104	98.55
708	72	0.20	31,483	85.93	753	52	0.14	34,642	94.56	798	18	0.05	36,122	98.60
709	92	0.25	31,575	86.19	754	51	0.14	34,693	94.70	799	16	0.04	36,138	98.64
710	82	0.22	31,657	86.41	755	43	0.12	34,736	94.81	800	10	0.03	36,148	98.67
711	101	0.28	31,758	86.69	756	51	0.14	34,787	94.95	801	14	0.04	36,162	98.71
712	88	0.24	31,846	86.93	757	47	0.13	34,834	95.08	802	19	0.05	36,181	98.76
713	59	0.16	31,905	87.09	758	50	0.14	34,884	95.22	803	10	0.03	36,191	98.79
714	76	0.21	31,981	87.29	759	41	0.11	34,925	95.33	804	17	0.05	36,208	98.83
715	96	0.26	32,077	87.56	760	49	0.13	34,974	95.46	805	11	0.03	36,219	98.86
716	85	0.23	32,162	87.79	761	41	0.11	35,015	95.58	806	15	0.04	36,234	98.90
717	87	0.24	32,249	88.03	762	43	0.12	35,058	95.69	807	20	0.05	36,254	98.96
718	85	0.23	32,334	88.26	763	45	0.12	35,103	95.82	808	14	0.04	36,268	99.00
719	70	0.19	32,404	88.45	764	44	0.12	35,147	95.94	809	15	0.04	36,283	99.04
720	70	0.19	32,474	88.64	765	53	0.14	35,200	96.08	810	11	0.03	36,294	99.07
721	86	0.23	32,560	88.87	766	40	0.11	35,240	96.19	811	16	0.04	36,310	99.11
722	80	0.22	32,640	89.09	767	41	0.11	35,281	96.30	812	10	0.03	36,320	99.14
723	67	0.18	32,707	89.28	768	33	0.09	35,314	96.39	813	10	0.03	36,330	99.16
724	78	0.21	32,785	89.49	769	28	0.08	35,342	96.47	814	11	0.03	36,341	99.19
725	69	0.19	32,854	89.68	770	45	0.12	35,387	96.59	815	13	0.04	36,354	99.23
726	67	0.18	32,921	89.86	771	36	0.10	35,423	96.69	816	14	0.04	36,368	99.27
727	92	0.25	33,013	90.11	772	37	0.10	35,460	96.79	817	9	0.02	36,377	99.29
728	84	0.23	33,097	90.34	773	31	0.08	35,491	96.87	818	7	0.02	36,384	99.31
729	77	0.21	33,174	90.55	774	31	0.08	35,522	96.96	819	8	0.02	36,392	99.33
730	90	0.25	33,264	90.80	775	32	0.09	35,554	97.05	820	13	0.04	36,405	99.37
731	66	0.18	33,330	90.98	776	37	0.10	35,591	97.15	821	7	0.02	36,412	99.39
732	67	0.18	33,397	91.16	777	29	0.08	35,620	97.23	822	10	0.03	36,422	99.42
733	72	0.20	33,469	91.36	778	28	0.08	35,648	97.30	823	8	0.02	36,430	99.44
734	67	0.18	33,536	91.54	779	28	0.08	35,676	97.38	824	4	0.01	36,434	99.45
735	64	0.17	33,600	91.71	780	25	0.07	35,701	97.45	825	4	0.01	36,438	99.46
736	69	0.19	33,669	91.90	781	42	0.11	35,743	97.56	826	7	0.02	36,445	99.48
737	70	0.19	33,739	92.09	782	31	0.08	35,774	97.65	827	7	0.02	36,452	99.50
738	63	0.17	33,802	92.26	783	22	0.06	35,796	97.71	828	6	0.02	36,458	99.51
739	66	0.18	33,868	92.44	784	32	0.09	35,828	97.79	829	10	0.03	36,468	99.54
740	61	0.17	33,929	92.61	785	26	0.07	35,854	97.87	830	7	0.02	36,475	99.56
741	66	0.18	33,995	92.79	786	20	0.05	35,874	97.92	831	4	0.01	36,479	99.57
742	65	0.18	34,060	92.97	787	19	0.05	35,893	97.97	832	3	0.01	36,482	99.58
743	48	0.13	34,108	93.10	788	18	0.05	35,911	98.02	833	9	0.02	36,491	99.60
744	51	0.14	34,159	93.24	789	17	0.05	35,928	98.07	834	2	0.01	36,493	99.61
745	62	0.17	34,221	93.41	790	36	0.10	35,964	98.17	835	5	0.01	36,498	99.62
746	55	0.15	34,276	93.56	791	19	0.05	35,983	98.22	836	7	0.02	36,505	99.64
747	62	0.17	34,338	93.73	792	22	0.06	36,005	98.28	837	3	0.01	36,508	99.65
748	49	0.13	34,387	93.86	793	23	0.06	36,028	98.34	838	5	0.01	36,513	99.66
749	46	0.13	34,433	93.99	794	22	0.06	36,050	98.40	839	4	0.01	36,517	99.68

Table 34. HS Science Cumulative Frequency Distribution of Scale Scores (continued)

SS	Freq	%	Cum Freq	Cum %
840	4	0.01	36,521	99.69
841	5	0.01	36,526	99.70
842	3	0.01	36,529	99.71
843	5	0.01	36,534	99.72
844	3	0.01	36,537	99.73
845	1	0.00	36,538	99.73
847	2	0.01	36,540	99.74
848	3	0.01	36,543	99.75
849	5	0.01	36,548	99.76
850	3	0.01	36,551	99.77
851	3	0.01	36,554	99.78
852	3	0.01	36,557	99.78
853	4	0.01	36,561	99.80
856	4	0.01	36,565	99.81
857	1	0.00	36,566	99.81
858	1	0.00	36,567	99.81
859	5	0.01	36,572	99.83
860	4	0.01	36,576	99.84
862	1	0.00	36,577	99.84
863	3	0.01	36,580	99.85
864	4	0.01	36,584	99.86
865	2	0.01	36,586	99.86
866	2	0.01	36,588	99.87
868	3	0.01	36,591	99.88
869	1	0.00	36,592	99.88
870	1	0.00	36,593	99.88
872	1	0.00	36,594	99.89
873	1	0.00	36,595	99.89
874	2	0.01	36,597	99.89
875	2	0.01	36,599	99.90
876	2	0.01	36,601	99.90
877	1	0.00	36,602	99.91
878	5	0.01	36,607	99.92
879	1	0.00	36,608	99.92
882	1	0.00	36,609	99.93
884	2	0.01	36,611	99.93
888	2	0.01	36,613	99.94
889	1	0.00	36,614	99.94
891	2	0.01	36,616	99.95
894	1	0.00	36,617	99.95
895	2	0.01	36,619	99.95
896	1	0.00	36,620	99.96
897	2	0.01	36,622	99.96
900	14	0.04	36,636	100.00

Table 35. Scale Score Performance Summary

Content Area	Grade	N	Mean	SD	Median
Social Studies	4	20,807	615	115.7	627
	7	18,597	595	118.0	611
	HS	n/a	n/a	n/a	n/a
Science	5	63,338	598	111.8	608
	8	55,723	578	124.1	593
	HS	36,636	590	113.0	601

Table 36. Performance Level Distribution

Content Area	Grade	Limited Command	Moderate Command	Strong Command	Distinguished Command
Social Studies	4	27.5%	48.0%	20.6%	4.0%
	7	43.1%	38.8%	14.2%	3.9%
	HS	n/a	n/a	n/a	n/a
Science	5	29.7%	35.4%	30.6%	4.3%
	8	38.7%	31.1%	27.5%	2.7%
	HS	30.3%	45.4%	21.2%	3.1%

*Percentages may not sum to 100 due to rounding.

Table 37. Scale Score Performance Summary by Content Standard

Content Area	Grade	Content Standard											
		1			2			3			4		
		Mean	SD	Mdn*	Mean	SD	Mdn*	Mean	SD	Mdn*	Mean	SD	Mdn*
Social Studies	4	612	132.2	626	616	131.8	627	613	133.1	627	602	142.7	629
	7	595	130.4	611	593	134.2	613	586	144.7	608	581	147.4	612
	HS	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Science	5	595	125.7	607	598	120.1	607	599	119.5	607	596	120.3	607
	8	576	134.2	592	573	137.4	589	577	132.5	592	579	134.4	590
	HS	583	126.6	598	587	121.5	599	586	124.8	603	582	132.0	602

*Mdn = median

Table 38. Scale Score Performance Summary by Item Type

Content Area	Grade	Selected-Response		Constructed-Response	
		Mean	SD	Mean	SD
Social Studies	4	615	122.6	612	126.2
	7	595	127.4	592	126.4
	HS	n/a	n/a	n/a	n/a
Science	5	601	116.8	594	123.0
	8	578	129.2	576	130.9
	HS	590	117.0	584	125.7

Table 39. Grade 4 Percent Correct Performance Summary by GLE

Content Standard	GLE	Mean	SD	Average Percent Correct
History	1	4.5	2.6	45.2%
	2	3.9	2.1	42.9%
Geography	1	5.3	1.9	52.6%
	2	5.0	2.4	50.1%
Economics	1	3.8	2.1	42.3%
	2	4.4	1.9	54.5%
Civics	1	3.4	2.3	38.1%
	2	3.6	2.3	36.2%

Table 40. Grade 5 Percent Correct Performance Summary by GLE

Content Standard	GLE	Mean	SD	Average Percent Correct
Physical Science	1	8.5	4.5	42.5%
Life Science	1	7.0	2.6	53.8%
	2	9.6	4.0	56.2%
Earth Systems Science	1	5.3	2.6	52.7%
	2	4.3	2.3	42.8%
	3	5.6	2.2	55.5%

Table 41. Grade 7 Percent Correct Performance Summary by GLE

Content Standard	GLE	Mean	SD	Average Percent Correct
History	1	3.4	2.2	43.1%
	2	6.0	3.2	50.1%
Geography	1	4.5	2.5	45.3%
	2	3.9	1.8	48.5%
Economics	1	3.8	2.0	47.2%
	2	3.1	2.2	39.0%
Civics	1	3.4	2.2	38.2%
	2	3.4	2.3	38.1%

Table 42. Grade 8 Percent Correct Performance Summary by GLE

Content Standard	GLE	Mean	SD	Average Percent Correct
Physical Science	1	3.8	2.2	54.6%
	2	2.7	1.9	34.0%
	3	3.2	1.9	45.0%
	4	2.7	1.9	38.4%
Life Science	1	4.0	2.1	44.3%
	2	5.0	3.4	38.7%
Earth Systems Science	1	3.3	2.1	46.7%
	2	2.9	1.6	48.4%
	3	3.5	1.8	50.3%
	4	1.7	1.7	24.2%

Table 43. HS Science Percent Correct Performance Summary by PGC

Content Standard	PGC	Mean	SD	Average Percent Correct
Physical Science	1	2.2	1.5	36.3%
	2	3.5	2.5	31.6%
	3	2.8	2.2	30.9%
Life Science	1	2.7	1.8	38.3%
	2	2.2	2.1	22.0%
	3	1.7	1.5	24.7%
	4	n/a	n/a	n/a
Earth Systems Science	1	2.8	1.9	35.6%
	2	6.4	3.7	42.7%
	3	n/a	n/a	n/a

*n/a represents a PGC where there are too few points to reliably report out on.

Table 44. Grade 4 Selected-Response Classical Statistics

Item	% Omit	p-value	Item-Total Corr.
1	0.02	0.56	0.27
2	0.17	0.58	0.30
3	0.04	0.75	0.34
4	0.06	0.58	0.40
5	0.09	0.65	0.41
6	0.55	0.43	0.40
7	0.35	0.45	0.50
8	1.26	0.40	0.19
9	2.35	0.45	0.49
10	2.46	0.68	0.41
11	2.61	0.70	0.49
12	3.18	0.46	0.37
13	4.36	0.51	0.35
14	5.06	0.46	0.48
15	0.10	0.75	0.39
16	0.14	0.36	0.41
17	0.04	0.75	0.41
18	0.19	0.40	0.30
19	1.56	0.40	0.35
20	1.91	0.47	0.17
21	2.00	0.52	0.29
22	2.96	0.32	0.26
23	3.30	0.45	0.33
24	0.08	0.46	0.41
25	0.04	0.84	0.36
26	0.02	0.72	0.50
27	0.09	0.31	0.27
28	0.07	0.45	0.25
29	0.12	0.71	0.46
30	0.15	0.54	0.34
31	0.15	0.45	0.54
32	0.47	0.49	0.37
33	0.56	0.39	0.36
34	0.68	0.55	0.46
35	0.66	0.31	0.23
36	1.18	0.45	0.34
37	1.18	0.53	0.33
38	1.26	0.61	0.46
39	1.37	0.45	0.28

Table 45. Grade 4 Constructed-Response Classical Statistics

Item	Omit %	%0	%1	%2	%3	p-value	Item- Total Corr.
1	2.84	29.93	37.67	20.47	9.09	0.35	0.54
2	3.39	28.28	37.31	21.91	9.11	0.36	0.53
3	5.59	25.05	22.08	23.09	24.19	0.47	0.64
4	6.46	46.14	23.16	15.58	8.66	0.27	0.59
5	5.11	23.63	24.84	23.01	23.41	0.47	0.53
6	0.57	10.71	35.05	32.84	20.83	0.54	0.60
7	6.97	46.29	19.30	16.43	11.01	0.28	0.52
8	1.18	25.94	23.28	32.66	16.94	0.46	0.53
9	1.81	28.80	35.42	27.51	6.45	0.37	0.65
10	2.00	39.50	29.88	22.82	5.80	0.31	0.69
11	2.52	33.89	32.61	15.88	15.10	0.37	0.66
12	3.33	55.60	17.35	13.48	10.24	0.25	0.61

Table 46. Grade 5 Selected-Response Classical Statistics

Item	% Omit	p-value	Item-Total Corr.
1	0.09	0.69	0.50
2	0.05	0.78	0.42
3	0.26	0.54	0.40
4	0.29	0.52	0.44
5	0.19	0.64	0.43
6	0.15	0.91	0.25
7	0.41	0.34	0.47
8	0.43	0.55	0.51
9	0.45	0.76	0.41
10	2.11	0.37	0.31
11	2.29	0.57	0.42
12	3.45	0.83	0.39
13	3.61	0.42	0.43
14	0.02	0.81	0.39
15	0.01	0.71	0.53
16	0.04	0.81	0.45
17	0.07	0.33	0.41
18	0.08	0.73	0.28
19	0.06	0.81	0.48
20	0.06	0.66	0.33
21	0.10	0.77	0.43
22	0.14	0.50	0.28
23	0.17	0.64	0.47
24	0.21	0.76	0.37
25	0.46	0.64	0.52

Item	% Omit	p-value	Item-Total Corr.
26	0.54	0.43	0.45
27	1.05	0.68	0.55
28	1.02	0.62	0.52
29	0.02	0.85	0.39
30	0.03	0.19	0.37
31	0.03	0.39	0.22
32	0.06	0.33	0.38
33	0.04	0.58	0.31
34	0.05	0.66	0.42
35	0.12	0.55	0.58
36	0.10	0.89	0.39
37	0.16	0.26	0.48
38	0.17	0.44	0.22
39	0.27	0.54	0.30
40	0.46	0.89	0.36
41	0.54	0.66	0.55
42	0.78	0.69	0.46
43	0.81	0.73	0.41

Table 47. Grade 5 Constructed-Response Classical Statistics

Item	Max Points	Omit %	%0	%1	%2	%3	p-value	Item-Total Corr.
1	2	2.64	65.60	21.48	10.29		0.21	0.40
2	2	5.89	70.04	15.53	8.55		0.16	0.48
3	3	1.68	29.78	29.02	24.23	15.29	0.41	0.69
4	2	5.20	39.31	34.46	21.03		0.38	0.63
5	2	0.65	34.76	46.88	17.71		0.41	0.54
6	2	0.99	41.04	41.62	16.36		0.37	0.57
7	2	0.92	27.77	26.05	45.27		0.58	0.67
8	3	0.79	29.98	28.74	23.15	17.34	0.42	0.56
9	2	1.27	34.32	23.94	40.47		0.52	0.66
10	2	1.41	46.28	35.91	16.41		0.34	0.63
11	2	3.30	65.39	7.79	23.52		0.27	0.62
12	2	0.39	27.94	41.59	30.08		0.51	0.60
13	2	0.81	47.24	39.68	12.27		0.32	0.37
14	3	1.37	39.93	20.00	27.73	10.96	0.36	0.68
15	2	1.98	38.48	34.86	24.67		0.42	0.63
16	2	1.76	51.06	40.37	6.81		0.27	0.50
17	2	1.91	57.93	27.52	12.64		0.26	0.62

Table 48. Grade 7 Selected-Response Classical Statistics

Item	% Omit	p-value	Item-Total Corr.
1	0.02	0.61	0.45
2	0.02	0.70	0.36
3	0.08	0.48	0.33
4	0.03	0.28	0.51
5	0.11	0.61	0.44
6	0.15	0.19	0.29
7	0.13	0.23	0.43
8	1.20	0.22	0.20
9	1.27	0.66	0.50
10	1.49	0.57	0.48
11	2.04	0.23	0.32
12	2.22	0.49	0.49
13	2.38	0.55	0.40
14	2.60	0.43	0.52
15	0.01	0.84	0.39
16	0.04	0.24	0.36
17	0.07	0.68	0.49
18	0.47	0.36	0.34
19	0.63	0.43	0.31
20	0.88	0.64	0.51
21	0.94	0.65	0.35
22	1.20	0.65	0.54
23	1.21	0.32	0.31
24	0.03	0.56	0.35
25	0.04	0.56	0.34
26	0.04	0.40	0.36
27	0.01	0.77	0.53
28	0.05	0.61	0.53
29	0.07	0.32	0.38
30	0.30	0.12	0.33
31	0.14	0.49	0.58
32	0.14	0.41	0.32
33	0.31	0.60	0.57
34	0.30	0.38	0.42
35	0.34	0.56	0.37
36	0.38	0.43	0.58

Table 49. Grade 7 Constructed-Response Classical Statistics

Item	Omit %	%0	%1	%2	%3	p-value	Item- Total Corr.
1	1.37	43.41	25.99	18.89	10.34	0.32	0.68
2	1.39	26.30	24.15	24.86	23.30	0.48	0.73
3	2.48	25.31	26.46	23.75	22.01	0.47	0.71
4	3.39	23.41	26.11	22.23	24.86	0.48	0.66
5	4.37	37.56	34.99	16.60	6.47	0.29	0.63
6	1.57	27.44	35.31	25.41	10.28	0.39	0.57
7	4.06	44.67	25.69	16.46	9.12	0.29	0.72
8	0.91	44.21	21.22	19.14	14.52	0.34	0.63
9	0.76	17.36	46.70	26.48	8.70	0.42	0.66
10	0.97	16.05	28.62	19.84	34.51	0.57	0.61
11	1.33	28.84	27.86	23.29	18.69	0.43	0.67
12	2.30	53.06	13.51	14.53	16.59	0.31	0.62

Table 50. Grade 8 Selected-Response Classical Statistics

Item	% Omit	p-value	Item-Total Corr.
1	0.02	0.65	0.5
2	0.06	0.52	0.34
3	0.20	0.45	0.62
4	0.12	0.49	0.33
5	0.15	0.56	0.35
6	0.05	0.67	0.31
7	0.09	0.23	0.5
8	0.08	0.82	0.39
9	0.10	0.49	0.39
10	0.46	0.35	0.42
11	0.57	0.58	0.37
12	0.69	0.45	0.39
13	0.70	0.55	0.39
14	0.06	0.42	0.42
15	0.04	0.51	0.38
16	0.05	0.38	0.31
17	0.06	0.65	0.38
18	0.08	0.68	0.46
19	0.06	0.38	0.39
20	0.17	0.35	0.59
21	0.09	0.27	0.37
22	0.14	0.31	0.49
23	0.15	0.63	0.44
24	0.15	0.42	0.25
25	0.30	0.65	0.36

Item	% Omit	p-value	Item-Total Corr.
26	0.29	0.19	0.23
27	0.39	0.41	0.48
28	0.51	0.44	0.50
29	0.03	0.56	0.46
30	0.07	0.40	0.57
31	0.08	0.55	0.30
32	0.07	0.26	0.43
33	0.06	0.66	0.46
34	0.07	0.74	0.42
35	0.16	0.34	0.35
36	0.10	0.36	0.41
37	0.16	0.28	0.35
38	0.34	0.24	0.59
39	0.19	0.51	0.32
40	0.17	0.43	0.38
41	0.18	0.19	0.43
42	0.26	0.47	0.29
43	0.27	0.75	0.50

Table 51. Grade 8 Constructed-Response Classical Statistics

Item	Max Points	Omit %	%0	%1	%2	%3	p-value	Item-Total Corr.
1	2	1.24	30.76	15.20	53.20		0.61	0.60
2	2	1.07	29.02	35.83	34.27		0.52	0.62
3	3	1.86	37.24	32.35	15.57	12.24	0.33	0.69
4	2	1.32	44.96	17.06	34.80		0.43	0.66
5	2	0.63	44.51	26.85	27.27		0.41	0.58
6	2	3.21	49.81	16.77	32.67		0.41	0.56
7	2	1.74	73.41	11.36	13.63		0.19	0.46
8	3	1.51	49.78	14.56	17.56	16.25	0.33	0.73
9	2	2.26	64.27	23.06	9.67		0.21	0.63
10	2	2.39	40.76	25.34	30.89		0.44	0.68
11	2	1.15	64.25	22.31	12.45		0.24	0.54
12	2	0.86	71.78	17.10	9.33		0.18	0.54
13	3	1.18	35.96	28.90	19.93	13.47	0.36	0.73
14	2	0.94	46.67	39.56	12.23		0.32	0.57
15	2	0.25	50.18	34.17	13.40		0.30	0.62
16	2	0.79	27.73	45.15	24.91		0.47	0.66

Table 52. HS Science Selected-Response Classical Statistics

Item	% Omit	p-value	Item-Total Corr.
1	0.03	0.43	0.19
2	0.24	0.35	0.40
3	1.54	0.30	0.45
4	4.04	0.63	0.49
5	0.13	0.74	0.42
6	0.09	0.52	0.38
7	0.15	0.35	0.36
8	0.19	0.65	0.40
9	0.25	0.35	0.25
10	0.85	0.23	0.37
11	0.97	0.38	0.29
12	2.97	0.28	0.54
13	2.45	0.27	0.53
14	0.08	0.40	0.39
15	0.08	0.29	0.23
16	0.26	0.46	0.33
17	0.54	0.59	0.56
18	1.48	0.93	0.25
19	0.14	0.48	0.41
20	0.12	0.30	0.35
21	0.14	0.32	0.34
22	0.15	0.34	0.33
23	1.50	0.16	0.37
24	0.43	0.41	0.45
25	0.24	0.48	0.39

Item	% Omit	p-value	Item-Total Corr.
26	0.29	0.51	0.36
27	0.48	0.50	0.51
28	1.19	0.08	0.29
29	0.04	0.65	0.45
30	0.48	0.50	0.40
31	0.72	0.45	0.14
32	0.49	0.36	0.36
33	0.54	0.34	0.57
34	0.47	0.15	0.34
35	0.17	0.47	0.55
36	0.17	0.43	0.31
37	0.19	0.30	0.24
38	0.52	0.51	0.39
39	0.93	0.23	0.52
40	1.04	0.28	0.29
41	0.51	0.32	0.31
42	0.73	0.17	0.38
43	0.75	0.37	0.66

Table 53. HS Science Constructed-Response Classical Statistics

Item	Max Points	Omit %	%0	%1	%2	%3	p-value	Item-Total Corr.
1	2	3.42	35.36	33.95	27.27		0.44	0.68
2	2	4.94	33.79	39.30	21.97		0.42	0.65
3	3	3.67	49.30	15.53	17.34	0.14	0.31	0.63
4	2	10.17	43.38	19.30	27.16		0.37	0.47
5	2	6.43	50.55	25.50	17.52		0.30	0.72
6	2	3.78	20.64	37.88	37.71		0.57	0.58
7	2	6.46	42.95	35.47	15.11		0.33	0.58
8	3	7.11	49.87	26.70	13.06	0.03	0.21	0.63
9	2	8.20	46.13	39.64	6.03		0.26	0.53
10	2	10.47	58.99	26.09	4.46		0.18	0.58
11	2	9.25	59.33	21.70	9.72		0.21	0.64
12	2	11.17	74.73	6.17	7.93		0.11	0.58
13	2	10.58	81.47	4.93	3.02		0.05	0.48
14	3	5.00	33.96	34.23	13.81	0.13	0.34	0.61
15	2	8.83	66.40	19.19	5.58		0.15	0.57
16	2	6.88	49.30	13.71	30.11		0.37	0.66
17	2	9.45	61.36	13.54	15.66		0.22	0.66

Table 54. Correlations Between Content Standards

Grade	Content Standard	2	3	4	Full Test
4	1	0.735	0.734	0.749	0.913
	2		0.711	0.707	0.876
	3			0.713	0.874
	4				0.870
5	1	0.813	0.823	0.881	0.918
	2		0.844	0.899	0.948
	3			0.904	0.949
	4				0.952
7	1	0.780	0.723	0.760	0.921
	2		0.716	0.742	0.907
	3			0.709	0.841
	4				0.866
8	1	0.804	0.837	0.855	0.942
	2		0.810	0.848	0.909
	3			0.895	0.945
	4				0.923
HS SS	1	n/a	n/a	n/a	n/a
	2		n/a	n/a	n/a
	3			n/a	n/a
	4				n/a
HS Sci	1	0.767	0.775	0.787	0.889
	2		0.817	0.817	0.926
	3			0.854	0.943
	4				0.885

Table 55. Number of Items Field Tested

	Grade 4	Grade 7	Grade 5	Grade 8	HS SS	HS Sci
Number of Field Test Forms	6	6	12	12	n/a	12
Number of Items Field Tested	72	90	99	102	n/a	106

Table 56. Data Review Outcomes

	Grade 4	Grade 7	Grade 5	Grade 8	HS Social Studies	HS Science
Number of Items Field Tested	72	90	99	102	n/a	106
Number of Items Flagged and Reviewed	26	50	25	37	n/a	51
Data Review Outcome						
• Accept	26	49	17	31	n/a	35
• Reject	0	0	8	6	n/a	12
• Revise and Re-Field Test	0	1	0	0	n/a	4

