

Tables for
CMAS Science and Social Studies
Technical Report
2018-2019

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Table 1. CMAS Science and Social Studies Subject and Grade Combinations

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

Table 3. Coefficient Alpha

Content Area	Grade	Content Standard 1	Content Standard 2	Content Standard 3	Content Standard 4	Full Test
Social Studies	4	0.72	0.72	0.72	0.72	0.91
	7	0.77	0.79	0.75	0.78	0.93
Science	5	0.80	0.84	0.84	0.83	0.93
	8	0.83	0.84	0.85	0.80	0.94
	HS	0.83	0.84	0.83	0.80	0.94

Table 4. Grade 4 Social Studies Performance by Subgroups

Subgroup	N	Mean	SD	Min	Max	Alpha
No IEP	18753	631.42	103.06	300	900	0.90
IEP	2316	500.66	127.36	300	873	0.90
No Accommodation	16523	641.67	99.67	300	900	0.90
Accommodation	4546	527.56	116.27	300	867	0.88
Am. Indian/Alaska Native	105	580.62	117.62	300	784	0.89
Asian	764	648.67	113.48	300	900	0.92
Black	895	567.68	116.81	300	826	0.90
Hispanic	7524	568.73	109.51	300	900	0.89
White	10772	651.58	102.21	300	900	0.90
Hawaiian/Pacific Islander	64	590.14	108.78	300	836	0.92
Two or More Races	831	634.67	109.82	300	900	0.91
Missing	114	639.64	101.35	375	855	0.91
No Economic Disadvantage	12994	648.84	103.38	300	900	0.90
Economic Disadvantage	8075	565.89	110.65	300	874	0.89
Female	10218	620.41	107.23	300	900	0.91
Male	10851	613.88	119.24	300	900	0.92
Language Proficiency NA	16236	632.46	108.67	300	900	0.91
Language Proficiency NEP	745	445.88	107.90	300	724	0.80
Language Proficiency LEP	2466	543.80	87.83	300	837	0.82
Language Proficiency FEP	1010	653.44	73.38	300	854	0.85
Not Migrant	20957	617.54	113.44	300	900	0.91
Migrant	112	525.76	111.31	300	838	0.87

Table 5. Grade 5 Science Performance by Subgroups

Subgroup	N	Mean	SD	Min	Max	Alpha
No IEP	58175	615.27	102.19	300	900	0.93
IEP	7514	484.27	111.53	300	863	0.93
No Accommodation	51909	625.02	98.30	300	900	0.92
Accommodation	13780	507.11	108.51	300	869	0.92
Am. Indian/Alaska Native	431	544.34	118.43	300	873	0.94
Asian	2031	633.49	111.51	300	900	0.93
Black	2980	536.87	111.24	300	861	0.93
Hispanic	23150	549.21	107.43	300	900	0.92
White	33858	637.61	97.25	300	900	0.92
Hawaiian/Pacific Islander	181	565.84	121.42	300	829	0.94
Two or More Races	2731	623.70	102.59	300	900	0.93
Missing	327	620.95	101.16	300	852	0.93
No Economic Disadvantage	40518	632.79	101.04	300	900	0.92
Economic Disadvantage	25171	547.96	107.31	300	900	0.92
Female	31908	602.45	109.29	300	900	0.93
Male	33781	598.24	113.32	300	900	0.94
Language Proficiency NA	50788	616.77	105.44	300	900	0.93
Language Proficiency NEP	1215	416.45	96.69	300	743	0.89
Language Proficiency LEP	7003	496.43	88.95	300	838	0.88
Language Proficiency FEP	4568	610.32	81.44	300	900	0.89
Not Migrant	65479	600.62	111.25	300	900	0.93
Migrant	210	496.23	111.47	300	820	0.92

Table 6. Grade 7 Social Studies Performance by Subgroups

Subgroup	N	Mean	SD	Min	Max	Alpha
No IEP	17301	604.84	111.44	300	900	0.93
IEP	1886	455.94	115.65	300	783	0.89
No Accommodation	16989	605.88	111.59	300	900	0.93
Accommodation	2198	469.04	116.41	300	808	0.90
Am. Indian/Alaska Native	115	554.24	124.47	300	798	0.92
Asian	636	645.78	112.77	300	882	0.93
Black	884	540.70	124.25	300	887	0.93
Hispanic	6709	539.56	114.82	300	889	0.91
White	9941	624.05	109.87	300	900	0.93
Hawaiian/Pacific Islander	48	560.04	138.34	300	790	0.94
Two or More Races	775	611.42	116.30	300	891	0.93
Missing	79	600.35	124.38	314	873	0.94
No Economic Disadvantage	12526	619.83	112.26	300	900	0.93
Economic Disadvantage	6661	534.49	115.10	300	887	0.91
Female	9222	601.72	111.51	300	900	0.93
Male	9965	579.54	127.01	300	900	0.94
Language Proficiency NA	14832	604.21	116.75	300	900	0.93
Language Proficiency NEP	410	417.26	105.72	300	741	0.83
Language Proficiency LEP	1588	483.40	95.41	300	804	0.82
Language Proficiency FEP	1720	591.52	95.48	300	887	0.90
Not Migrant	19149	590.42	120.23	300	900	0.93
Migrant	38	480.95	117.84	300	718	0.89

Table 7. Grade 8 Science Performance by Subgroups

Subgroup	N	Mean	SD	Min	Max	Alpha
No IEP	52812	594.44	119.51	300	900	0.94
IEP	5579	446.81	113.40	300	864	0.91
No Accommodation	51890	594.72	119.86	300	900	0.94
Accommodation	6501	465.52	120.37	300	876	0.93
Am. Indian/Alaska Native	411	536.57	117.09	300	818	0.93
Asian	1992	639.91	119.27	300	900	0.94
Black	2585	510.61	124.28	300	864	0.93
Hispanic	20724	521.32	119.01	300	900	0.92
White	30100	621.77	113.01	300	900	0.93
Hawaiian/Pacific Islander	162	537.66	119.13	300	803	0.93
Two or More Races	2210	606.80	120.65	300	900	0.94
Missing	207	598.56	132.82	300	843	0.95
No Economic Disadvantage	37269	615.42	117.32	300	900	0.94
Economic Disadvantage	21122	518.43	118.43	300	870	0.92
Female	28186	589.67	119.96	300	900	0.94
Male	30205	571.62	131.93	300	900	0.94
Language Proficiency NA	44956	598.74	121.68	300	900	0.94
Language Proficiency NEP	1230	385.46	85.82	300	723	0.79
Language Proficiency LEP	4331	449.49	92.30	300	806	0.83
Language Proficiency FEP	3932	550.01	96.48	300	875	0.89
Not Migrant	58226	580.64	126.50	300	900	0.94
Migrant	165	471.67	119.94	300	806	0.91

Table 8. High School Science Performance by Subgroups

Subgroup	N	Mean	SD	Min	Max	Alpha
No IEP	35102	585.21	110.66	300	900	0.93
IEP	3135	474.45	106.82	300	812	0.90
No Accommodation	35780	582.33	111.95	300	900	0.94
Accommodation	2457	485.85	112.48	300	815	0.91
Am. Indian/Alaska Native	282	546.57	101.24	300	814	0.90
Asian	1292	604.38	115.75	300	900	0.94
Black	1889	516.18	113.37	300	811	0.91
Hispanic	14729	536.54	106.64	300	868	0.91
White	18619	610.95	107.90	300	900	0.94
Hawaiian/Pacific Islander	82	546.32	112.73	300	762	0.91
Two or More Races	1269	597.32	110.55	300	886	0.94
Missing	75	514.67	119.31	300	809	0.93
No Economic Disadvantage	24675	596.56	113.71	300	900	0.94
Economic Disadvantage	13562	538.96	106.16	300	872	0.91
Female	18101	578.68	107.11	300	900	0.93
Male	20136	573.84	120.63	300	900	0.94
Language Proficiency NA	28580	591.73	111.63	300	900	0.94
Language Proficiency NEP	772	403.86	82.52	300	677	0.63
Language Proficiency LEP	2658	464.33	86.78	300	735	0.73
Language Proficiency FEP	2355	545.63	83.75	300	809	0.85
Not Migrant	38115	576.47	114.30	300	900	0.94
Migrant	122	468.70	112.86	300	740	0.88

Table 9. SEMs

Content Area	Grade	SEM
Social Studies	4	32.30
	7	31.39
Science	5	26.82
	8	31.91
	HS	33.73

Table 10. Accuracy and Consistency Estimates

Content Area	Grade	Accuracy	Consistency	PChance	Kappa
Social Studies	4	.79	.71	.35	.56
	7	.79	.72	.36	.56
Science	5	.81	.74	.31	.62
	8	.82	.76	.33	.65
	HS	.83	.77	.35	.65

Table 11. Accuracy of Cuts

Content Area	Grade	Approached Expectations Cut	Met Expectations Cut	Exceeded Expectations Cut
Social Studies	4	.94	.89	.96
	7	.93	.89	.96
Science	5	.93	.92	.96
	8	.93	.92	.97
	HS	.94	.91	.98

Table 12. Consistency of Cuts

Content Area	Grade	Approached Expectations Cut	Met Expectations Cut	Exceeded Expectations Cut
Social Studies	4	.91	.85	.96
	7	.90	.85	.96
Science	5	.91	.88	.95
	8	.91	.89	.96
	HS	.92	.88	.98

Table 13. Grade 4 Social Studies Operational Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	3	2,095	84.1	15.6	0.4	0.90	0.02	0.90
2	3	2,095	79.8	18.9	1.3	0.90	0.00	0.90
3	3	2,095	86.3	13.4	0.3	0.93	0.02	0.93
4	3	2,094	83.7	15.7	0.5	0.93	0.01	0.93
5	3	2,094	84.1	15.4	0.5	0.90	0.01	0.90
6	3	2,095	86.4	12.7	0.8	0.92	0.01	0.92
7	3	2,096	83.3	15.2	1.5	0.89	0.00	0.89
8	3	2,095	86.4	13.0	0.6	0.91	0.00	0.91
9	3	2,095	86.2	13.3	0.5	0.92	0.02	0.92
10	3	2,094	79.9	19.3	0.8	0.86	0.02	0.86
11	3	2,094	90.3	9.7	0.0	0.95	0.00	0.95
12	3	2,094	83.5	15.8	0.7	0.92	0.00	0.92

Table 14. Grade 5 Science Operational Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	2	6,550	90.1	9.8	0.0	0.89	0.00	0.89
2	3	6,550	83.9	16.1	0.0	0.92	0.00	0.92
3	3	6,550	83.0	16.9	0.2	0.91	0.00	0.91
4	2	6,550	93.9	6.0	0.1	0.94	0.01	0.94
5	3	6,550	81.9	16.9	1.2	0.91	0.00	0.91
6	2	6,550	94.7	5.3	0.0	0.97	0.01	0.97
7	2	6,204	90.1	9.6	0.3	0.86	0.00	0.86
8	2	6,204	90.2	9.7	0.1	0.93	0.00	0.93
9	2	6,205	92.6	7.2	0.2	0.94	0.00	0.94
10	2	6,205	90.3	9.4	0.3	0.91	0.00	0.91
11	2	6,204	90.0	9.9	0.0	0.91	0.00	0.91
12	2	6,204	90.1	9.9	0.0	0.93	0.00	0.93
13	2	6,550	91.9	8.1	0.0	0.93	0.00	0.93
14	2	6,205	90.3	9.7	0.0	0.86	0.00	0.86
15	2	6,205	90.4	8.9	0.7	0.88	0.00	0.88
16	2	6,205	91.4	8.2	0.4	0.90	0.01	0.90
17	2	6,205	91.0	9.0	0.0	0.87	0.01	0.87

Table 15. Grade 7 Social Studies Operational Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	3	1,938	80.8	16.5	2.8	0.83	0.03	0.83
2	3	1,938	79.7	18.1	2.2	0.89	0.02	0.89
3	3	1,938	80.7	17.0	2.3	0.88	0.00	0.88
4	3	1,938	80.1	16.1	3.8	0.85	0.02	0.85
5	3	1,939	88.7	10.9	0.4	0.94	0.02	0.94
6	3	1,938	80.0	17.7	2.3	0.86	0.02	0.86
7	3	1,938	80.1	18.3	1.7	0.87	0.01	0.87
8	3	1,938	89.5	9.9	0.6	0.92	0.00	0.92
9	3	1,938	79.3	19.9	0.8	0.84	0.02	0.84
10	3	1,938	80.7	17.6	1.7	0.87	0.00	0.87
11	3	1,938	83.3	15.2	1.5	0.85	0.02	0.85
12	3	1,938	79.1	18.2	2.7	0.88	0.01	0.88

Table 16. Grade 8 Science Operational Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	2	5,876	90.2	9.7	0.1	0.94	0.00	0.94
2	2	5,875	90.9	9.1	0.0	0.93	0.01	0.93
3	2	5,636	91.2	8.8	0.0	0.94	0.01	0.94
4	2	5,636	89.8	10.2	0.0	0.87	0.01	0.87
5	2	5,636	97.6	2.4	0.0	0.99	0.00	0.99
6	2	5,636	90.0	10.0	0.0	0.91	0.00	0.91
7	2	5,637	91.3	8.7	0.0	0.93	0.00	0.93
8	2	5,637	90.8	9.2	0.0	0.90	0.01	0.90
9	2	5,875	89.8	9.5	0.7	0.89	0.00	0.89
10	3	5,875	88.1	11.0	0.9	0.96	0.00	0.96
11	3	5,875	86.2	13.7	0.1	0.95	0.00	0.95
12	2	5,875	91.4	8.5	0.0	0.94	0.00	0.94
13	3	5,876	81.6	17.7	0.7	0.83	0.01	0.83
14	2	5,636	89.7	9.3	1.0	0.91	0.00	0.91
15	2	5,637	89.8	10.0	0.2	0.90	0.00	0.90
16	2	5,636	90.0	9.5	0.5	0.90	0.00	0.90
17	2	5,636	92.5	7.0	0.5	0.94	0.00	0.94

Table 17. High School Science Operational Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	2	4,000	93.9	6.0	0.0	0.95	0.01	0.95
2	2	3,998	89.7	10.1	0.1	0.86	0.02	0.86
3	2	3,847	92.1	7.9	0.0	0.94	0.00	0.94
4	2	3,847	90.1	9.9	0.1	0.85	0.01	0.85
5	2	3,998	94.3	5.6	0.1	0.83	0.00	0.83
6	2	3,848	89.7	10.3	0.0	0.83	0.02	0.83
7	2	3,847	90.5	8.4	1.2	0.92	0.00	0.92
8	3	4,000	92.6	7.3	0.1	0.94	0.00	0.94
9	2	3,999	89.0	10.6	0.5	0.85	0.01	0.85
10	3	3,999	79.5	19.5	1.0	0.82	0.00	0.82
11	2	3,849	89.3	10.7	0.0	0.86	0.02	0.86
12	2	3,849	89.8	10.2	0.0	0.91	0.01	0.91
13	2	3,848	88.6	11.4	0.0	0.90	0.00	0.90
14	2	3,848	91.9	8.1	0.0	0.91	0.02	0.91
15	2	3,847	96.3	3.7	0.0	0.97	0.00	0.97
16	2	3,847	88.5	11.2	0.4	0.87	0.02	0.87
17	3	3,998	86.2	13.8	0.0	0.85	0.00	0.85

Table 18. Grade 4 Social Studies Field Test Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	3	1,476	82.4	17.5	0.1	0.91	0.02	0.91
2	3	1,465	86.7	12.6	0.7	0.92	0.00	0.92
3	3	1,453	88.0	11.5	0.5	0.94	0.01	0.94
4	3	1,456	81.7	18.3	0.0	0.91	0.01	0.91
5	3	1,461	81.1	18.9	0.0	0.90	0.03	0.90
6	3	1,454	84.4	15.5	0.1	0.93	0.00	0.93
7	3	1,459	81.9	18.1	0.0	0.90	0.02	0.90
8	3	1,474	85.4	11.7	2.8	0.88	0.00	0.88
9	3	1,478	85.5	14.2	0.3	0.92	0.01	0.92
10	3	1,466	80.2	17.3	2.5	0.77	0.03	0.77
11	3	1,478	80.5	18.6	0.9	0.86	0.01	0.86
12	3	1,474	83.3	16.6	0.1	0.90	0.01	0.90
13	3	1,473	80.7	17.2	2.1	0.88	0.01	0.88
14	3	1,450	80.2	18.3	1.5	0.89	0.01	0.89
15	3	1,459	80.5	15.8	3.7	0.81	0.03	0.81
16	3	1,455	89.9	9.6	0.6	0.94	0.01	0.94
17	3	1,449	81.0	17.7	1.4	0.83	0.02	0.83
18	3	1,461	82.0	16.8	1.2	0.90	0.00	0.90
19	3	1,453	87.3	12.7	0.0	0.94	0.00	0.94
20	3	1,447	81.3	17.4	1.3	0.90	0.01	0.90
21	3	1,457	89.0	10.8	0.2	0.89	0.00	0.89
22	3	1,448	80.9	19.1	0.0	0.92	0.01	0.92
23	3	1,450	85.2	14.0	0.8	0.91	0.01	0.91
24	3	1,461	81.7	15.9	2.4	0.87	0.01	0.87
25	3	1,473	84.4	14.6	1.0	0.89	0.02	0.89
26	3	1,467	84.1	14.9	1.0	0.84	0.00	0.84
27	3	1,461	82.6	16.6	0.8	0.81	0.04	0.81
28	3	1,467	83.2	15.9	1.0	0.77	0.01	0.77

Table 19. Grade 5 Science Field Test Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	2	1,500	90.2	9.6	0.2	0.90	0.01	0.90
2	3	1,500	84.9	12.9	2.2	0.87	0.02	0.87
3	3	1,500	92.7	7.2	0.1	0.96	0.01	0.96
4	2	1,500	91.4	8.5	0.1	0.90	0.00	0.90
5	3	1,500	91.0	7.8	1.1	0.91	0.00	0.91
6	2	1,500	90.0	9.6	0.3	0.86	0.02	0.86
7	2	1,500	90.4	9.6	0.0	0.92	0.01	0.92
8	2	1,500	91.3	8.7	0.0	0.82	0.00	0.82
9	2	1,500	93.3	6.6	0.1	0.93	0.00	0.93
10	2	1,500	90.7	9.2	0.1	0.92	0.01	0.92
11	3	1,500	95.7	4.2	0.1	0.94	0.01	0.94
12	3	1,500	91.8	8.1	0.1	0.93	0.01	0.93
13	2	1,500	90.2	9.8	0.0	0.92	0.00	0.92
14	2	1,500	93.4	5.4	1.1	0.94	0.02	0.94
15	3	1,500	93.2	6.8	0.0	0.97	0.00	0.97

Table 20. Grade 7 Social Studies Field Test Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	3	1,447	80.5	17.5	2.0	0.87	0.00	0.87
2	3	1,451	81.4	16.2	2.3	0.85	0.00	0.85
3	3	1,449	80.5	17.7	1.8	0.87	0.00	0.87
4	3	1,469	80.9	17.6	1.5	0.91	0.00	0.91
5	3	1,455	82.2	16.1	1.8	0.88	0.01	0.88
6	3	1,460	81.7	15.5	2.8	0.90	0.01	0.90
7	3	1,457	90.4	9.1	0.5	0.94	0.00	0.94
8	3	1,455	81.6	16.6	1.8	0.87	0.00	0.87
9	3	1,461	80.5	18.2	1.4	0.88	0.00	0.88
10	3	1,449	80.9	15.6	3.5	0.88	0.01	0.88
11	3	1,467	80.5	17.3	2.1	0.87	0.00	0.87
12	3	1,461	80.9	17.3	1.8	0.89	0.02	0.89
13	3	1,480	81.0	17.2	1.8	0.91	0.00	0.91
14	3	1,465	80.6	18.4	1.0	0.90	0.01	0.90
15	3	1,463	80.2	18.4	1.4	0.91	0.00	0.91
16	3	1,462	80.8	16.9	2.3	0.89	0.01	0.89
17	3	1,457	93.3	6.6	0.1	0.96	0.01	0.96
18	3	1,460	81.3	16.1	2.5	0.81	0.00	0.81
19	3	1,471	80.2	17.7	2.1	0.86	0.00	0.86
20	3	1,458	80.6	18.3	1.1	0.90	0.01	0.90
21	3	1,453	83.3	15.3	1.5	0.88	0.01	0.88
22	3	1,460	87.3	10.9	1.9	0.86	0.02	0.86
23	3	1,456	92.4	6.6	1.0	0.83	0.00	0.83
24	3	1,452	83.1	15.6	1.3	0.83	0.02	0.83
25	3	1,453	80.3	16.5	3.3	0.80	0.04	0.81
26	3	1,467	81.4	16.1	2.5	0.88	0.02	0.88
27	3	1,472	92.1	7.6	0.3	0.94	0.02	0.94
28	3	1,453	83.9	14.0	2.1	0.84	0.02	0.84
29	3	1,462	82.8	16.3	0.9	0.86	0.02	0.86
30	3	1,468	80.7	17.6	1.7	0.88	0.01	0.88
31	3	1,456	84.1	15.1	0.8	0.91	0.01	0.91

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
32	3	1,464	89.8	9.6	0.6	0.92	0.01	0.92

Table 21. Grade 8 Science Field Test Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	3	1,494	83.9	16.1	0.0	0.86	0.01	0.86
2	2	1,496	90.0	10.0	0.0	0.88	0.03	0.88
3	2	1,499	95.2	4.8	0.0	0.94	0.01	0.94
4	2	1,496	90.6	9.4	0.0	0.93	0.02	0.93
5	2	1,496	90.3	9.7	0.0	0.93	0.00	0.93
6	2	1,491	90.1	9.9	0.0	0.83	0.01	0.83
7	2	1,495	92.0	8.0	0.0	0.84	0.00	0.84
8	2	1,497	94.6	5.4	0.1	0.93	0.00	0.93
9	3	1,497	95.4	4.6	0.0	0.96	0.01	0.96
10	3	1,494	89.6	10.4	0.0	0.93	0.02	0.93
11	3	1,494	96.5	3.5	0.0	0.96	0.00	0.96
12	2	1,493	95.9	4.1	0.0	0.96	0.01	0.96
13	2	1,499	96.2	3.8	0.0	0.95	0.01	0.95
14	2	1,496	92.2	7.8	0.0	0.90	0.00	0.90
15	2	1,498	95.2	4.8	0.0	0.95	0.00	0.95
16	2	1,499	96.0	4.0	0.0	0.96	0.00	0.96
17	2	1,493	90.5	9.5	0.1	0.92	0.01	0.92
18	3	1,497	81.5	15.6	2.9	0.87	0.01	0.87
19	2	1,496	91.9	8.0	0.1	0.87	0.00	0.87
20	3	1,493	92.0	8.0	0.0	0.97	0.00	0.97
21	3	1,496	85.8	14.1	0.1	0.94	0.01	0.94
22	2	1,497	90.8	9.0	0.2	0.86	0.01	0.86

Table 22. High School Science Field Test Rater Agreement Statistics

Item	Max Points	N	Exact	Adjacent	Non-Adjacent	Kappa	MD	CORR
1	2	1,453	98.7	1.3	0.1	0.95	0.00	0.95
2	2	1,454	98.1	1.9	0.0	0.95	0.01	0.95
3	2	1,446	95.0	5.0	0.0	0.84	0.00	0.84
4	2	1,457	94.9	5.1	0.0	0.83	0.02	0.83
5	2	1,443	96.6	3.4	0.0	0.81	0.00	0.81
6	2	1,436	97.5	2.5	0.0	0.89	0.02	0.89
7	2	1,452	97.0	3.0	0.0	0.90	0.00	0.90
8	2	1,438	96.5	3.5	0.1	0.90	0.01	0.90
9	2	1,460	98.3	1.7	0.0	0.94	0.01	0.94
10	2	1,452	97.3	2.6	0.1	0.93	0.00	0.93
11	3	1,443	90.5	9.1	0.4	0.88	0.00	0.88
12	2	1,446	97.7	2.3	0.0	0.96	0.00	0.96
13	2	1,438	95.9	4.1	0.0	0.95	0.01	0.95
14	2	1,438	95.0	5.0	0.0	0.92	0.00	0.92
15	3	1,436	90.1	9.9	0.0	0.96	0.00	0.96
16	3	1,430	97.9	2.1	0.0	0.95	0.01	0.95
17	2	1,460	92.0	7.2	0.8	0.88	0.01	0.88
18	2	1,442	98.4	1.3	0.3	0.95	0.02	0.95
19	2	1,442	94.2	5.7	0.1	0.89	0.01	0.89
20	3	1,455	96.9	3.0	0.1	0.97	0.00	0.97
21	3	1,443	96.2	3.0	0.8	0.97	0.00	0.97

Table 23. N-Count by Form

Form	Grade and Subject				
	4 Social Studies	5 Science	7 Social Studies	8 Science	HS Science
Online	19,110	61,815	18,466	55,762	36,641
Spanish Online	180	420	83	235	94
Paper	1,752	3,426	635	2,361	1,492
Spanish Paper	23	14	0	18	0
Large Print	4	8	3	13	7
Braille	0	6	0	2	3
Total	21,069	65,689	19,187	58,391	38,237

Table 24. Demographic Distributions

Subgroup	Grade and Subject				
	4 Social Studies	5 Science	7 Social Studies	8 Science	HS Science
No IEP	18,895	58,605	17,332	52,815	35,072
IEP	2,174	7,084	1,855	5,576	3,165
No Accommodation	16,523	51,909	16,989	51,890	35,780
Accommodation	4,546	13,780	2,198	6,501	2,457
Am. Indian/Alaska Native	105	443	117	421	282
Asian	764	2,037	635	1,994	1,290
Black	891	2,977	884	2,580	1,892
Hispanic	7,503	23,066	6,695	20,683	14,693
White	10,798	33,921	9,952	30,140	18,650
Hawaiian/Pacific Islander	64	185	48	166	83
Two or More Races	936	3,051	855	2,398	1,341
Missing*	n/a	n/a	n/a	n/a	n/a
No Economic Disadvantage	11,755	36,541	11,141	34,222	22,843
Economic Disadvantage	9,314	29,148	8,046	24,169	15,394
Female	10,220	31,915	9,221	28,181	18,101
Male	10,849	33,774	9,966	30,210	20,136
Language Proficiency NA	16,235	50,808	14,830	44,974	28,562
Language Proficiency NEP	743	1,193	410	1,214	772
Language Proficiency LEP	2,470	7,006	1,571	4,308	2,661
Language Proficiency FEP	1,064	4,826	1,793	4,077	2,423
Not Migrant	20,957	65,479	19,149	58,226	38,115
Migrant	112	210	38	165	122

*n-count less than 16

Table 25. Grade 4 Social Studies Operational Item Parameter Estimates

Item	Item	Model	A	B	C	D1	D2	D3	D4	Misfit
1	CR	GPC	0.901	-0.365		0.000	1.309	0.259	-1.567	No
2	CR	GPC	0.512	0.949		0.000	-0.163	0.312	-0.149	No
3	CR	GPC	0.879	1.444		0.000	-0.030	0.133	-0.103	No
4	CR	GPC	0.932	0.924		0.000	0.243	-0.020	-0.223	No
5	CR	GPC	0.619	1.696		0.000	0.244	0.231	-0.475	No
6	CR	GPC	0.661	1.456		0.000	-0.189	0.287	-0.098	No
7	CR	GPC	0.813	1.456		0.000	0.206	0.428	-0.634	No
8	CR	GPC	1.040	1.119		0.000	0.989	0.027	-1.016	No
9	CR	GPC	0.833	1.319		0.000	0.203	0.300	-0.502	No
10	CR	GPC	1.014	1.219		0.000	1.099	0.296	-1.395	Yes
11	CR	GPC	1.050	1.106		0.000	0.786	-0.178	-0.608	No
12	CR	GPC	1.252	0.221		0.000	0.758	-0.129	-0.629	Yes
13	SR	3PL	2.483	1.209	0.269					No
14	SR	3PL	1.415	0.529	0.233					No
15	SR	3PL	1.881	1.909	0.085					No
16	SR	3PL	2.256	-0.153	0.237					No
17	SR	3PL	1.739	0.430	0.205					No
18	SR	3PL	1.615	-0.169	0.231					No
19	SR	3PL	0.954	-1.087	0.104					No
20	SR	3PL	0.628	-0.411	0.114					No
21	SR	3PL	1.276	-0.884	0.332					No
22	SR	3PL	1.623	0.440	0.254					No
23	SR	3PL	1.189	0.881	0.245					No
24	SR	3PL	1.130	1.182	0.295					No
25	SR	3PL	1.696	0.635	0.168					No
26	SR	3PL	1.932	0.542	0.168					No
27	SR	3PL	0.473	0.623	0.186					No
28	SR	3PL	1.102	0.368	0.130					No
29	SR	3PL	2.142	0.094	0.275					No
30	SR	3PL	1.424	1.231	0.155					No
31	XI	2PL	0.777	2.830						No
32	XI	2PL	1.387	0.284						No
33	XI	2PL	1.231	1.422						No
34	XI	2PL	1.287	1.176						No
35	XI	2PL	1.140	0.538						No
36	XI	3PL	0.721	0.497	0.236					No
37	XI	3PL	1.414	0.755	0.107					No
38	XI	3PL	1.355	1.515	0.160					No
39	XI	3PL	1.572	1.247	0.196					No
40	XI	3PL	0.752	-0.902	0.170					No
41	XI	3PL	1.691	0.025	0.046					No
42	XI	3PL	1.481	-0.039	0.340					No
43	XI	3PL	1.416	2.043	0.205					No
44	XI	3PL	0.803	-0.274	0.025					No

Item	Item	Model	A	B	C	D1	D2	D3	D4	Misfit
45	XI	3PL	1.409	1.843	0.300					No
46	XI	3PL	1.256	-0.111	0.339					No
47	XI	3PL	2.082	1.826	0.130					No
48	XI	3PL	0.982	0.386	0.146					No
49	XI	3PL	0.656	0.241	0.077					No
50	XI	3PL	1.351	1.891	0.067					No
51	XI	3PL	0.459	2.230	0.044					No

Table 26. Grade 5 Science Operational Item Parameter Estimates

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
1	CR	GPC	0.933	0.600		0.000	1.193	-1.193		No
2	CR	GPC	1.110	-0.520		0.000	0.703	-0.703		No
3	CR	GPC	0.967	-0.231		0.000	-0.844	0.844		No
4	CR	GPC	0.884	1.599		0.000	0.992	-0.992		No
5	CR	GPC	1.173	0.253		0.000	0.301	-0.301		No
6	CR	GPC	0.999	-0.436		0.000	0.046	-0.046		No
7	CR	GPC	1.344	0.500		0.000	0.590	-0.590		No
8	CR	GPC	1.028	0.101		0.000	0.853	-0.853		No
9	CR	GPC	1.125	0.414		0.000	-0.093	0.093		No
10	CR	GPC	0.563	-1.403		0.000	-1.382	1.382		No
11	CR	GPC	0.936	1.824		0.000	0.911	-0.911		No
12	CR	GPC	1.225	1.081		0.000	0.664	-0.664		No
13	CR	GPC	0.449	0.454		0.000	1.573	-1.573		No
14	CR	GPC	0.773	2.056		0.000	1.007	-1.007		No
15	CR	GPC	1.006	0.781		0.000	0.714	-0.004	-0.710	No
16	CR	GPC	0.939	0.780		0.000	0.944	-0.827	-0.117	No
17	CR	GPC	0.983	0.104		0.000	0.429	0.517	-0.946	No
18	SR	3PL	1.161	-0.588	0.177					No
19	SR	3PL	0.648	-1.428	0.070					No
20	SR	3PL	1.146	-2.377	0.044					No
21	SR	3PL	1.584	-0.878	0.212					No
22	SR	3PL	1.976	-0.023	0.101					No
23	SR	3PL	1.243	-0.223	0.215					No
24	SR	3PL	1.352	-0.674	0.359					No
25	SR	3PL	1.843	-0.297	0.160					No
26	SR	3PL	1.302	-0.723	0.142					No
27	SR	3PL	1.106	-1.043	0.134					No
28	SR	3PL	0.655	-0.038	0.079					No
29	SR	3PL	1.862	1.343	0.342					No
30	SR	3PL	1.086	-0.530	0.340					No
31	SR	3PL	1.488	1.720	0.293					No
32	SR	3PL	1.812	1.153	0.136					No
33	SR	3PL	0.993	1.839	0.128					No
34	SR	3PL	1.204	-2.034	0.081					No
35	SR	3PL	2.130	0.118	0.217					No
36	SR	3PL	1.194	-1.923	0.207					No
37	SR	3PL	1.944	0.279	0.341					No
38	SR	3PL	0.931	1.610	0.262					No
39	SR	3PL	1.424	-1.866	0.189					No
40	SR	3PL	1.506	-1.575	0.170					No
41	SR	3PL	1.346	-0.236	0.233					No

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
42	XI	2PL	1.300	-1.821						No
43	XI	2PL	1.213	-1.273						No
44	XI	2PL	1.766	-1.285						No
45	XI	2PL	0.802	0.341						No
46	XI	2PL	1.406	0.159						No
47	XI	2PL	1.223	0.774						No
48	XI	2PL	1.983	-1.175						No
49	XI	2PL	1.082	0.253						No
50	XI	3PL	1.675	-1.066	0.013					No
51	XI	3PL	0.924	0.721	0.097					No
52	XI	3PL	1.357	-0.428	0.021					No
53	XI	3PL	1.357	-0.596	0.019					No
54	XI	3PL	0.935	0.992	0.269					No
55	XI	3PL	0.553	-1.109	0.077					No
56	XI	3PL	2.138	0.471	0.182					No
57	XI	3PL	0.933	-0.808	0.071					No
58	XI	3PL	1.548	0.578	0.139					No
59	XI	3PL	2.215	0.702	0.290					No

Table 27. Grade 7 Social Studies Operational Item Parameter Estimates

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
1	CR	GPC	1.230	1.356		0.000	0.288	0.382	-0.671	No
2	CR	GPC	0.803	-0.314		0.000	0.351	0.301	-0.652	No
3	CR	GPC	1.086	0.881		0.000	0.595	0.109	-0.704	No
4	CR	GPC	0.925	0.334		0.000	0.759	0.593	-1.353	No
5	CR	GPC	0.963	-0.087		0.000	0.958	0.333	-1.290	Yes
6	CR	GPC	0.757	0.252		0.000	1.190	0.290	-1.480	Yes
7	CR	GPC	1.437	0.784		0.000	0.849	0.220	-1.070	No
8	CR	GPC	1.159	1.200		0.000	0.877	-0.114	-0.763	No
9	CR	GPC	1.282	1.084		0.000	1.161	-0.113	-1.048	No
10	CR	GPC	1.229	0.819		0.000	0.842	0.260	-1.101	No
11	CR	GPC	1.197	1.504		0.000	0.649	0.430	-1.078	No
12	CR	GPC	0.961	0.684		0.000	0.305	0.169	-0.474	No
13	SR	3PL	1.375	0.443	0.251					No
14	SR	3PL	1.746	0.975	0.115					No
15	SR	3PL	2.032	0.386	0.253					No
16	SR	3PL	2.202	1.066	0.253					No
17	SR	3PL	1.677	1.223	0.201					No
18	SR	3PL	1.633	0.142	0.350					No
19	SR	3PL	1.671	-0.630	0.297					No
20	SR	3PL	1.356	0.659	0.186					No
21	SR	3PL	0.841	-0.683	0.251					No
22	SR	3PL	1.440	-0.454	0.099					No
23	SR	3PL	1.495	1.191	0.060					No
24	SR	3PL	1.101	0.211	0.089					No
25	SR	3PL	1.451	1.138	0.351					No
26	SR	3PL	1.245	1.228	0.170					No
27	SR	3PL	1.501	1.899	0.095					No
28	SR	3PL	1.772	-0.155	0.089					No
29	SR	3PL	1.132	-0.437	0.423					No
30	SR	3PL	2.305	1.232	0.322					No
31	SR	3PL	1.512	0.736	0.240					No
32	XI	2PL	0.842	-0.859						No
33	XI	2PL	1.368	0.198						No
34	XI	2PL	1.074	-1.296						No
35	XI	2PL	1.322	0.536						No
36	XI	2PL	1.974	0.938						No
37	XI	2PL	0.994	-0.139						No
38	XI	3PL	1.708	0.190	0.045					No
39	XI	3PL	0.533	0.823	0.083					No
40	XI	3PL	1.981	0.467	0.068					No
41	XI	3PL	1.390	1.273	0.070					No

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
42	XI	3PL	1.643	0.854	0.065					No
43	XI	3PL	1.556	1.164	0.230					No
44	XI	3PL	0.993	-0.207	0.083					No
45	XI	3PL	1.624	0.348	0.200					No
46	XI	3PL	1.636	1.250	0.047					No
47	XI	3PL	1.414	0.610	0.142					No
48	XI	3PL	1.492	0.259	0.145					No

Table 28. Grade 8 Science Operational Item Parameter Estimates

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
1	CR	GPC	1.003	0.115		0.000	-0.328	0.328		No
2	CR	GPC	1.219	0.243		0.000	0.285	-0.285		No
3	CR	GPC	0.847	-0.455		0.000	-0.550	0.550		No
4	CR	GPC	0.982	1.299		0.000	1.218	-1.218		No
5	CR	GPC	0.953	-0.871		0.000	-1.644	1.644		No
6	CR	GPC	0.722	1.443		0.000	-0.461	0.461		No
7	CR	GPC	1.000	0.863		0.000	0.201	-0.201		No
8	CR	GPC	1.075	1.298		0.000	0.070	-0.070		No
9	CR	GPC	0.948	0.313		0.000	0.930	-0.930		No
10	CR	GPC	0.805	0.072		0.000	-0.344	0.344		No
11	CR	GPC	1.250	0.228		0.000	0.014	-0.014		No
12	CR	GPC	1.247	0.791		0.000	0.541	-0.541		No
13	CR	GPC	1.410	0.829		0.000	0.325	-0.325		No
14	CR	GPC	1.176	0.089		0.000	-0.261	0.261		No
15	CR	GPC	1.054	0.189		0.000	-0.690	0.163	0.527	No
16	CR	GPC	1.133	0.613		0.000	-0.114	0.454	-0.341	No
17	CR	GPC	1.051	1.487		0.000	1.312	-0.340	-0.972	No
18	SR	3PL	1.119	0.878	0.071					No
19	SR	3PL	1.070	0.656	0.123					No
20	SR	3PL	0.938	1.173	0.275					No
21	SR	3PL	1.281	0.394	0.099					No
22	SR	3PL	0.550	-0.264	0.010					No
23	SR	3PL	1.364	0.831	0.137					No
24	SR	3PL	1.100	0.395	0.250					No
25	SR	3PL	0.875	0.655	0.125					No
26	SR	3PL	0.618	1.804	0.042					No
27	SR	3PL	0.929	0.255	0.345					No
28	SR	3PL	0.917	-2.533	0.072					No
29	SR	3PL	0.706	0.305	0.029					No
30	SR	3PL	1.350	-0.009	0.143					No
31	SR	3PL	1.156	-1.095	0.195					No
32	SR	3PL	1.284	0.888	0.110					No
33	SR	3PL	1.268	-0.469	0.080					No
34	SR	3PL	1.095	0.101	0.076					No
35	SR	3PL	0.671	-0.922	0.000					Yes
36	SR	3PL	0.784	-0.119	0.012					No
37	SR	3PL	1.218	1.270	0.260					No
38	SR	3PL	1.221	0.655	0.171					No
39	SR	3PL	1.268	-0.171	0.202					No
40	SR	3PL	0.818	0.918	0.198					No
41	SR	3PL	1.474	-0.280	0.157					No

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
42	XI	2PL	0.611	1.406						No
43	XI	2PL	1.030	0.306						No
44	XI	2PL	1.308	1.175						No
45	XI	2PL	0.721	2.027						No
46	XI	2PL	0.737	2.249						No
47	XI	3PL	0.618	-0.703	0.029					No
48	XI	3PL	1.450	1.569	0.147					No
49	XI	3PL	0.937	0.995	0.051					No
50	XI	3PL	1.432	0.926	0.064					No
51	XI	3PL	1.449	0.623	0.366					No
52	XI	3PL	0.693	-0.748	0.001					Yes
53	XI	3PL	0.710	1.618	0.005					No
54	XI	3PL	1.216	1.460	0.014					No
55	XI	3PL	0.981	1.115	0.121					No
56	XI	3PL	1.240	-0.848	0.097					No
57	XI	3PL	1.165	-0.148	0.175					No
58	XI	3PL	1.161	1.036	0.120					No
59	XI	3PL	1.321	0.647	0.018					No
60	XI	3PL	1.147	1.719	0.067					No

Table 29. High School Science Operational Item Parameter Estimates

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
1	CR	GPC	0.640	1.081		0.000	-0.477	0.477		No
2	CR	GPC	1.297	0.886		0.000	1.142	-1.142		Yes
3	CR	GPC	0.990	0.645		0.000	0.023	-0.023		Yes
4	CR	GPC	1.295	1.462		0.000	0.531	-0.531		No
5	CR	GPC	1.395	2.145		0.000	0.548	-0.548		No
6	CR	GPC	1.669	1.509		0.000	0.367	-0.367		No
7	CR	GPC	1.237	0.477		0.000	-0.530	0.530		No
8	CR	GPC	1.623	1.211		0.000	0.143	-0.143		No
9	CR	GPC	1.193	1.274		0.000	0.873	-0.873		No
10	CR	GPC	1.457	0.757		0.000	0.212	-0.212		No
11	CR	GPC	1.311	0.618		0.000	0.575	-0.575		No
12	CR	GPC	1.365	1.044		0.000	0.557	-0.557		No
13	CR	GPC	1.322	0.924		0.000	-0.027	0.027		No
14	CR	GPC	1.489	1.069		0.000	0.214	-0.214		No
15	CR	GPC	1.227	1.566		0.000	0.043	0.190	-0.233	No
16	CR	GPC	1.389	1.283		0.000	0.937	0.213	-1.151	No
17	CR	GPC	1.282	2.006		0.000	1.162	0.327	-1.489	No
18	SR	3PL	1.324	1.169	0.095					No
19	SR	3PL	1.187	1.757	0.183					No
20	SR	3PL	2.010	1.122	0.303					No
21	SR	3PL	1.702	1.481	0.207					No
22	SR	3PL	1.504	2.234	0.291					No
23	SR	3PL	2.386	0.257	0.309					No
24	SR	3PL	1.512	0.490	0.274					No
25	SR	3PL	1.777	0.726	0.268					No
26	SR	3PL	1.296	0.280	0.348					No
27	SR	3PL	1.342	1.142	0.098					No
28	SR	3PL	1.084	-0.509	0.106					No
29	SR	3PL	0.988	0.575	0.137					No
30	SR	3PL	0.983	1.142	0.067					No
31	SR	3PL	1.240	1.288	0.340					No
32	SR	3PL	0.645	0.305	0.024					No
33	SR	3PL	1.765	0.622	0.183					No
34	SR	3PL	2.492	1.418	0.052					No
35	SR	3PL	2.177	0.467	0.103					No
36	SR	3PL	1.547	0.570	0.315					No
37	SR	3PL	1.374	1.451	0.171					No
38	SR	3PL	1.459	-0.183	0.266					No
39	XI	2PL	1.109	2.534						No
40	XI	2PL	0.815	2.339						No
41	XI	2PL	1.133	0.847						No

Item	Item Type	Model	A	B	C	D1	D2	D3	D4	Misfit Flag
42	XI	2PL	0.862	-0.052						No
43	XI	2PL	1.737	0.951						No
44	XI	2PL	1.184	0.775						No
45	XI	2PL	0.905	1.160						No
46	XI	2PL	1.423	0.533						No
47	XI	2PL	1.623	0.415						No
48	XI	2PL	1.121	1.904						No
49	XI	2PL	1.215	-0.396						No
50	XI	3PL	1.191	0.634	0.182					No
51	XI	3PL	1.924	0.827	0.075					No
52	XI	3PL	2.386	0.295	0.004					No
53	XI	3PL	1.484	-0.955	0.038					No
54	XI	3PL	1.105	0.368	0.013					No
55	XI	3PL	1.142	1.991	0.038					No
56	XI	3PL	2.069	1.067	0.034					No
57	XI	3PL	1.042	-0.364	0.024					No
58	XI	3PL	1.402	0.890	0.150					No
59	XI	3PL	1.520	1.328	0.023					No
60	XI	3PL	1.964	0.691	0.039					No

Table 30. Grade 4 Social Studies Cumulative Frequency Distribution of Scale Scores

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
300	417	1.98	417	1.98	345	8	0.04	657	3.12	390	12	0.06	976	4.63
301	2	0.01	419	1.99	346	1	0.00	658	3.12	391	12	0.06	988	4.69
302	3	0.01	422	2.00	347	3	0.01	661	3.14	392	6	0.03	994	4.72
303	3	0.01	425	2.02	348	2	0.01	663	3.15	393	6	0.03	1,000	4.75
304	3	0.01	428	2.03	349	7	0.03	670	3.18	394	15	0.07	1,015	4.82
305	2	0.01	430	2.04	350	7	0.03	677	3.21	395	6	0.03	1,021	4.85
306	1	0.00	431	2.05	351	7	0.03	684	3.25	396	11	0.05	1,032	4.90
307	4	0.02	435	2.06	352	12	0.06	696	3.30	397	12	0.06	1,044	4.96
308	6	0.03	441	2.09	353	3	0.01	699	3.32	398	7	0.03	1,051	4.99
309	2	0.01	443	2.10	354	9	0.04	708	3.36	399	9	0.04	1,060	5.03
310	3	0.01	446	2.12	355	11	0.05	719	3.41	400	16	0.08	1,076	5.11
311	1	0.00	447	2.12	356	2	0.01	721	3.42	401	13	0.06	1,089	5.17
312	3	0.01	450	2.14	357	8	0.04	729	3.46	402	10	0.05	1,099	5.22
313	3	0.01	453	2.15	358	11	0.05	740	3.51	403	11	0.05	1,110	5.27
314	4	0.02	457	2.17	359	3	0.01	743	3.53	404	16	0.08	1,126	5.34
315	43	0.20	500	2.37	360	3	0.01	746	3.54	405	9	0.04	1,135	5.39
316	6	0.03	506	2.40	361	8	0.04	754	3.58	406	19	0.09	1,154	5.48
317	5	0.02	511	2.43	362	6	0.03	760	3.61	407	9	0.04	1,163	5.52
318	4	0.02	515	2.44	363	7	0.03	767	3.64	408	13	0.06	1,176	5.58
319	6	0.03	521	2.47	364	2	0.01	769	3.65	409	15	0.07	1,191	5.65
320	4	0.02	525	2.49	365	6	0.03	775	3.68	410	11	0.05	1,202	5.71
321	3	0.01	528	2.51	366	6	0.03	781	3.71	411	10	0.05	1,212	5.75
322	2	0.01	530	2.52	367	4	0.02	785	3.73	412	12	0.06	1,224	5.81
323	3	0.01	533	2.53	368	6	0.03	791	3.75	413	7	0.03	1,231	5.84
324	6	0.03	539	2.56	369	7	0.03	798	3.79	414	13	0.06	1,244	5.90
325	6	0.03	545	2.59	370	9	0.04	807	3.83	415	7	0.03	1,251	5.94
326	7	0.03	552	2.62	371	3	0.01	810	3.84	416	14	0.07	1,265	6.00
327	2	0.01	554	2.63	372	10	0.05	820	3.89	417	5	0.02	1,270	6.03
328	6	0.03	560	2.66	373	7	0.03	827	3.93	418	17	0.08	1,287	6.11
329	4	0.02	564	2.68	374	12	0.06	839	3.98	419	12	0.06	1,299	6.17
330	4	0.02	568	2.70	375	6	0.03	845	4.01	420	11	0.05	1,310	6.22
331	2	0.01	570	2.71	376	12	0.06	857	4.07	421	11	0.05	1,321	6.27
332	7	0.03	577	2.74	377	8	0.04	865	4.11	422	17	0.08	1,338	6.35
333	7	0.03	584	2.77	378	8	0.04	873	4.14	423	16	0.08	1,354	6.43
334	5	0.02	589	2.80	379	8	0.04	881	4.18	424	13	0.06	1,367	6.49
335	8	0.04	597	2.83	380	8	0.04	889	4.22	425	11	0.05	1,378	6.54
336	6	0.03	603	2.86	381	4	0.02	893	4.24	426	14	0.07	1,392	6.61
337	5	0.02	608	2.89	382	6	0.03	899	4.27	427	12	0.06	1,404	6.66
338	9	0.04	617	2.93	383	12	0.06	911	4.32	428	19	0.09	1,423	6.75
339	8	0.04	625	2.97	384	11	0.05	922	4.38	429	16	0.08	1,439	6.83
340	4	0.02	629	2.99	385	8	0.04	930	4.41	430	12	0.06	1,451	6.89
341	7	0.03	636	3.02	386	11	0.05	941	4.47	431	11	0.05	1,462	6.94
342	6	0.03	642	3.05	387	6	0.03	947	4.49	432	10	0.05	1,472	6.99
343	3	0.01	645	3.06	388	12	0.06	959	4.55	433	16	0.08	1,488	7.06
344	4	0.02	649	3.08	389	5	0.02	964	4.58	434	15	0.07	1,503	7.13

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
435	15	0.07	1,518	7.20	480	23	0.11	2,407	11.42	525	39	0.19	3,931	18.66
436	17	0.08	1,535	7.29	481	37	0.18	2,444	11.60	526	40	0.19	3,971	18.85
437	19	0.09	1,554	7.38	482	30	0.14	2,474	11.74	527	41	0.19	4,012	19.04
438	20	0.09	1,574	7.47	483	21	0.10	2,495	11.84	528	44	0.21	4,056	19.25
439	16	0.08	1,590	7.55	484	29	0.14	2,524	11.98	529	45	0.21	4,101	19.46
440	16	0.08	1,606	7.62	485	20	0.09	2,544	12.07	530	39	0.19	4,140	19.65
441	13	0.06	1,619	7.68	486	25	0.12	2,569	12.19	531	55	0.26	4,195	19.91
442	16	0.08	1,635	7.76	487	29	0.14	2,598	12.33	532	34	0.16	4,229	20.07
443	18	0.09	1,653	7.85	488	33	0.16	2,631	12.49	533	47	0.22	4,276	20.30
444	16	0.08	1,669	7.92	489	38	0.18	2,669	12.67	534	55	0.26	4,331	20.56
445	13	0.06	1,682	7.98	490	27	0.13	2,696	12.80	535	47	0.22	4,378	20.78
446	20	0.09	1,702	8.08	491	33	0.16	2,729	12.95	536	57	0.27	4,435	21.05
447	17	0.08	1,719	8.16	492	32	0.15	2,761	13.10	537	40	0.19	4,475	21.24
448	19	0.09	1,738	8.25	493	27	0.13	2,788	13.23	538	39	0.19	4,514	21.42
449	17	0.08	1,755	8.33	494	25	0.12	2,813	13.35	539	42	0.20	4,556	21.62
450	13	0.06	1,768	8.39	495	27	0.13	2,840	13.48	540	36	0.17	4,592	21.80
451	18	0.09	1,786	8.48	496	26	0.12	2,866	13.60	541	55	0.26	4,647	22.06
452	16	0.08	1,802	8.55	497	34	0.16	2,900	13.76	542	46	0.22	4,693	22.27
453	21	0.10	1,823	8.65	498	31	0.15	2,931	13.91	543	58	0.28	4,751	22.55
454	28	0.13	1,851	8.79	499	24	0.11	2,955	14.03	544	56	0.27	4,807	22.82
455	16	0.08	1,867	8.86	500	35	0.17	2,990	14.19	545	47	0.22	4,854	23.04
456	21	0.10	1,888	8.96	501	25	0.12	3,015	14.31	546	49	0.23	4,903	23.27
457	35	0.17	1,923	9.13	502	39	0.19	3,054	14.50	547	47	0.22	4,950	23.49
458	18	0.09	1,941	9.21	503	34	0.16	3,088	14.66	548	45	0.21	4,995	23.71
459	20	0.09	1,961	9.31	504	35	0.17	3,123	14.82	549	43	0.20	5,038	23.91
460	19	0.09	1,980	9.40	505	28	0.13	3,151	14.96	550	53	0.25	5,091	24.16
461	16	0.08	1,996	9.47	506	41	0.19	3,192	15.15	551	54	0.26	5,145	24.42
462	23	0.11	2,019	9.58	507	39	0.19	3,231	15.34	552	57	0.27	5,202	24.69
463	17	0.08	2,036	9.66	508	34	0.16	3,265	15.50	553	59	0.28	5,261	24.97
464	16	0.08	2,052	9.74	509	45	0.21	3,310	15.71	554	51	0.24	5,312	25.21
465	13	0.06	2,065	9.80	510	45	0.21	3,355	15.92	555	51	0.24	5,363	25.45
466	19	0.09	2,084	9.89	511	39	0.19	3,394	16.11	556	55	0.26	5,418	25.72
467	20	0.09	2,104	9.99	512	37	0.18	3,431	16.28	557	59	0.28	5,477	26.00
468	32	0.15	2,136	10.14	513	27	0.13	3,458	16.41	558	61	0.29	5,538	26.29
469	22	0.10	2,158	10.24	514	36	0.17	3,494	16.58	559	71	0.34	5,609	26.62
470	18	0.09	2,176	10.33	515	44	0.21	3,538	16.79	560	59	0.28	5,668	26.90
471	29	0.14	2,205	10.47	516	30	0.14	3,568	16.93	561	57	0.27	5,725	27.17
472	31	0.15	2,236	10.61	517	37	0.18	3,605	17.11	562	53	0.25	5,778	27.42
473	19	0.09	2,255	10.70	518	44	0.21	3,649	17.32	563	57	0.27	5,835	27.69
474	26	0.12	2,281	10.83	519	38	0.18	3,687	17.50	564	65	0.31	5,900	28.00
475	18	0.09	2,299	10.91	520	33	0.16	3,720	17.66	565	60	0.28	5,960	28.29
476	22	0.10	2,321	11.02	521	51	0.24	3,771	17.90	566	58	0.28	6,018	28.56
477	16	0.08	2,337	11.09	522	42	0.20	3,813	18.10	567	49	0.23	6,067	28.80
478	24	0.11	2,361	11.21	523	46	0.22	3,859	18.32	568	68	0.32	6,135	29.12
479	23	0.11	2,384	11.32	524	33	0.16	3,892	18.47	569	69	0.33	6,204	29.45

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
570	68	0.32	6,272	29.77	615	76	0.36	9,414	44.68	660	85	0.40	13,091	62.13
571	54	0.26	6,326	30.03	616	99	0.47	9,513	45.15	661	70	0.33	13,161	62.47
572	64	0.30	6,390	30.33	617	93	0.44	9,606	45.59	662	65	0.31	13,226	62.77
573	67	0.32	6,457	30.65	618	72	0.34	9,678	45.93	663	73	0.35	13,299	63.12
574	59	0.28	6,516	30.93	619	78	0.37	9,756	46.30	664	91	0.43	13,390	63.55
575	54	0.26	6,570	31.18	620	76	0.36	9,832	46.67	665	83	0.39	13,473	63.95
576	53	0.25	6,623	31.43	621	77	0.37	9,909	47.03	666	78	0.37	13,551	64.32
577	72	0.34	6,695	31.78	622	84	0.40	9,993	47.43	667	76	0.36	13,627	64.68
578	72	0.34	6,767	32.12	623	80	0.38	10,073	47.81	668	85	0.40	13,712	65.08
579	63	0.30	6,830	32.42	624	68	0.32	10,141	48.13	669	77	0.37	13,789	65.45
580	66	0.31	6,896	32.73	625	93	0.44	10,234	48.57	670	67	0.32	13,856	65.76
581	64	0.30	6,960	33.03	626	79	0.37	10,313	48.95	671	95	0.45	13,951	66.22
582	63	0.30	7,023	33.33	627	85	0.40	10,398	49.35	672	89	0.42	14,040	66.64
583	69	0.33	7,092	33.66	628	84	0.40	10,482	49.75	673	77	0.37	14,117	67.00
584	63	0.30	7,155	33.96	629	79	0.37	10,561	50.13	674	66	0.31	14,183	67.32
585	76	0.36	7,231	34.32	630	104	0.49	10,665	50.62	675	89	0.42	14,272	67.74
586	86	0.41	7,317	34.73	631	76	0.36	10,741	50.98	676	90	0.43	14,362	68.17
587	80	0.38	7,397	35.11	632	87	0.41	10,828	51.39	677	81	0.38	14,443	68.55
588	67	0.32	7,464	35.43	633	75	0.36	10,903	51.75	678	79	0.37	14,522	68.93
589	71	0.34	7,535	35.76	634	82	0.39	10,985	52.14	679	84	0.40	14,606	69.32
590	74	0.35	7,609	36.11	635	74	0.35	11,059	52.49	680	80	0.38	14,686	69.70
591	72	0.34	7,681	36.46	636	65	0.31	11,124	52.80	681	74	0.35	14,760	70.06
592	72	0.34	7,753	36.80	637	94	0.45	11,218	53.24	682	81	0.38	14,841	70.44
593	63	0.30	7,816	37.10	638	90	0.43	11,308	53.67	683	101	0.48	14,942	70.92
594	67	0.32	7,883	37.42	639	79	0.37	11,387	54.05	684	88	0.42	15,030	71.34
595	65	0.31	7,948	37.72	640	69	0.33	11,456	54.37	685	74	0.35	15,104	71.69
596	76	0.36	8,024	38.08	641	81	0.38	11,537	54.76	686	58	0.28	15,162	71.96
597	79	0.37	8,103	38.46	642	73	0.35	11,610	55.10	687	82	0.39	15,244	72.35
598	63	0.30	8,166	38.76	643	70	0.33	11,680	55.44	688	74	0.35	15,318	72.70
599	78	0.37	8,244	39.13	644	67	0.32	11,747	55.75	689	68	0.32	15,386	73.03
600	76	0.36	8,320	39.49	645	72	0.34	11,819	56.10	690	78	0.37	15,464	73.40
601	63	0.30	8,383	39.79	646	99	0.47	11,918	56.57	691	61	0.29	15,525	73.69
602	63	0.30	8,446	40.09	647	83	0.39	12,001	56.96	692	71	0.34	15,596	74.02
603	65	0.31	8,511	40.40	648	71	0.34	12,072	57.30	693	80	0.38	15,676	74.40
604	73	0.35	8,584	40.74	649	74	0.35	12,146	57.65	694	79	0.37	15,755	74.78
605	79	0.37	8,663	41.12	650	93	0.44	12,239	58.09	695	66	0.31	15,821	75.09
606	80	0.38	8,743	41.50	651	82	0.39	12,321	58.48	696	69	0.33	15,890	75.42
607	83	0.39	8,826	41.89	652	75	0.36	12,396	58.84	697	78	0.37	15,968	75.79
608	72	0.34	8,898	42.23	653	80	0.38	12,476	59.21	698	64	0.30	16,032	76.09
609	77	0.37	8,975	42.60	654	82	0.39	12,558	59.60	699	73	0.35	16,105	76.44
610	80	0.38	9,055	42.98	655	79	0.37	12,637	59.98	700	63	0.30	16,168	76.74
611	74	0.35	9,129	43.33	656	107	0.51	12,744	60.49	701	51	0.24	16,219	76.98
612	67	0.32	9,196	43.65	657	95	0.45	12,839	60.94	702	80	0.38	16,299	77.36
613	68	0.32	9,264	43.97	658	78	0.37	12,917	61.31	703	72	0.34	16,371	77.70
614	74	0.35	9,338	44.32	659	89	0.42	13,006	61.73	704	78	0.37	16,449	78.07

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
705	48	0.25	16,026	83.53	750	33	0.17	18,017	93.90	795	14	0.07	18,891	98.46
706	59	0.31	16,085	83.83	751	35	0.18	18,052	94.08	796	13	0.07	18,904	98.53
707	51	0.27	16,136	84.10	752	23	0.12	18,075	94.20	797	6	0.03	18,910	98.56
708	71	0.37	16,207	84.47	753	20	0.10	18,095	94.31	798	10	0.05	18,920	98.61
709	57	0.30	16,264	84.77	754	37	0.19	18,132	94.50	799	12	0.06	18,932	98.67
710	41	0.21	16,305	84.98	755	35	0.18	18,167	94.68	800	10	0.05	18,942	98.72
711	46	0.24	16,351	85.22	756	35	0.18	18,202	94.87	801	12	0.06	18,954	98.79
712	50	0.26	16,401	85.48	757	29	0.15	18,231	95.02	802	14	0.07	18,968	98.86
713	48	0.25	16,449	85.73	758	21	0.11	18,252	95.13	803	9	0.05	18,977	98.91
714	47	0.24	16,496	85.97	759	24	0.13	18,276	95.25	804	4	0.02	18,981	98.93
715	47	0.24	16,543	86.22	760	21	0.11	18,297	95.36	805	3	0.02	18,984	98.94
716	45	0.23	16,588	86.45	761	25	0.13	18,322	95.49	806	8	0.04	18,992	98.98
717	49	0.26	16,637	86.71	762	25	0.13	18,347	95.62	807	6	0.03	18,998	99.01
718	48	0.25	16,685	86.96	763	25	0.13	18,372	95.75	808	7	0.04	19,005	99.05
719	44	0.23	16,729	87.19	764	29	0.15	18,401	95.90	809	9	0.05	19,014	99.10
720	42	0.22	16,771	87.41	765	23	0.12	18,424	96.02	810	6	0.03	19,020	99.13
721	37	0.19	16,808	87.60	766	27	0.14	18,451	96.16	811	5	0.03	19,025	99.16
722	49	0.26	16,857	87.86	767	16	0.08	18,467	96.25	812	4	0.02	19,029	99.18
723	47	0.24	16,904	88.10	768	17	0.09	18,484	96.34	813	8	0.04	19,037	99.22
724	53	0.28	16,957	88.38	769	18	0.09	18,502	96.43	814	4	0.02	19,041	99.24
725	60	0.31	17,017	88.69	770	23	0.12	18,525	96.55	815	6	0.03	19,047	99.27
726	41	0.21	17,058	88.90	771	14	0.07	18,539	96.62	816	5	0.03	19,052	99.30
727	42	0.22	17,100	89.12	772	22	0.11	18,561	96.74	817	1	0.01	19,053	99.30
728	43	0.22	17,143	89.35	773	20	0.10	18,581	96.84	818	2	0.01	19,055	99.31
729	37	0.19	17,180	89.54	774	15	0.08	18,596	96.92	819	7	0.04	19,062	99.35
730	51	0.27	17,231	89.81	775	19	0.10	18,615	97.02	820	5	0.03	19,067	99.37
731	43	0.22	17,274	90.03	776	14	0.07	18,629	97.09	821	7	0.04	19,074	99.41
732	48	0.25	17,322	90.28	777	19	0.10	18,648	97.19	822	4	0.02	19,078	99.43
733	40	0.21	17,362	90.49	778	13	0.07	18,661	97.26	823	1	0.01	19,079	99.44
734	43	0.22	17,405	90.71	779	21	0.11	18,682	97.37	824	3	0.02	19,082	99.45
735	37	0.19	17,442	90.91	780	18	0.09	18,700	97.46	825	3	0.02	19,085	99.47
736	40	0.21	17,482	91.11	781	24	0.13	18,724	97.59	826	4	0.02	19,089	99.49
737	56	0.29	17,538	91.41	782	12	0.06	18,736	97.65	827	3	0.02	19,092	99.50
738	47	0.24	17,585	91.65	783	15	0.08	18,751	97.73	828	3	0.02	19,095	99.52
739	38	0.20	17,623	91.85	784	13	0.07	18,764	97.80	829	2	0.01	19,097	99.53
740	37	0.19	17,660	92.04	785	11	0.06	18,775	97.85	830	2	0.01	19,099	99.54
741	49	0.26	17,709	92.30	786	17	0.09	18,792	97.94	831	4	0.02	19,103	99.56
742	30	0.16	17,739	92.45	787	8	0.04	18,800	97.98	832	1	0.01	19,104	99.57
743	40	0.21	17,779	92.66	788	7	0.04	18,807	98.02	833	5	0.03	19,109	99.59
744	36	0.19	17,815	92.85	789	10	0.05	18,817	98.07	834	1	0.01	19,110	99.60
745	40	0.21	17,855	93.06	790	13	0.07	18,830	98.14	835	2	0.01	19,112	99.61
746	34	0.18	17,889	93.24	791	13	0.07	18,843	98.21	836	5	0.03	19,117	99.64
747	30	0.16	17,919	93.39	792	9	0.05	18,852	98.25	837	1	0.01	19,118	99.64
748	33	0.17	17,952	93.56	793	9	0.05	18,861	98.30	838	1	0.01	19,119	99.65
749	32	0.17	17,984	93.73	794	16	0.08	18,877	98.38	839	4	0.02	19,123	99.67

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
840	4	0.02	20,871	99.06	890	1	0.00	21,034	99.83
841	4	0.02	20,875	99.08	891	1	0.00	21,035	99.84
842	2	0.01	20,877	99.09	892	1	0.00	21,036	99.84
843	10	0.05	20,887	99.14	893	3	0.01	21,039	99.86
844	5	0.02	20,892	99.16	894	1	0.00	21,040	99.86
845	7	0.03	20,899	99.19	899	1	0.00	21,041	99.87
846	7	0.03	20,906	99.23	900	28	0.13	21,069	100.00
847	6	0.03	20,912	99.25					
848	5	0.02	20,917	99.28					
849	1	0.00	20,918	99.28					
850	3	0.01	20,921	99.30					
851	3	0.01	20,924	99.31					
852	7	0.03	20,931	99.35					
853	8	0.04	20,939	99.38					
854	8	0.04	20,947	99.42					
855	3	0.01	20,950	99.44					
856	3	0.01	20,953	99.45					
857	4	0.02	20,957	99.47					
858	2	0.01	20,959	99.48					
859	7	0.03	20,966	99.51					
860	4	0.02	20,970	99.53					
861	6	0.03	20,976	99.56					
862	5	0.02	20,981	99.58					
863	3	0.01	20,984	99.60					
865	4	0.02	20,988	99.62					
866	1	0.00	20,989	99.62					
867	4	0.02	20,993	99.64					
868	8	0.04	21,001	99.68					
869	2	0.01	21,003	99.69					
870	1	0.00	21,004	99.69					
871	2	0.01	21,006	99.70					
872	5	0.02	21,011	99.72					
873	2	0.01	21,013	99.73					
874	2	0.01	21,015	99.74					
876	1	0.00	21,016	99.75					
877	1	0.00	21,017	99.75					
879	1	0.00	21,018	99.76					
880	1	0.00	21,019	99.76					
881	4	0.02	21,023	99.78					
882	1	0.00	21,024	99.79					
883	2	0.01	21,026	99.80					
884	1	0.00	21,027	99.80					
885	1	0.00	21,028	99.81					
886	2	0.01	21,030	99.81					
888	3	0.01	21,033	99.83					

Table 31. Grade 5 Science Cumulative Frequency Distribution of Scale Scores

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
300	838	1.28	838	1.28	345	30	0.05	1,603	2.44	390	37	0.06	3,129	4.76
301	12	0.02	850	1.29	346	27	0.04	1,630	2.48	391	53	0.08	3,182	4.84
302	10	0.02	860	1.31	347	29	0.04	1,659	2.53	392	24	0.04	3,206	4.88
303	10	0.02	870	1.32	348	30	0.05	1,689	2.57	393	44	0.07	3,250	4.95
304	11	0.02	881	1.34	349	27	0.04	1,716	2.61	394	59	0.09	3,309	5.04
305	17	0.03	898	1.37	350	36	0.05	1,752	2.67	395	47	0.07	3,356	5.11
306	19	0.03	917	1.40	351	20	0.03	1,772	2.70	396	44	0.07	3,400	5.18
307	12	0.02	929	1.41	352	23	0.04	1,795	2.73	397	48	0.07	3,448	5.25
308	9	0.01	938	1.43	353	26	0.04	1,821	2.77	398	49	0.07	3,497	5.32
309	11	0.02	949	1.44	354	34	0.05	1,855	2.82	399	47	0.07	3,544	5.40
310	10	0.02	959	1.46	355	28	0.04	1,883	2.87	400	48	0.07	3,592	5.47
311	16	0.02	975	1.48	356	35	0.05	1,918	2.92	401	58	0.09	3,650	5.56
312	9	0.01	984	1.50	357	28	0.04	1,946	2.96	402	59	0.09	3,709	5.65
313	10	0.02	994	1.51	358	28	0.04	1,974	3.01	403	57	0.09	3,766	5.73
314	14	0.02	1,008	1.53	359	28	0.04	2,002	3.05	404	35	0.05	3,801	5.79
315	11	0.02	1,019	1.55	360	31	0.05	2,033	3.09	405	44	0.07	3,845	5.85
316	25	0.04	1,044	1.59	361	20	0.03	2,053	3.13	406	55	0.08	3,900	5.94
317	22	0.03	1,066	1.62	362	22	0.03	2,075	3.16	407	49	0.07	3,949	6.01
318	21	0.03	1,087	1.65	363	23	0.04	2,098	3.19	408	59	0.09	4,008	6.10
319	13	0.02	1,100	1.67	364	33	0.05	2,131	3.24	409	46	0.07	4,054	6.17
320	19	0.03	1,119	1.70	365	23	0.04	2,154	3.28	410	49	0.07	4,103	6.25
321	17	0.03	1,136	1.73	366	39	0.06	2,193	3.34	411	48	0.07	4,151	6.32
322	18	0.03	1,154	1.76	367	28	0.04	2,221	3.38	412	54	0.08	4,205	6.40
323	17	0.03	1,171	1.78	368	28	0.04	2,249	3.42	413	58	0.09	4,263	6.49
324	14	0.02	1,185	1.80	369	33	0.05	2,282	3.47	414	41	0.06	4,304	6.55
325	18	0.03	1,203	1.83	370	26	0.04	2,308	3.51	415	52	0.08	4,356	6.63
326	15	0.02	1,218	1.85	371	39	0.06	2,347	3.57	416	55	0.08	4,411	6.71
327	21	0.03	1,239	1.89	372	38	0.06	2,385	3.63	417	69	0.11	4,480	6.82
328	21	0.03	1,260	1.92	373	43	0.07	2,428	3.70	418	62	0.09	4,542	6.91
329	21	0.03	1,281	1.95	374	32	0.05	2,460	3.74	419	57	0.09	4,599	7.00
330	20	0.03	1,301	1.98	375	39	0.06	2,499	3.80	420	55	0.08	4,654	7.08
331	31	0.05	1,332	2.03	376	41	0.06	2,540	3.87	421	73	0.11	4,727	7.20
332	17	0.03	1,349	2.05	377	40	0.06	2,580	3.93	422	74	0.11	4,801	7.31
333	10	0.02	1,359	2.07	378	40	0.06	2,620	3.99	423	62	0.09	4,863	7.40
334	14	0.02	1,373	2.09	379	43	0.07	2,663	4.05	424	50	0.08	4,913	7.48
335	22	0.03	1,395	2.12	380	46	0.07	2,709	4.12	425	57	0.09	4,970	7.57
336	19	0.03	1,414	2.15	381	37	0.06	2,746	4.18	426	66	0.10	5,036	7.67
337	25	0.04	1,439	2.19	382	37	0.06	2,783	4.24	427	63	0.10	5,099	7.76
338	31	0.05	1,470	2.24	383	45	0.07	2,828	4.31	428	66	0.10	5,165	7.86
339	21	0.03	1,491	2.27	384	41	0.06	2,869	4.37	429	71	0.11	5,236	7.97
340	13	0.02	1,504	2.29	385	39	0.06	2,908	4.43	430	74	0.11	5,310	8.08
341	19	0.03	1,523	2.32	386	46	0.07	2,954	4.50	431	83	0.13	5,393	8.21
342	16	0.02	1,539	2.34	387	44	0.07	2,998	4.56	432	62	0.09	5,455	8.30
343	14	0.02	1,553	2.36	388	38	0.06	3,036	4.62	433	62	0.09	5,517	8.40
344	20	0.03	1,573	2.39	389	56	0.09	3,092	4.71	434	65	0.10	5,582	8.50

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
435	61	0.09	5,643	8.59	480	108	0.16	9,593	14.60	525	150	0.23	15,586	23.73
436	77	0.12	5,720	8.71	481	108	0.16	9,701	14.77	526	150	0.23	15,736	23.96
437	89	0.14	5,809	8.84	482	119	0.18	9,820	14.95	527	152	0.23	15,888	24.19
438	78	0.12	5,887	8.96	483	130	0.20	9,950	15.15	528	147	0.22	16,035	24.41
439	73	0.11	5,960	9.07	484	107	0.16	10,057	15.31	529	157	0.24	16,192	24.65
440	72	0.11	6,032	9.18	485	112	0.17	10,169	15.48	530	142	0.22	16,334	24.87
441	80	0.12	6,112	9.30	486	119	0.18	10,288	15.66	531	144	0.22	16,478	25.08
442	76	0.12	6,188	9.42	487	111	0.17	10,399	15.83	532	163	0.25	16,641	25.33
443	63	0.10	6,251	9.52	488	114	0.17	10,513	16.00	533	144	0.22	16,785	25.55
444	79	0.12	6,330	9.64	489	124	0.19	10,637	16.19	534	182	0.28	16,967	25.83
445	75	0.11	6,405	9.75	490	125	0.19	10,762	16.38	535	180	0.27	17,147	26.10
446	85	0.13	6,490	9.88	491	122	0.19	10,884	16.57	536	152	0.23	17,299	26.33
447	101	0.15	6,591	10.03	492	131	0.20	11,015	16.77	537	142	0.22	17,441	26.55
448	80	0.12	6,671	10.16	493	121	0.18	11,136	16.95	538	166	0.25	17,607	26.80
449	98	0.15	6,769	10.30	494	128	0.19	11,264	17.15	539	188	0.29	17,795	27.09
450	79	0.12	6,848	10.42	495	130	0.20	11,394	17.35	540	178	0.27	17,973	27.36
451	90	0.14	6,938	10.56	496	121	0.18	11,515	17.53	541	165	0.25	18,138	27.61
452	81	0.12	7,019	10.69	497	100	0.15	11,615	17.68	542	151	0.23	18,289	27.84
453	81	0.12	7,100	10.81	498	111	0.17	11,726	17.85	543	161	0.25	18,450	28.09
454	74	0.11	7,174	10.92	499	146	0.22	11,872	18.07	544	205	0.31	18,655	28.40
455	107	0.16	7,281	11.08	500	132	0.20	12,004	18.27	545	158	0.24	18,813	28.64
456	80	0.12	7,361	11.21	501	137	0.21	12,141	18.48	546	184	0.28	18,997	28.92
457	85	0.13	7,446	11.34	502	135	0.21	12,276	18.69	547	198	0.30	19,195	29.22
458	87	0.13	7,533	11.47	503	148	0.23	12,424	18.91	548	200	0.30	19,395	29.53
459	83	0.13	7,616	11.59	504	122	0.19	12,546	19.10	549	177	0.27	19,572	29.79
460	93	0.14	7,709	11.74	505	123	0.19	12,669	19.29	550	162	0.25	19,734	30.04
461	75	0.11	7,784	11.85	506	156	0.24	12,825	19.52	551	190	0.29	19,924	30.33
462	91	0.14	7,875	11.99	507	128	0.19	12,953	19.72	552	215	0.33	20,139	30.66
463	79	0.12	7,954	12.11	508	125	0.19	13,078	19.91	553	198	0.30	20,337	30.96
464	100	0.15	8,054	12.26	509	136	0.21	13,214	20.12	554	185	0.28	20,522	31.24
465	72	0.11	8,126	12.37	510	126	0.19	13,340	20.31	555	194	0.30	20,716	31.54
466	94	0.14	8,220	12.51	511	140	0.21	13,480	20.52	556	194	0.30	20,910	31.83
467	99	0.15	8,319	12.66	512	145	0.22	13,625	20.74	557	190	0.29	21,100	32.12
468	85	0.13	8,404	12.79	513	163	0.25	13,788	20.99	558	172	0.26	21,272	32.38
469	94	0.14	8,498	12.94	514	134	0.20	13,922	21.19	559	199	0.30	21,471	32.69
470	104	0.16	8,602	13.10	515	141	0.21	14,063	21.41	560	196	0.30	21,667	32.98
471	102	0.16	8,704	13.25	516	145	0.22	14,208	21.63	561	193	0.29	21,860	33.28
472	97	0.15	8,801	13.40	517	158	0.24	14,366	21.87	562	210	0.32	22,070	33.60
473	92	0.14	8,893	13.54	518	157	0.24	14,523	22.11	563	179	0.27	22,249	33.87
474	117	0.18	9,010	13.72	519	159	0.24	14,682	22.35	564	194	0.30	22,443	34.17
475	99	0.15	9,109	13.87	520	147	0.22	14,829	22.57	565	207	0.32	22,650	34.48
476	104	0.16	9,213	14.03	521	150	0.23	14,979	22.80	566	187	0.28	22,837	34.77
477	94	0.14	9,307	14.17	522	164	0.25	15,143	23.05	567	196	0.30	23,033	35.06
478	90	0.14	9,397	14.31	523	147	0.22	15,290	23.28	568	216	0.33	23,249	35.39
479	88	0.13	9,485	14.44	524	146	0.22	15,436	23.50	569	226	0.34	23,475	35.74

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
570	207	0.32	23,682	36.05	615	240	0.37	33,848	51.53	660	284	0.43	44,763	68.14
571	185	0.28	23,867	36.33	616	221	0.34	34,069	51.86	661	227	0.35	44,990	68.49
572	199	0.30	24,066	36.64	617	266	0.40	34,335	52.27	662	243	0.37	45,233	68.86
573	198	0.30	24,264	36.94	618	225	0.34	34,560	52.61	663	258	0.39	45,491	69.25
574	221	0.34	24,485	37.27	619	239	0.36	34,799	52.98	664	247	0.38	45,738	69.63
575	213	0.32	24,698	37.60	620	256	0.39	35,055	53.37	665	223	0.34	45,961	69.97
576	216	0.33	24,914	37.93	621	225	0.34	35,280	53.71	666	250	0.38	46,211	70.35
577	216	0.33	25,130	38.26	622	238	0.36	35,518	54.07	667	235	0.36	46,446	70.71
578	221	0.34	25,351	38.59	623	251	0.38	35,769	54.45	668	237	0.36	46,683	71.07
579	192	0.29	25,543	38.88	624	247	0.38	36,016	54.83	669	225	0.34	46,908	71.41
580	218	0.33	25,761	39.22	625	262	0.40	36,278	55.23	670	219	0.33	47,127	71.74
581	212	0.32	25,973	39.54	626	254	0.39	36,532	55.61	671	207	0.32	47,334	72.06
582	245	0.37	26,218	39.91	627	233	0.35	36,765	55.97	672	237	0.36	47,571	72.42
583	202	0.31	26,420	40.22	628	241	0.37	37,006	56.34	673	229	0.35	47,800	72.77
584	236	0.36	26,656	40.58	629	278	0.42	37,284	56.76	674	244	0.37	48,044	73.14
585	221	0.34	26,877	40.92	630	236	0.36	37,520	57.12	675	230	0.35	48,274	73.49
586	221	0.34	27,098	41.25	631	238	0.36	37,758	57.48	676	214	0.33	48,488	73.81
587	216	0.33	27,314	41.58	632	234	0.36	37,992	57.84	677	232	0.35	48,720	74.17
588	226	0.34	27,540	41.92	633	207	0.32	38,199	58.15	678	217	0.33	48,937	74.50
589	227	0.35	27,767	42.27	634	235	0.36	38,434	58.51	679	216	0.33	49,153	74.83
590	242	0.37	28,009	42.64	635	222	0.34	38,656	58.85	680	255	0.39	49,408	75.22
591	246	0.37	28,255	43.01	636	245	0.37	38,901	59.22	681	207	0.32	49,615	75.53
592	233	0.35	28,488	43.37	637	216	0.33	39,117	59.55	682	210	0.32	49,825	75.85
593	226	0.34	28,714	43.71	638	222	0.34	39,339	59.89	683	203	0.31	50,028	76.16
594	227	0.35	28,941	44.06	639	253	0.39	39,592	60.27	684	190	0.29	50,218	76.45
595	242	0.37	29,183	44.43	640	226	0.34	39,818	60.62	685	186	0.28	50,404	76.73
596	204	0.31	29,387	44.74	641	235	0.36	40,053	60.97	686	204	0.31	50,608	77.04
597	233	0.35	29,620	45.09	642	250	0.38	40,303	61.35	687	192	0.29	50,800	77.33
598	209	0.32	29,829	45.41	643	256	0.39	40,559	61.74	688	229	0.35	51,029	77.68
599	241	0.37	30,070	45.78	644	250	0.38	40,809	62.12	689	218	0.33	51,247	78.01
600	220	0.33	30,290	46.11	645	258	0.39	41,067	62.52	690	222	0.34	51,469	78.35
601	249	0.38	30,539	46.49	646	253	0.39	41,320	62.90	691	188	0.29	51,657	78.64
602	225	0.34	30,764	46.83	647	267	0.41	41,587	63.31	692	213	0.32	51,870	78.96
603	242	0.37	31,006	47.20	648	242	0.37	41,829	63.68	693	244	0.37	52,114	79.33
604	245	0.37	31,251	47.57	649	248	0.38	42,077	64.05	694	182	0.28	52,296	79.61
605	226	0.34	31,477	47.92	650	239	0.36	42,316	64.42	695	213	0.32	52,509	79.94
606	233	0.35	31,710	48.27	651	240	0.37	42,556	64.78	696	185	0.28	52,694	80.22
607	236	0.36	31,946	48.63	652	216	0.33	42,772	65.11	697	217	0.33	52,911	80.55
608	215	0.33	32,161	48.96	653	243	0.37	43,015	65.48	698	183	0.28	53,094	80.83
609	260	0.40	32,421	49.36	654	229	0.35	43,244	65.83	699	183	0.28	53,277	81.10
610	237	0.36	32,658	49.72	655	246	0.37	43,490	66.21	700	206	0.31	53,483	81.42
611	235	0.36	32,893	50.07	656	253	0.39	43,743	66.59	701	192	0.29	53,675	81.71
612	227	0.35	33,120	50.42	657	251	0.38	43,994	66.97	702	172	0.26	53,847	81.97
613	239	0.36	33,359	50.78	658	254	0.39	44,248	67.36	703	190	0.29	54,037	82.26
614	249	0.38	33,608	51.16	659	231	0.35	44,479	67.71	704	192	0.29	54,229	82.55

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
705	202	0.31	54,431	82.86	750	86	0.13	61,186	93.14	795	29	0.04	64,291	97.87
706	163	0.25	54,594	83.11	751	110	0.17	61,296	93.31	796	41	0.06	64,332	97.93
707	178	0.27	54,772	83.38	752	115	0.18	61,411	93.49	797	40	0.06	64,372	98.00
708	178	0.27	54,950	83.65	753	90	0.14	61,501	93.62	798	42	0.06	64,414	98.06
709	198	0.30	55,148	83.95	754	103	0.16	61,604	93.78	799	37	0.06	64,451	98.12
710	182	0.28	55,330	84.23	755	113	0.17	61,717	93.95	800	40	0.06	64,491	98.18
711	173	0.26	55,503	84.49	756	103	0.16	61,820	94.11	801	32	0.05	64,523	98.22
712	170	0.26	55,673	84.75	757	99	0.15	61,919	94.26	802	40	0.06	64,563	98.29
713	180	0.27	55,853	85.03	758	81	0.12	62,000	94.38	803	27	0.04	64,590	98.33
714	158	0.24	56,011	85.27	759	100	0.15	62,100	94.54	804	35	0.05	64,625	98.38
715	150	0.23	56,161	85.50	760	82	0.12	62,182	94.66	805	28	0.04	64,653	98.42
716	199	0.30	56,360	85.80	761	81	0.12	62,263	94.78	806	19	0.03	64,672	98.45
717	163	0.25	56,523	86.05	762	80	0.12	62,343	94.91	807	29	0.04	64,701	98.50
718	189	0.29	56,712	86.33	763	75	0.11	62,418	95.02	808	27	0.04	64,728	98.54
719	182	0.28	56,894	86.61	764	79	0.12	62,497	95.14	809	28	0.04	64,756	98.58
720	162	0.25	57,056	86.86	765	74	0.11	62,571	95.25	810	24	0.04	64,780	98.62
721	170	0.26	57,226	87.12	766	88	0.13	62,659	95.39	811	36	0.05	64,816	98.67
722	165	0.25	57,391	87.37	767	83	0.13	62,742	95.51	812	25	0.04	64,841	98.71
723	148	0.23	57,539	87.59	768	64	0.10	62,806	95.61	813	26	0.04	64,867	98.75
724	176	0.27	57,715	87.86	769	83	0.13	62,889	95.74	814	23	0.04	64,890	98.78
725	151	0.23	57,866	88.09	770	84	0.13	62,973	95.87	815	26	0.04	64,916	98.82
726	152	0.23	58,018	88.32	771	70	0.11	63,043	95.97	816	33	0.05	64,949	98.87
727	177	0.27	58,195	88.59	772	66	0.10	63,109	96.07	817	23	0.04	64,972	98.91
728	148	0.23	58,343	88.82	773	70	0.11	63,179	96.18	818	20	0.03	64,992	98.94
729	136	0.21	58,479	89.02	774	58	0.09	63,237	96.27	819	21	0.03	65,013	98.97
730	167	0.25	58,646	89.28	775	67	0.10	63,304	96.37	820	28	0.04	65,041	99.01
731	141	0.21	58,787	89.49	776	64	0.10	63,368	96.47	821	18	0.03	65,059	99.04
732	135	0.21	58,922	89.70	777	61	0.09	63,429	96.56	822	19	0.03	65,078	99.07
733	144	0.22	59,066	89.92	778	61	0.09	63,490	96.65	823	9	0.01	65,087	99.08
734	160	0.24	59,226	90.16	779	48	0.07	63,538	96.73	824	19	0.03	65,106	99.11
735	129	0.20	59,355	90.36	780	58	0.09	63,596	96.81	825	17	0.03	65,123	99.14
736	131	0.20	59,486	90.56	781	53	0.08	63,649	96.89	826	14	0.02	65,137	99.16
737	144	0.22	59,630	90.78	782	56	0.09	63,705	96.98	827	22	0.03	65,159	99.19
738	128	0.19	59,758	90.97	783	61	0.09	63,766	97.07	828	17	0.03	65,176	99.22
739	133	0.20	59,891	91.17	784	35	0.05	63,801	97.13	829	14	0.02	65,190	99.24
740	140	0.21	60,031	91.39	785	49	0.07	63,850	97.20	830	14	0.02	65,204	99.26
741	121	0.18	60,152	91.57	786	46	0.07	63,896	97.27	831	15	0.02	65,219	99.28
742	117	0.18	60,269	91.75	787	48	0.07	63,944	97.34	832	15	0.02	65,234	99.31
743	121	0.18	60,390	91.93	788	37	0.06	63,981	97.40	833	18	0.03	65,252	99.33
744	123	0.19	60,513	92.12	789	60	0.09	64,041	97.49	834	9	0.01	65,261	99.35
745	126	0.19	60,639	92.31	790	42	0.06	64,083	97.56	835	13	0.02	65,274	99.37
746	130	0.20	60,769	92.51	791	47	0.07	64,130	97.63	836	11	0.02	65,285	99.38
747	119	0.18	60,888	92.69	792	51	0.08	64,181	97.70	837	13	0.02	65,298	99.40
748	101	0.15	60,989	92.85	793	38	0.06	64,219	97.76	838	18	0.03	65,316	99.43
749	111	0.17	61,100	93.01	794	43	0.07	64,262	97.83	839	11	0.02	65,327	99.45

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
840	12	0.02	65,339	99.47	885	3	0.00	65,613	99.88
841	9	0.01	65,348	99.48	886	2	0.00	65,615	99.89
842	9	0.01	65,357	99.49	887	3	0.00	65,618	99.89
843	3	0.00	65,360	99.50	888	3	0.00	65,621	99.90
844	9	0.01	65,369	99.51	889	2	0.00	65,623	99.90
845	10	0.02	65,379	99.53	891	1	0.00	65,624	99.90
846	10	0.02	65,389	99.54	892	4	0.01	65,628	99.91
847	10	0.02	65,399	99.56	893	2	0.00	65,630	99.91
848	5	0.01	65,404	99.57	894	2	0.00	65,632	99.91
849	6	0.01	65,410	99.58	895	2	0.00	65,634	99.92
850	9	0.01	65,419	99.59	897	3	0.00	65,637	99.92
851	13	0.02	65,432	99.61	899	1	0.00	65,638	99.92
852	8	0.01	65,440	99.62	900	51	0.08	65,689	100.00
853	9	0.01	65,449	99.63					
854	9	0.01	65,458	99.65					
855	7	0.01	65,465	99.66					
856	9	0.01	65,474	99.67					
857	14	0.02	65,488	99.69					
858	8	0.01	65,496	99.71					
859	9	0.01	65,505	99.72					
860	4	0.01	65,509	99.73					
861	7	0.01	65,516	99.74					
862	4	0.01	65,520	99.74					
863	6	0.01	65,526	99.75					
864	4	0.01	65,530	99.76					
865	5	0.01	65,535	99.77					
866	7	0.01	65,542	99.78					
867	7	0.01	65,549	99.79					
868	5	0.01	65,554	99.79					
869	4	0.01	65,558	99.80					
870	1	0.00	65,559	99.80					
871	4	0.01	65,563	99.81					
872	1	0.00	65,564	99.81					
873	4	0.01	65,568	99.82					
874	2	0.00	65,570	99.82					
875	3	0.00	65,573	99.82					
876	6	0.01	65,579	99.83					
877	6	0.01	65,585	99.84					
878	3	0.00	65,588	99.85					
879	4	0.01	65,592	99.85					
880	6	0.01	65,598	99.86					
881	2	0.00	65,600	99.86					
882	1	0.00	65,601	99.87					
883	5	0.01	65,606	99.87					
884	4	0.01	65,610	99.88					

Table 32. Grade 7 Social Studies Cumulative Frequency Distribution of Scale Scores

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
300	707	3.68	707	3.68	345	9	0.05	1,019	5.31	390	16	0.08	1,474	7.68
301	9	0.05	716	3.73	346	8	0.04	1,027	5.35	391	12	0.06	1,486	7.74
302	6	0.03	722	3.76	347	12	0.06	1,039	5.42	392	12	0.06	1,498	7.81
303	8	0.04	730	3.80	348	10	0.05	1,049	5.47	393	16	0.08	1,514	7.89
304	8	0.04	738	3.85	349	9	0.05	1,058	5.51	394	11	0.06	1,525	7.95
305	2	0.01	740	3.86	350	9	0.05	1,067	5.56	395	19	0.10	1,544	8.05
306	9	0.05	749	3.90	351	6	0.03	1,073	5.59	396	6	0.03	1,550	8.08
307	11	0.06	760	3.96	352	10	0.05	1,083	5.64	397	12	0.06	1,562	8.14
308	5	0.03	765	3.99	353	6	0.03	1,089	5.68	398	13	0.07	1,575	8.21
309	3	0.02	768	4.00	354	9	0.05	1,098	5.72	399	13	0.07	1,588	8.28
310	7	0.04	775	4.04	355	9	0.05	1,107	5.77	400	14	0.07	1,602	8.35
311	4	0.02	779	4.06	356	11	0.06	1,118	5.83	401	21	0.11	1,623	8.46
312	8	0.04	787	4.10	357	13	0.07	1,131	5.89	402	16	0.08	1,639	8.54
313	6	0.03	793	4.13	358	4	0.02	1,135	5.92	403	7	0.04	1,646	8.58
314	4	0.02	797	4.15	359	11	0.06	1,146	5.97	404	8	0.04	1,654	8.62
315	5	0.03	802	4.18	360	10	0.05	1,156	6.02	405	19	0.10	1,673	8.72
316	6	0.03	808	4.21	361	5	0.03	1,161	6.05	406	11	0.06	1,684	8.78
317	5	0.03	813	4.24	362	11	0.06	1,172	6.11	407	15	0.08	1,699	8.85
318	4	0.02	817	4.26	363	14	0.07	1,186	6.18	408	15	0.08	1,714	8.93
319	8	0.04	825	4.30	364	11	0.06	1,197	6.24	409	16	0.08	1,730	9.02
320	4	0.02	829	4.32	365	9	0.05	1,206	6.29	410	10	0.05	1,740	9.07
321	4	0.02	833	4.34	366	9	0.05	1,215	6.33	411	16	0.08	1,756	9.15
322	3	0.02	836	4.36	367	5	0.03	1,220	6.36	412	21	0.11	1,777	9.26
323	6	0.03	842	4.39	368	9	0.05	1,229	6.41	413	19	0.10	1,796	9.36
324	9	0.05	851	4.44	369	17	0.09	1,246	6.49	414	16	0.08	1,812	9.44
325	4	0.02	855	4.46	370	14	0.07	1,260	6.57	415	23	0.12	1,835	9.56
326	7	0.04	862	4.49	371	8	0.04	1,268	6.61	416	16	0.08	1,851	9.65
327	5	0.03	867	4.52	372	10	0.05	1,278	6.66	417	13	0.07	1,864	9.71
328	10	0.05	877	4.57	373	8	0.04	1,286	6.70	418	10	0.05	1,874	9.77
329	3	0.02	880	4.59	374	10	0.05	1,296	6.75	419	13	0.07	1,887	9.83
330	4	0.02	884	4.61	375	12	0.06	1,308	6.82	420	12	0.06	1,899	9.90
331	6	0.03	890	4.64	376	7	0.04	1,315	6.85	421	13	0.07	1,912	9.97
332	8	0.04	898	4.68	377	9	0.05	1,324	6.90	422	14	0.07	1,926	10.04
333	7	0.04	905	4.72	378	11	0.06	1,335	6.96	423	12	0.06	1,938	10.10
334	13	0.07	918	4.78	379	15	0.08	1,350	7.04	424	14	0.07	1,952	10.17
335	14	0.07	932	4.86	380	12	0.06	1,362	7.10	425	18	0.09	1,970	10.27
336	12	0.06	944	4.92	381	10	0.05	1,372	7.15	426	9	0.05	1,979	10.31
337	8	0.04	952	4.96	382	10	0.05	1,382	7.20	427	19	0.10	1,998	10.41
338	5	0.03	957	4.99	383	12	0.06	1,394	7.27	428	25	0.13	2,023	10.54
339	9	0.05	966	5.03	384	11	0.06	1,405	7.32	429	21	0.11	2,044	10.65
340	6	0.03	972	5.07	385	11	0.06	1,416	7.38	430	32	0.17	2,076	10.82
341	13	0.07	985	5.13	386	14	0.07	1,430	7.45	431	25	0.13	2,101	10.95
342	5	0.03	990	5.16	387	10	0.05	1,440	7.51	432	21	0.11	2,122	11.06
343	8	0.04	998	5.20	388	12	0.06	1,452	7.57	433	19	0.10	2,141	11.16
344	12	0.06	1,010	5.26	389	6	0.03	1,458	7.60	434	13	0.07	2,154	11.23

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
435	18	0.09	2,172	11.32	480	26	0.14	3,366	17.54	525	51	0.27	5,144	26.81
436	17	0.09	2,189	11.41	481	25	0.13	3,391	17.67	526	37	0.19	5,181	27.00
437	32	0.17	2,221	11.58	482	22	0.11	3,413	17.79	527	46	0.24	5,227	27.24
438	15	0.08	2,236	11.65	483	35	0.18	3,448	17.97	528	53	0.28	5,280	27.52
439	16	0.08	2,252	11.74	484	37	0.19	3,485	18.16	529	44	0.23	5,324	27.75
440	25	0.13	2,277	11.87	485	33	0.17	3,518	18.34	530	45	0.23	5,369	27.98
441	18	0.09	2,295	11.96	486	28	0.15	3,546	18.48	531	41	0.21	5,410	28.20
442	22	0.11	2,317	12.08	487	36	0.19	3,582	18.67	532	38	0.20	5,448	28.39
443	24	0.13	2,341	12.20	488	41	0.21	3,623	18.88	533	50	0.26	5,498	28.65
444	18	0.09	2,359	12.29	489	31	0.16	3,654	19.04	534	49	0.26	5,547	28.91
445	22	0.11	2,381	12.41	490	39	0.20	3,693	19.25	535	48	0.25	5,595	29.16
446	22	0.11	2,403	12.52	491	36	0.19	3,729	19.44	536	62	0.32	5,657	29.48
447	20	0.10	2,423	12.63	492	28	0.15	3,757	19.58	537	63	0.33	5,720	29.81
448	21	0.11	2,444	12.74	493	25	0.13	3,782	19.71	538	45	0.23	5,765	30.05
449	41	0.21	2,485	12.95	494	36	0.19	3,818	19.90	539	43	0.22	5,808	30.27
450	27	0.14	2,512	13.09	495	39	0.20	3,857	20.10	540	48	0.25	5,856	30.52
451	22	0.11	2,534	13.21	496	42	0.22	3,899	20.32	541	53	0.28	5,909	30.80
452	21	0.11	2,555	13.32	497	39	0.20	3,938	20.52	542	47	0.24	5,956	31.04
453	30	0.16	2,585	13.47	498	39	0.20	3,977	20.73	543	38	0.20	5,994	31.24
454	28	0.15	2,613	13.62	499	36	0.19	4,013	20.92	544	59	0.31	6,053	31.55
455	28	0.15	2,641	13.76	500	35	0.18	4,048	21.10	545	51	0.27	6,104	31.81
456	22	0.11	2,663	13.88	501	44	0.23	4,092	21.33	546	45	0.23	6,149	32.05
457	26	0.14	2,689	14.01	502	39	0.20	4,131	21.53	547	56	0.29	6,205	32.34
458	25	0.13	2,714	14.14	503	52	0.27	4,183	21.80	548	33	0.17	6,238	32.51
459	26	0.14	2,740	14.28	504	36	0.19	4,219	21.99	549	49	0.26	6,287	32.77
460	29	0.15	2,769	14.43	505	36	0.19	4,255	22.18	550	45	0.23	6,332	33.00
461	17	0.09	2,786	14.52	506	24	0.13	4,279	22.30	551	49	0.26	6,381	33.26
462	37	0.19	2,823	14.71	507	54	0.28	4,333	22.58	552	54	0.28	6,435	33.54
463	37	0.19	2,860	14.91	508	33	0.17	4,366	22.75	553	56	0.29	6,491	33.83
464	23	0.12	2,883	15.03	509	50	0.26	4,416	23.02	554	51	0.27	6,542	34.10
465	21	0.11	2,904	15.14	510	51	0.27	4,467	23.28	555	52	0.27	6,594	34.37
466	35	0.18	2,939	15.32	511	40	0.21	4,507	23.49	556	64	0.33	6,658	34.70
467	32	0.17	2,971	15.48	512	46	0.24	4,553	23.73	557	56	0.29	6,714	34.99
468	26	0.14	2,997	15.62	513	46	0.24	4,599	23.97	558	50	0.26	6,764	35.25
469	34	0.18	3,031	15.80	514	36	0.19	4,635	24.16	559	55	0.29	6,819	35.54
470	28	0.15	3,059	15.94	515	45	0.23	4,680	24.39	560	54	0.28	6,873	35.82
471	33	0.17	3,092	16.12	516	49	0.26	4,729	24.65	561	52	0.27	6,925	36.09
472	29	0.15	3,121	16.27	517	49	0.26	4,778	24.90	562	65	0.34	6,990	36.43
473	40	0.21	3,161	16.47	518	50	0.26	4,828	25.16	563	60	0.31	7,050	36.74
474	38	0.20	3,199	16.67	519	50	0.26	4,878	25.42	564	50	0.26	7,100	37.00
475	29	0.15	3,228	16.82	520	32	0.17	4,910	25.59	565	64	0.33	7,164	37.34
476	29	0.15	3,257	16.98	521	42	0.22	4,952	25.81	566	46	0.24	7,210	37.58
477	25	0.13	3,282	17.11	522	47	0.24	4,999	26.05	567	57	0.30	7,267	37.87
478	33	0.17	3,315	17.28	523	45	0.23	5,044	26.29	568	71	0.37	7,338	38.24
479	25	0.13	3,340	17.41	524	49	0.26	5,093	26.54	569	69	0.36	7,407	38.60

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
570	51	0.27	7,458	38.87	615	76	0.40	10,166	52.98	660	71	0.37	13,170	68.64
571	61	0.32	7,519	39.19	616	59	0.31	10,225	53.29	661	74	0.39	13,244	69.03
572	63	0.33	7,582	39.52	617	51	0.27	10,276	53.56	662	72	0.38	13,316	69.40
573	67	0.35	7,649	39.87	618	77	0.40	10,353	53.96	663	59	0.31	13,375	69.71
574	38	0.20	7,687	40.06	619	60	0.31	10,413	54.27	664	64	0.33	13,439	70.04
575	46	0.24	7,733	40.30	620	61	0.32	10,474	54.59	665	69	0.36	13,508	70.40
576	67	0.35	7,800	40.65	621	73	0.38	10,547	54.97	666	60	0.31	13,568	70.71
577	64	0.33	7,864	40.99	622	70	0.36	10,617	55.33	667	59	0.31	13,627	71.02
578	67	0.35	7,931	41.34	623	58	0.30	10,675	55.64	668	77	0.40	13,704	71.42
579	51	0.27	7,982	41.60	624	65	0.34	10,740	55.98	669	58	0.30	13,762	71.73
580	58	0.30	8,040	41.90	625	70	0.36	10,810	56.34	670	76	0.40	13,838	72.12
581	55	0.29	8,095	42.19	626	59	0.31	10,869	56.65	671	48	0.25	13,886	72.37
582	56	0.29	8,151	42.48	627	74	0.39	10,943	57.03	672	65	0.34	13,951	72.71
583	58	0.30	8,209	42.78	628	64	0.33	11,007	57.37	673	64	0.33	14,015	73.04
584	59	0.31	8,268	43.09	629	71	0.37	11,078	57.74	674	74	0.39	14,089	73.43
585	53	0.28	8,321	43.37	630	58	0.30	11,136	58.04	675	66	0.34	14,155	73.77
586	48	0.25	8,369	43.62	631	75	0.39	11,211	58.43	676	80	0.42	14,235	74.19
587	63	0.33	8,432	43.95	632	61	0.32	11,272	58.75	677	74	0.39	14,309	74.58
588	58	0.30	8,490	44.25	633	60	0.31	11,332	59.06	678	64	0.33	14,373	74.91
589	50	0.26	8,540	44.51	634	80	0.42	11,412	59.48	679	57	0.30	14,430	75.21
590	69	0.36	8,609	44.87	635	65	0.34	11,477	59.82	680	49	0.26	14,479	75.46
591	61	0.32	8,670	45.19	636	64	0.33	11,541	60.15	681	62	0.32	14,541	75.79
592	59	0.31	8,729	45.49	637	61	0.32	11,602	60.47	682	73	0.38	14,614	76.17
593	61	0.32	8,790	45.81	638	68	0.35	11,670	60.82	683	78	0.41	14,692	76.57
594	53	0.28	8,843	46.09	639	60	0.31	11,730	61.14	684	59	0.31	14,751	76.88
595	47	0.24	8,890	46.33	640	56	0.29	11,786	61.43	685	73	0.38	14,824	77.26
596	68	0.35	8,958	46.69	641	67	0.35	11,853	61.78	686	80	0.42	14,904	77.68
597	56	0.29	9,014	46.98	642	63	0.33	11,916	62.10	687	60	0.31	14,964	77.99
598	60	0.31	9,074	47.29	643	61	0.32	11,977	62.42	688	54	0.28	15,018	78.27
599	50	0.26	9,124	47.55	644	69	0.36	12,046	62.78	689	65	0.34	15,083	78.61
600	50	0.26	9,174	47.81	645	60	0.31	12,106	63.09	690	64	0.33	15,147	78.94
601	53	0.28	9,227	48.09	646	59	0.31	12,165	63.40	691	65	0.34	15,212	79.28
602	62	0.32	9,289	48.41	647	66	0.34	12,231	63.75	692	51	0.27	15,263	79.55
603	71	0.37	9,360	48.78	648	79	0.41	12,310	64.16	693	82	0.43	15,345	79.98
604	62	0.32	9,422	49.11	649	53	0.28	12,363	64.43	694	51	0.27	15,396	80.24
605	65	0.34	9,487	49.44	650	84	0.44	12,447	64.87	695	56	0.29	15,452	80.53
606	58	0.30	9,545	49.75	651	71	0.37	12,518	65.24	696	47	0.24	15,499	80.78
607	71	0.37	9,616	50.12	652	66	0.34	12,584	65.59	697	65	0.34	15,564	81.12
608	67	0.35	9,683	50.47	653	72	0.38	12,656	65.96	698	53	0.28	15,617	81.39
609	66	0.34	9,749	50.81	654	67	0.35	12,723	66.31	699	66	0.34	15,683	81.74
610	70	0.36	9,819	51.18	655	81	0.42	12,804	66.73	700	70	0.36	15,753	82.10
611	77	0.40	9,896	51.58	656	60	0.31	12,864	67.05	701	59	0.31	15,812	82.41
612	64	0.33	9,960	51.91	657	75	0.39	12,939	67.44	702	59	0.31	15,871	82.72
613	61	0.32	10,021	52.23	658	80	0.42	13,019	67.85	703	57	0.30	15,928	83.01
614	69	0.36	10,090	52.59	659	80	0.42	13,099	68.27	704	50	0.26	15,978	83.28

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
705	48	0.25	16,026	83.53	750	33	0.17	18,017	93.90	795	14	0.07	18,891	98.46
706	59	0.31	16,085	83.83	751	35	0.18	18,052	94.08	796	13	0.07	18,904	98.53
707	51	0.27	16,136	84.10	752	23	0.12	18,075	94.20	797	6	0.03	18,910	98.56
708	71	0.37	16,207	84.47	753	20	0.10	18,095	94.31	798	10	0.05	18,920	98.61
709	57	0.30	16,264	84.77	754	37	0.19	18,132	94.50	799	12	0.06	18,932	98.67
710	41	0.21	16,305	84.98	755	35	0.18	18,167	94.68	800	10	0.05	18,942	98.72
711	46	0.24	16,351	85.22	756	35	0.18	18,202	94.87	801	12	0.06	18,954	98.79
712	50	0.26	16,401	85.48	757	29	0.15	18,231	95.02	802	14	0.07	18,968	98.86
713	48	0.25	16,449	85.73	758	21	0.11	18,252	95.13	803	9	0.05	18,977	98.91
714	47	0.24	16,496	85.97	759	24	0.13	18,276	95.25	804	4	0.02	18,981	98.93
715	47	0.24	16,543	86.22	760	21	0.11	18,297	95.36	805	3	0.02	18,984	98.94
716	45	0.23	16,588	86.45	761	25	0.13	18,322	95.49	806	8	0.04	18,992	98.98
717	49	0.26	16,637	86.71	762	25	0.13	18,347	95.62	807	6	0.03	18,998	99.01
718	48	0.25	16,685	86.96	763	25	0.13	18,372	95.75	808	7	0.04	19,005	99.05
719	44	0.23	16,729	87.19	764	29	0.15	18,401	95.90	809	9	0.05	19,014	99.10
720	42	0.22	16,771	87.41	765	23	0.12	18,424	96.02	810	6	0.03	19,020	99.13
721	37	0.19	16,808	87.60	766	27	0.14	18,451	96.16	811	5	0.03	19,025	99.16
722	49	0.26	16,857	87.86	767	16	0.08	18,467	96.25	812	4	0.02	19,029	99.18
723	47	0.24	16,904	88.10	768	17	0.09	18,484	96.34	813	8	0.04	19,037	99.22
724	53	0.28	16,957	88.38	769	18	0.09	18,502	96.43	814	4	0.02	19,041	99.24
725	60	0.31	17,017	88.69	770	23	0.12	18,525	96.55	815	6	0.03	19,047	99.27
726	41	0.21	17,058	88.90	771	14	0.07	18,539	96.62	816	5	0.03	19,052	99.30
727	42	0.22	17,100	89.12	772	22	0.11	18,561	96.74	817	1	0.01	19,053	99.30
728	43	0.22	17,143	89.35	773	20	0.10	18,581	96.84	818	2	0.01	19,055	99.31
729	37	0.19	17,180	89.54	774	15	0.08	18,596	96.92	819	7	0.04	19,062	99.35
730	51	0.27	17,231	89.81	775	19	0.10	18,615	97.02	820	5	0.03	19,067	99.37
731	43	0.22	17,274	90.03	776	14	0.07	18,629	97.09	821	7	0.04	19,074	99.41
732	48	0.25	17,322	90.28	777	19	0.10	18,648	97.19	822	4	0.02	19,078	99.43
733	40	0.21	17,362	90.49	778	13	0.07	18,661	97.26	823	1	0.01	19,079	99.44
734	43	0.22	17,405	90.71	779	21	0.11	18,682	97.37	824	3	0.02	19,082	99.45
735	37	0.19	17,442	90.91	780	18	0.09	18,700	97.46	825	3	0.02	19,085	99.47
736	40	0.21	17,482	91.11	781	24	0.13	18,724	97.59	826	4	0.02	19,089	99.49
737	56	0.29	17,538	91.41	782	12	0.06	18,736	97.65	827	3	0.02	19,092	99.50
738	47	0.24	17,585	91.65	783	15	0.08	18,751	97.73	828	3	0.02	19,095	99.52
739	38	0.20	17,623	91.85	784	13	0.07	18,764	97.80	829	2	0.01	19,097	99.53
740	37	0.19	17,660	92.04	785	11	0.06	18,775	97.85	830	2	0.01	19,099	99.54
741	49	0.26	17,709	92.30	786	17	0.09	18,792	97.94	831	4	0.02	19,103	99.56
742	30	0.16	17,739	92.45	787	8	0.04	18,800	97.98	832	1	0.01	19,104	99.57
743	40	0.21	17,779	92.66	788	7	0.04	18,807	98.02	833	5	0.03	19,109	99.59
744	36	0.19	17,815	92.85	789	10	0.05	18,817	98.07	834	1	0.01	19,110	99.60
745	40	0.21	17,855	93.06	790	13	0.07	18,830	98.14	835	2	0.01	19,112	99.61
746	34	0.18	17,889	93.24	791	13	0.07	18,843	98.21	836	5	0.03	19,117	99.64
747	30	0.16	17,919	93.39	792	9	0.05	18,852	98.25	837	1	0.01	19,118	99.64
748	33	0.17	17,952	93.56	793	9	0.05	18,861	98.30	838	1	0.01	19,119	99.65
749	32	0.17	17,984	93.73	794	16	0.08	18,877	98.38	839	4	0.02	19,123	99.67

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

SS	Freq	%	Cum Freq	Cum %
840	2	0.01	19,125	99.68
841	3	0.02	19,128	99.69
842	4	0.02	19,132	99.71
844	2	0.01	19,134	99.72
845	4	0.02	19,138	99.74
846	2	0.01	19,140	99.76
847	3	0.02	19,143	99.77
849	4	0.02	19,147	99.79
850	1	0.01	19,148	99.80
852	3	0.02	19,151	99.81
855	1	0.01	19,152	99.82
856	1	0.01	19,153	99.82
857	2	0.01	19,155	99.83
859	1	0.01	19,156	99.84
860	2	0.01	19,158	99.85
863	2	0.01	19,160	99.86
865	2	0.01	19,162	99.87
866	3	0.02	19,165	99.89
867	1	0.01	19,166	99.89
868	1	0.01	19,167	99.90
869	1	0.01	19,168	99.90
870	1	0.01	19,169	99.91
871	5	0.03	19,174	99.93
873	1	0.01	19,175	99.94
878	1	0.01	19,176	99.94
880	1	0.01	19,177	99.95
882	1	0.01	19,178	99.95
883	1	0.01	19,179	99.96
887	1	0.01	19,180	99.96
889	1	0.01	19,181	99.97
891	1	0.01	19,182	99.97
896	1	0.01	19,183	99.98
900	4	0.02	19,187	100.00

Table 33. Grade 8 Science Cumulative Frequency Distribution of Scale Scores

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
300	2,421	4.15	2,421	4.15	345	31	0.05	3,587	6.14	390	51	0.09	5,419	9.28
301	28	0.05	2,449	4.19	346	37	0.06	3,624	6.21	391	41	0.07	5,460	9.35
302	25	0.04	2,474	4.24	347	27	0.05	3,651	6.25	392	48	0.08	5,508	9.43
303	20	0.03	2,494	4.27	348	27	0.05	3,678	6.30	393	58	0.10	5,566	9.53
304	20	0.03	2,514	4.31	349	40	0.07	3,718	6.37	394	41	0.07	5,607	9.60
305	19	0.03	2,533	4.34	350	40	0.07	3,758	6.44	395	49	0.08	5,656	9.69
306	25	0.04	2,558	4.38	351	46	0.08	3,804	6.51	396	67	0.11	5,723	9.80
307	20	0.03	2,578	4.42	352	32	0.05	3,836	6.57	397	53	0.09	5,776	9.89
308	16	0.03	2,594	4.44	353	33	0.06	3,869	6.63	398	46	0.08	5,822	9.97
309	16	0.03	2,610	4.47	354	37	0.06	3,906	6.69	399	60	0.10	5,882	10.07
310	22	0.04	2,632	4.51	355	33	0.06	3,939	6.75	400	57	0.10	5,939	10.17
311	19	0.03	2,651	4.54	356	26	0.04	3,965	6.79	401	55	0.09	5,994	10.27
312	16	0.03	2,667	4.57	357	34	0.06	3,999	6.85	402	42	0.07	6,036	10.34
313	19	0.03	2,686	4.60	358	31	0.05	4,030	6.90	403	57	0.10	6,093	10.43
314	19	0.03	2,705	4.63	359	38	0.07	4,068	6.97	404	45	0.08	6,138	10.51
315	31	0.05	2,736	4.69	360	34	0.06	4,102	7.03	405	53	0.09	6,191	10.60
316	23	0.04	2,759	4.73	361	35	0.06	4,137	7.08	406	56	0.10	6,247	10.70
317	23	0.04	2,782	4.76	362	42	0.07	4,179	7.16	407	64	0.11	6,311	10.81
318	24	0.04	2,806	4.81	363	42	0.07	4,221	7.23	408	61	0.10	6,372	10.91
319	13	0.02	2,819	4.83	364	31	0.05	4,252	7.28	409	47	0.08	6,419	10.99
320	33	0.06	2,852	4.88	365	27	0.05	4,279	7.33	410	64	0.11	6,483	11.10
321	32	0.05	2,884	4.94	366	39	0.07	4,318	7.39	411	61	0.10	6,544	11.21
322	28	0.05	2,912	4.99	367	41	0.07	4,359	7.47	412	69	0.12	6,613	11.33
323	31	0.05	2,943	5.04	368	50	0.09	4,409	7.55	413	54	0.09	6,667	11.42
324	19	0.03	2,962	5.07	369	48	0.08	4,457	7.63	414	51	0.09	6,718	11.51
325	20	0.03	2,982	5.11	370	48	0.08	4,505	7.72	415	51	0.09	6,769	11.59
326	25	0.04	3,007	5.15	371	45	0.08	4,550	7.79	416	57	0.10	6,826	11.69
327	28	0.05	3,035	5.20	372	46	0.08	4,596	7.87	417	65	0.11	6,891	11.80
328	30	0.05	3,065	5.25	373	28	0.05	4,624	7.92	418	60	0.10	6,951	11.90
329	25	0.04	3,090	5.29	374	38	0.07	4,662	7.98	419	69	0.12	7,020	12.02
330	27	0.05	3,117	5.34	375	45	0.08	4,707	8.06	420	63	0.11	7,083	12.13
331	26	0.04	3,143	5.38	376	48	0.08	4,755	8.14	421	57	0.10	7,140	12.23
332	35	0.06	3,178	5.44	377	46	0.08	4,801	8.22	422	64	0.11	7,204	12.34
333	38	0.07	3,216	5.51	378	56	0.10	4,857	8.32	423	56	0.10	7,260	12.43
334	26	0.04	3,242	5.55	379	43	0.07	4,900	8.39	424	66	0.11	7,326	12.55
335	31	0.05	3,273	5.61	380	53	0.09	4,953	8.48	425	60	0.10	7,386	12.65
336	42	0.07	3,315	5.68	381	44	0.08	4,997	8.56	426	59	0.10	7,445	12.75
337	30	0.05	3,345	5.73	382	37	0.06	5,034	8.62	427	71	0.12	7,516	12.87
338	34	0.06	3,379	5.79	383	40	0.07	5,074	8.69	428	73	0.13	7,589	13.00
339	25	0.04	3,404	5.83	384	55	0.09	5,129	8.78	429	75	0.13	7,664	13.13
340	25	0.04	3,429	5.87	385	46	0.08	5,175	8.86	430	67	0.11	7,731	13.24
341	35	0.06	3,464	5.93	386	43	0.07	5,218	8.94	431	76	0.13	7,807	13.37
342	29	0.05	3,493	5.98	387	42	0.07	5,260	9.01	432	88	0.15	7,895	13.52
343	31	0.05	3,524	6.04	388	49	0.08	5,309	9.09	433	66	0.11	7,961	13.63
344	32	0.05	3,556	6.09	389	59	0.10	5,368	9.19	434	81	0.14	8,042	13.77

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
435	64	0.11	8,106	13.88	480	98	0.17	12,281	21.03	525	136	0.23	18,020	30.86
436	76	0.13	8,182	14.01	481	99	0.17	12,380	21.20	526	138	0.24	18,158	31.10
437	70	0.12	8,252	14.13	482	131	0.22	12,511	21.43	527	143	0.24	18,301	31.34
438	78	0.13	8,330	14.27	483	94	0.16	12,605	21.59	528	123	0.21	18,424	31.55
439	88	0.15	8,418	14.42	484	131	0.22	12,736	21.81	529	145	0.25	18,569	31.80
440	72	0.12	8,490	14.54	485	97	0.17	12,833	21.98	530	152	0.26	18,721	32.06
441	64	0.11	8,554	14.65	486	129	0.22	12,962	22.20	531	138	0.24	18,859	32.30
442	80	0.14	8,634	14.79	487	114	0.20	13,076	22.39	532	134	0.23	18,993	32.53
443	81	0.14	8,715	14.93	488	113	0.19	13,189	22.59	533	139	0.24	19,132	32.77
444	86	0.15	8,801	15.07	489	104	0.18	13,293	22.77	534	152	0.26	19,284	33.03
445	73	0.13	8,874	15.20	490	121	0.21	13,414	22.97	535	146	0.25	19,430	33.28
446	75	0.13	8,949	15.33	491	126	0.22	13,540	23.19	536	136	0.23	19,566	33.51
447	81	0.14	9,030	15.46	492	108	0.18	13,648	23.37	537	154	0.26	19,720	33.77
448	85	0.15	9,115	15.61	493	107	0.18	13,755	23.56	538	148	0.25	19,868	34.03
449	76	0.13	9,191	15.74	494	122	0.21	13,877	23.77	539	150	0.26	20,018	34.28
450	89	0.15	9,280	15.89	495	120	0.21	13,997	23.97	540	158	0.27	20,176	34.55
451	103	0.18	9,383	16.07	496	134	0.23	14,131	24.20	541	166	0.28	20,342	34.84
452	91	0.16	9,474	16.23	497	139	0.24	14,270	24.44	542	131	0.22	20,473	35.06
453	91	0.16	9,565	16.38	498	104	0.18	14,374	24.62	543	154	0.26	20,627	35.33
454	89	0.15	9,654	16.53	499	123	0.21	14,497	24.83	544	150	0.26	20,777	35.58
455	82	0.14	9,736	16.67	500	121	0.21	14,618	25.03	545	154	0.26	20,931	35.85
456	97	0.17	9,833	16.84	501	137	0.23	14,755	25.27	546	174	0.30	21,105	36.14
457	88	0.15	9,921	16.99	502	131	0.22	14,886	25.49	547	180	0.31	21,285	36.45
458	98	0.17	10,019	17.16	503	123	0.21	15,009	25.70	548	153	0.26	21,438	36.71
459	95	0.16	10,114	17.32	504	124	0.21	15,133	25.92	549	171	0.29	21,609	37.01
460	90	0.15	10,204	17.48	505	107	0.18	15,240	26.10	550	171	0.29	21,780	37.30
461	97	0.17	10,301	17.64	506	109	0.19	15,349	26.29	551	189	0.32	21,969	37.62
462	105	0.18	10,406	17.82	507	145	0.25	15,494	26.53	552	157	0.27	22,126	37.89
463	85	0.15	10,491	17.97	508	120	0.21	15,614	26.74	553	127	0.22	22,253	38.11
464	117	0.20	10,608	18.17	509	132	0.23	15,746	26.97	554	165	0.28	22,418	38.39
465	99	0.17	10,707	18.34	510	143	0.24	15,889	27.21	555	161	0.28	22,579	38.67
466	89	0.15	10,796	18.49	511	131	0.22	16,020	27.44	556	169	0.29	22,748	38.96
467	85	0.15	10,881	18.63	512	137	0.23	16,157	27.67	557	176	0.30	22,924	39.26
468	91	0.16	10,972	18.79	513	147	0.25	16,304	27.92	558	202	0.35	23,126	39.61
469	95	0.16	11,067	18.95	514	121	0.21	16,425	28.13	559	166	0.28	23,292	39.89
470	106	0.18	11,173	19.13	515	139	0.24	16,564	28.37	560	153	0.26	23,445	40.15
471	116	0.20	11,289	19.33	516	164	0.28	16,728	28.65	561	159	0.27	23,604	40.42
472	107	0.18	11,396	19.52	517	160	0.27	16,888	28.92	562	167	0.29	23,771	40.71
473	121	0.21	11,517	19.72	518	157	0.27	17,045	29.19	563	177	0.30	23,948	41.01
474	119	0.20	11,636	19.93	519	122	0.21	17,167	29.40	564	179	0.31	24,127	41.32
475	110	0.19	11,746	20.12	520	136	0.23	17,303	29.63	565	153	0.26	24,280	41.58
476	116	0.20	11,862	20.31	521	133	0.23	17,436	29.86	566	168	0.29	24,448	41.87
477	105	0.18	11,967	20.49	522	173	0.30	17,609	30.16	567	160	0.27	24,608	42.14
478	102	0.17	12,069	20.67	523	130	0.22	17,739	30.38	568	152	0.26	24,760	42.40
479	114	0.20	12,183	20.86	524	145	0.25	17,884	30.63	569	180	0.31	24,940	42.71

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
570	154	0.26	25,094	42.98	615	197	0.34	33,199	56.86	660	180	0.31	41,688	71.39
571	195	0.33	25,289	43.31	616	202	0.35	33,401	57.20	661	186	0.32	41,874	71.71
572	182	0.31	25,471	43.62	617	213	0.36	33,614	57.57	662	183	0.31	42,057	72.03
573	174	0.30	25,645	43.92	618	200	0.34	33,814	57.91	663	189	0.32	42,246	72.35
574	155	0.27	25,800	44.18	619	210	0.36	34,024	58.27	664	183	0.31	42,429	72.66
575	176	0.30	25,976	44.49	620	185	0.32	34,209	58.59	665	170	0.29	42,599	72.95
576	180	0.31	26,156	44.79	621	174	0.30	34,383	58.88	666	170	0.29	42,769	73.25
577	179	0.31	26,335	45.10	622	183	0.31	34,566	59.20	667	185	0.32	42,954	73.56
578	148	0.25	26,483	45.35	623	220	0.38	34,786	59.57	668	181	0.31	43,135	73.87
579	168	0.29	26,651	45.64	624	187	0.32	34,973	59.89	669	171	0.29	43,306	74.17
580	166	0.28	26,817	45.93	625	184	0.32	35,157	60.21	670	177	0.30	43,483	74.47
581	194	0.33	27,011	46.26	626	214	0.37	35,371	60.58	671	183	0.31	43,666	74.78
582	152	0.26	27,163	46.52	627	209	0.36	35,580	60.93	672	157	0.27	43,823	75.05
583	192	0.33	27,355	46.85	628	191	0.33	35,771	61.26	673	156	0.27	43,979	75.32
584	182	0.31	27,537	47.16	629	185	0.32	35,956	61.58	674	190	0.33	44,169	75.64
585	177	0.30	27,714	47.46	630	181	0.31	36,137	61.89	675	179	0.31	44,348	75.95
586	181	0.31	27,895	47.77	631	173	0.30	36,310	62.18	676	182	0.31	44,530	76.26
587	195	0.33	28,090	48.11	632	178	0.30	36,488	62.49	677	178	0.30	44,708	76.57
588	153	0.26	28,243	48.37	633	165	0.28	36,653	62.77	678	174	0.30	44,882	76.86
589	211	0.36	28,454	48.73	634	194	0.33	36,847	63.10	679	137	0.23	45,019	77.10
590	184	0.32	28,638	49.05	635	194	0.33	37,041	63.44	680	162	0.28	45,181	77.38
591	175	0.30	28,813	49.34	636	181	0.31	37,222	63.75	681	167	0.29	45,348	77.66
592	229	0.39	29,042	49.74	637	191	0.33	37,413	64.07	682	167	0.29	45,515	77.95
593	184	0.32	29,226	50.05	638	183	0.31	37,596	64.39	683	156	0.27	45,671	78.22
594	164	0.28	29,390	50.33	639	184	0.32	37,780	64.70	684	143	0.24	45,814	78.46
595	192	0.33	29,582	50.66	640	195	0.33	37,975	65.04	685	181	0.31	45,995	78.77
596	187	0.32	29,769	50.98	641	169	0.29	38,144	65.33	686	175	0.30	46,170	79.07
597	185	0.32	29,954	51.30	642	206	0.35	38,350	65.68	687	175	0.30	46,345	79.37
598	189	0.32	30,143	51.62	643	201	0.34	38,551	66.02	688	160	0.27	46,505	79.64
599	181	0.31	30,324	51.93	644	163	0.28	38,714	66.30	689	144	0.25	46,649	79.89
600	197	0.34	30,521	52.27	645	170	0.29	38,884	66.59	690	147	0.25	46,796	80.14
601	174	0.30	30,695	52.57	646	185	0.32	39,069	66.91	691	160	0.27	46,956	80.42
602	165	0.28	30,860	52.85	647	203	0.35	39,272	67.26	692	149	0.26	47,105	80.67
603	187	0.32	31,047	53.17	648	191	0.33	39,463	67.58	693	179	0.31	47,284	80.98
604	153	0.26	31,200	53.43	649	181	0.31	39,644	67.89	694	146	0.25	47,430	81.23
605	165	0.28	31,365	53.72	650	196	0.34	39,840	68.23	695	149	0.26	47,579	81.48
606	176	0.30	31,541	54.02	651	178	0.30	40,018	68.53	696	129	0.22	47,708	81.70
607	188	0.32	31,729	54.34	652	175	0.30	40,193	68.83	697	134	0.23	47,842	81.93
608	197	0.34	31,926	54.68	653	196	0.34	40,389	69.17	698	153	0.26	47,995	82.20
609	179	0.31	32,105	54.98	654	190	0.33	40,579	69.50	699	164	0.28	48,159	82.48
610	151	0.26	32,256	55.24	655	207	0.35	40,786	69.85	700	155	0.27	48,314	82.74
611	194	0.33	32,450	55.57	656	189	0.32	40,975	70.17	701	137	0.23	48,451	82.98
612	187	0.32	32,637	55.89	657	167	0.29	41,142	70.46	702	129	0.22	48,580	83.20
613	164	0.28	32,801	56.17	658	197	0.34	41,339	70.80	703	129	0.22	48,709	83.42
614	201	0.34	33,002	56.52	659	169	0.29	41,508	71.09	704	147	0.25	48,856	83.67

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
705	168	0.29	49,024	83.96	750	95	0.16	54,181	92.79	795	37	0.06	56,936	97.51
706	126	0.22	49,150	84.17	751	102	0.17	54,283	92.96	796	30	0.05	56,966	97.56
707	122	0.21	49,272	84.38	752	78	0.13	54,361	93.10	797	33	0.06	56,999	97.62
708	129	0.22	49,401	84.60	753	76	0.13	54,437	93.23	798	48	0.08	57,047	97.70
709	145	0.25	49,546	84.85	754	100	0.17	54,537	93.40	799	21	0.04	57,068	97.73
710	141	0.24	49,687	85.09	755	87	0.15	54,624	93.55	800	55	0.09	57,123	97.83
711	141	0.24	49,828	85.34	756	74	0.13	54,698	93.68	801	17	0.03	57,140	97.86
712	124	0.21	49,952	85.55	757	76	0.13	54,774	93.81	802	28	0.05	57,168	97.91
713	131	0.22	50,083	85.77	758	71	0.12	54,845	93.93	803	29	0.05	57,197	97.96
714	138	0.24	50,221	86.01	759	72	0.12	54,917	94.05	804	26	0.04	57,223	98.00
715	138	0.24	50,359	86.24	760	79	0.14	54,996	94.19	805	25	0.04	57,248	98.04
716	116	0.20	50,475	86.44	761	75	0.13	55,071	94.31	806	30	0.05	57,278	98.09
717	132	0.23	50,607	86.67	762	95	0.16	55,166	94.48	807	33	0.06	57,311	98.15
718	120	0.21	50,727	86.87	763	80	0.14	55,246	94.61	808	33	0.06	57,344	98.21
719	119	0.20	50,846	87.08	764	69	0.12	55,315	94.73	809	34	0.06	57,378	98.27
720	140	0.24	50,986	87.32	765	77	0.13	55,392	94.86	810	21	0.04	57,399	98.30
721	138	0.24	51,124	87.55	766	71	0.12	55,463	94.99	811	29	0.05	57,428	98.35
722	132	0.23	51,256	87.78	767	74	0.13	55,537	95.11	812	30	0.05	57,458	98.40
723	134	0.23	51,390	88.01	768	66	0.11	55,603	95.23	813	32	0.05	57,490	98.46
724	127	0.22	51,517	88.23	769	60	0.10	55,663	95.33	814	21	0.04	57,511	98.49
725	131	0.22	51,648	88.45	770	61	0.10	55,724	95.43	815	27	0.05	57,538	98.54
726	114	0.20	51,762	88.65	771	58	0.10	55,782	95.53	816	26	0.04	57,564	98.58
727	119	0.20	51,881	88.85	772	52	0.09	55,834	95.62	817	15	0.03	57,579	98.61
728	133	0.23	52,014	89.08	773	60	0.10	55,894	95.72	818	31	0.05	57,610	98.66
729	102	0.17	52,116	89.25	774	47	0.08	55,941	95.80	819	33	0.06	57,643	98.72
730	108	0.18	52,224	89.44	775	49	0.08	55,990	95.89	820	23	0.04	57,666	98.76
731	107	0.18	52,331	89.62	776	60	0.10	56,050	95.99	821	14	0.02	57,680	98.78
732	104	0.18	52,435	89.80	777	47	0.08	56,097	96.07	822	19	0.03	57,699	98.81
733	102	0.17	52,537	89.97	778	62	0.11	56,159	96.18	823	17	0.03	57,716	98.84
734	104	0.18	52,641	90.15	779	43	0.07	56,202	96.25	824	20	0.03	57,736	98.88
735	106	0.18	52,747	90.33	780	61	0.10	56,263	96.36	825	23	0.04	57,759	98.92
736	109	0.19	52,856	90.52	781	58	0.10	56,321	96.45	826	20	0.03	57,779	98.95
737	92	0.16	52,948	90.68	782	53	0.09	56,374	96.55	827	25	0.04	57,804	98.99
738	85	0.15	53,033	90.82	783	50	0.09	56,424	96.63	828	16	0.03	57,820	99.02
739	98	0.17	53,131	90.99	784	39	0.07	56,463	96.70	829	17	0.03	57,837	99.05
740	100	0.17	53,231	91.16	785	40	0.07	56,503	96.77	830	19	0.03	57,856	99.08
741	116	0.20	53,347	91.36	786	53	0.09	56,556	96.86	831	22	0.04	57,878	99.12
742	95	0.16	53,442	91.52	787	58	0.10	56,614	96.96	832	7	0.01	57,885	99.13
743	106	0.18	53,548	91.71	788	38	0.07	56,652	97.02	833	16	0.03	57,901	99.16
744	105	0.18	53,653	91.89	789	39	0.07	56,691	97.09	834	15	0.03	57,916	99.19
745	91	0.16	53,744	92.04	790	55	0.09	56,746	97.18	835	11	0.02	57,927	99.21
746	77	0.13	53,821	92.17	791	45	0.08	56,791	97.26	836	11	0.02	57,938	99.22
747	85	0.15	53,906	92.32	792	38	0.07	56,829	97.32	837	18	0.03	57,956	99.26
748	90	0.15	53,996	92.47	793	32	0.05	56,861	97.38	838	12	0.02	57,968	99.28
749	90	0.15	54,086	92.63	794	38	0.07	56,899	97.44	839	14	0.02	57,982	99.30

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
840	14	0.02	57,996	99.32	885	2	0.00	58,314	99.87
841	7	0.01	58,003	99.34	886	3	0.01	58,317	99.87
842	22	0.04	58,025	99.37	888	3	0.01	58,320	99.88
843	13	0.02	58,038	99.40	889	2	0.00	58,322	99.88
844	4	0.01	58,042	99.40	890	1	0.00	58,323	99.88
845	10	0.02	58,052	99.42	891	1	0.00	58,324	99.89
846	12	0.02	58,064	99.44	892	2	0.00	58,326	99.89
847	13	0.02	58,077	99.46	893	2	0.00	58,328	99.89
848	7	0.01	58,084	99.47	894	1	0.00	58,329	99.89
849	9	0.02	58,093	99.49	896	1	0.00	58,330	99.90
850	11	0.02	58,104	99.51	897	4	0.01	58,334	99.90
851	10	0.02	58,114	99.53	898	2	0.00	58,336	99.91
852	8	0.01	58,122	99.54	900	55	0.09	58,391	100.00
853	7	0.01	58,129	99.55					
854	8	0.01	58,137	99.57					
855	8	0.01	58,145	99.58					
856	7	0.01	58,152	99.59					
857	5	0.01	58,157	99.60					
858	7	0.01	58,164	99.61					
859	4	0.01	58,168	99.62					
860	11	0.02	58,179	99.64					
861	7	0.01	58,186	99.65					
862	8	0.01	58,194	99.66					
863	12	0.02	58,206	99.68					
864	7	0.01	58,213	99.70					
865	6	0.01	58,219	99.71					
866	7	0.01	58,226	99.72					
867	4	0.01	58,230	99.72					
868	6	0.01	58,236	99.73					
869	2	0.00	58,238	99.74					
870	10	0.02	58,248	99.76					
871	5	0.01	58,253	99.76					
872	6	0.01	58,259	99.77					
873	5	0.01	58,264	99.78					
874	9	0.02	58,273	99.80					
875	5	0.01	58,278	99.81					
876	5	0.01	58,283	99.82					
877	5	0.01	58,288	99.82					
878	6	0.01	58,294	99.83					
879	4	0.01	58,298	99.84					
880	1	0.00	58,299	99.84					
881	3	0.01	58,302	99.85					
882	5	0.01	58,307	99.86					
883	2	0.00	58,309	99.86					
884	3	0.01	58,312	99.86					

Table 34. High School Science Frequency Distribution of Scale Scores

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
300	1,172	3.07	1,172	3.07	345	19	0.05	1,832	4.79	390	24	0.06	2,816	7.36
301	10	0.03	1,182	3.09	346	20	0.05	1,852	4.84	391	24	0.06	2,840	7.43
302	12	0.03	1,194	3.12	347	17	0.04	1,869	4.89	392	35	0.09	2,875	7.52
303	11	0.03	1,205	3.15	348	13	0.03	1,882	4.92	393	33	0.09	2,908	7.61
304	12	0.03	1,217	3.18	349	15	0.04	1,897	4.96	394	21	0.05	2,929	7.66
305	12	0.03	1,229	3.21	350	25	0.07	1,922	5.03	395	28	0.07	2,957	7.73
306	12	0.03	1,241	3.25	351	21	0.05	1,943	5.08	396	28	0.07	2,985	7.81
307	9	0.02	1,250	3.27	352	17	0.04	1,960	5.13	397	29	0.08	3,014	7.88
308	7	0.02	1,257	3.29	353	25	0.07	1,985	5.19	398	38	0.10	3,052	7.98
309	16	0.04	1,273	3.33	354	24	0.06	2,009	5.25	399	42	0.11	3,094	8.09
310	12	0.03	1,285	3.36	355	21	0.05	2,030	5.31	400	38	0.10	3,132	8.19
311	13	0.03	1,298	3.39	356	22	0.06	2,052	5.37	401	30	0.08	3,162	8.27
312	15	0.04	1,313	3.43	357	16	0.04	2,068	5.41	402	36	0.09	3,198	8.36
313	12	0.03	1,325	3.47	358	19	0.05	2,087	5.46	403	41	0.11	3,239	8.47
314	11	0.03	1,336	3.49	359	21	0.05	2,108	5.51	404	32	0.08	3,271	8.55
315	18	0.05	1,354	3.54	360	16	0.04	2,124	5.55	405	35	0.09	3,306	8.65
316	16	0.04	1,370	3.58	361	15	0.04	2,139	5.59	406	31	0.08	3,337	8.73
317	9	0.02	1,379	3.61	362	16	0.04	2,155	5.64	407	41	0.11	3,378	8.83
318	7	0.02	1,386	3.62	363	13	0.03	2,168	5.67	408	36	0.09	3,414	8.93
319	13	0.03	1,399	3.66	364	14	0.04	2,182	5.71	409	45	0.12	3,459	9.05
320	13	0.03	1,412	3.69	365	27	0.07	2,209	5.78	410	53	0.14	3,512	9.18
321	9	0.02	1,421	3.72	366	14	0.04	2,223	5.81	411	34	0.09	3,546	9.27
322	18	0.05	1,439	3.76	367	19	0.05	2,242	5.86	412	45	0.12	3,591	9.39
323	81	0.21	1,520	3.98	368	20	0.05	2,262	5.92	413	44	0.12	3,635	9.51
324	11	0.03	1,531	4.00	369	19	0.05	2,281	5.97	414	37	0.10	3,672	9.60
325	11	0.03	1,542	4.03	370	13	0.03	2,294	6.00	415	43	0.11	3,715	9.72
326	14	0.04	1,556	4.07	371	29	0.08	2,323	6.08	416	56	0.15	3,771	9.86
327	13	0.03	1,569	4.10	372	31	0.08	2,354	6.16	417	32	0.08	3,803	9.95
328	14	0.04	1,583	4.14	373	24	0.06	2,378	6.22	418	37	0.10	3,840	10.04
329	14	0.04	1,597	4.18	374	30	0.08	2,408	6.30	419	47	0.12	3,887	10.17
330	20	0.05	1,617	4.23	375	35	0.09	2,443	6.39	420	46	0.12	3,933	10.29
331	18	0.05	1,635	4.28	376	19	0.05	2,462	6.44	421	51	0.13	3,984	10.42
332	12	0.03	1,647	4.31	377	25	0.07	2,487	6.50	422	47	0.12	4,031	10.54
333	12	0.03	1,659	4.34	378	18	0.05	2,505	6.55	423	34	0.09	4,065	10.63
334	11	0.03	1,670	4.37	379	23	0.06	2,528	6.61	424	41	0.11	4,106	10.74
335	16	0.04	1,686	4.41	380	26	0.07	2,554	6.68	425	47	0.12	4,153	10.86
336	8	0.02	1,694	4.43	381	20	0.05	2,574	6.73	426	41	0.11	4,194	10.97
337	12	0.03	1,706	4.46	382	33	0.09	2,607	6.82	427	51	0.13	4,245	11.10
338	20	0.05	1,726	4.51	383	26	0.07	2,633	6.89	428	50	0.13	4,295	11.23
339	17	0.04	1,743	4.56	384	19	0.05	2,652	6.94	429	41	0.11	4,336	11.34
340	13	0.03	1,756	4.59	385	29	0.08	2,681	7.01	430	48	0.13	4,384	11.47
341	17	0.04	1,773	4.64	386	31	0.08	2,712	7.09	431	37	0.10	4,421	11.56
342	17	0.04	1,790	4.68	387	29	0.08	2,741	7.17	432	46	0.12	4,467	11.68
343	10	0.03	1,800	4.71	388	22	0.06	2,763	7.23	433	50	0.13	4,517	11.81
344	13	0.03	1,813	4.74	389	29	0.08	2,792	7.30	434	39	0.10	4,556	11.92

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
435	55	0.14	4,611	12.06	480	90	0.24	7,452	19.49	525	106	0.28	11,575	30.27
436	39	0.10	4,650	12.16	481	77	0.20	7,529	19.69	526	95	0.25	11,670	30.52
437	59	0.15	4,709	12.32	482	66	0.17	7,595	19.86	527	116	0.30	11,786	30.82
438	54	0.14	4,763	12.46	483	74	0.19	7,669	20.06	528	99	0.26	11,885	31.08
439	49	0.13	4,812	12.58	484	82	0.21	7,751	20.27	529	86	0.22	11,971	31.31
440	45	0.12	4,857	12.70	485	83	0.22	7,834	20.49	530	125	0.33	12,096	31.63
441	60	0.16	4,917	12.86	486	81	0.21	7,915	20.70	531	113	0.30	12,209	31.93
442	42	0.11	4,959	12.97	487	83	0.22	7,998	20.92	532	105	0.27	12,314	32.20
443	66	0.17	5,025	13.14	488	84	0.22	8,082	21.14	533	118	0.31	12,432	32.51
444	56	0.15	5,081	13.29	489	72	0.19	8,154	21.32	534	102	0.27	12,534	32.78
445	69	0.18	5,150	13.47	490	84	0.22	8,238	21.54	535	117	0.31	12,651	33.09
446	61	0.16	5,211	13.63	491	70	0.18	8,308	21.73	536	119	0.31	12,770	33.40
447	52	0.14	5,263	13.76	492	81	0.21	8,389	21.94	537	81	0.21	12,851	33.61
448	65	0.17	5,328	13.93	493	91	0.24	8,480	22.18	538	89	0.23	12,940	33.84
449	51	0.13	5,379	14.07	494	81	0.21	8,561	22.39	539	124	0.32	13,064	34.17
450	59	0.15	5,438	14.22	495	80	0.21	8,641	22.60	540	107	0.28	13,171	34.45
451	51	0.13	5,489	14.36	496	84	0.22	8,725	22.82	541	113	0.30	13,284	34.74
452	53	0.14	5,542	14.49	497	71	0.19	8,796	23.00	542	119	0.31	13,403	35.05
453	56	0.15	5,598	14.64	498	89	0.23	8,885	23.24	543	113	0.30	13,516	35.35
454	61	0.16	5,659	14.80	499	79	0.21	8,964	23.44	544	127	0.33	13,643	35.68
455	62	0.16	5,721	14.96	500	102	0.27	9,066	23.71	545	113	0.30	13,756	35.98
456	69	0.18	5,790	15.14	501	82	0.21	9,148	23.92	546	104	0.27	13,860	36.25
457	56	0.15	5,846	15.29	502	100	0.26	9,248	24.19	547	116	0.30	13,976	36.55
458	66	0.17	5,912	15.46	503	90	0.24	9,338	24.42	548	122	0.32	14,098	36.87
459	59	0.15	5,971	15.62	504	92	0.24	9,430	24.66	549	121	0.32	14,219	37.19
460	64	0.17	6,035	15.78	505	103	0.27	9,533	24.93	550	139	0.36	14,358	37.55
461	61	0.16	6,096	15.94	506	95	0.25	9,628	25.18	551	123	0.32	14,481	37.87
462	60	0.16	6,156	16.10	507	101	0.26	9,729	25.44	552	116	0.30	14,597	38.18
463	69	0.18	6,225	16.28	508	105	0.27	9,834	25.72	553	116	0.30	14,713	38.48
464	76	0.20	6,301	16.48	509	79	0.21	9,913	25.93	554	101	0.26	14,814	38.74
465	78	0.20	6,379	16.68	510	106	0.28	10,019	26.20	555	123	0.32	14,937	39.06
466	66	0.17	6,445	16.86	511	90	0.24	10,109	26.44	556	125	0.33	15,062	39.39
467	63	0.16	6,508	17.02	512	94	0.25	10,203	26.68	557	123	0.32	15,185	39.71
468	69	0.18	6,577	17.20	513	98	0.26	10,301	26.94	558	123	0.32	15,308	40.03
469	70	0.18	6,647	17.38	514	85	0.22	10,386	27.16	559	129	0.34	15,437	40.37
470	59	0.15	6,706	17.54	515	106	0.28	10,492	27.44	560	130	0.34	15,567	40.71
471	81	0.21	6,787	17.75	516	107	0.28	10,599	27.72	561	118	0.31	15,685	41.02
472	60	0.16	6,847	17.91	517	108	0.28	10,707	28.00	562	98	0.26	15,783	41.28
473	76	0.20	6,923	18.11	518	101	0.26	10,808	28.27	563	131	0.34	15,914	41.62
474	64	0.17	6,987	18.27	519	102	0.27	10,910	28.53	564	127	0.33	16,041	41.95
475	72	0.19	7,059	18.46	520	115	0.30	11,025	28.83	565	117	0.31	16,158	42.26
476	65	0.17	7,124	18.63	521	87	0.23	11,112	29.06	566	117	0.31	16,275	42.56
477	86	0.22	7,210	18.86	522	125	0.33	11,237	29.39	567	113	0.30	16,388	42.86
478	72	0.19	7,282	19.04	523	111	0.29	11,348	29.68	568	114	0.30	16,502	43.16
479	80	0.21	7,362	19.25	524	121	0.32	11,469	29.99	569	128	0.33	16,630	43.49

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
570	133	0.35	16,763	43.84	615	124	0.32	22,796	59.62	660	133	0.35	28,834	75.41
571	140	0.37	16,903	44.21	616	143	0.37	22,939	59.99	661	135	0.35	28,969	75.76
572	134	0.35	17,037	44.56	617	145	0.38	23,084	60.37	662	114	0.30	29,083	76.06
573	132	0.35	17,169	44.90	618	139	0.36	23,223	60.73	663	122	0.32	29,205	76.38
574	131	0.34	17,300	45.24	619	134	0.35	23,357	61.08	664	138	0.36	29,343	76.74
575	119	0.31	17,419	45.56	620	136	0.36	23,493	61.44	665	142	0.37	29,485	77.11
576	148	0.39	17,567	45.94	621	150	0.39	23,643	61.83	666	128	0.33	29,613	77.45
577	130	0.34	17,697	46.28	622	147	0.38	23,790	62.22	667	142	0.37	29,755	77.82
578	133	0.35	17,830	46.63	623	138	0.36	23,928	62.58	668	115	0.30	29,870	78.12
579	128	0.33	17,958	46.96	624	135	0.35	24,063	62.93	669	130	0.34	30,000	78.46
580	139	0.36	18,097	47.33	625	139	0.36	24,202	63.29	670	104	0.27	30,104	78.73
581	118	0.31	18,215	47.64	626	146	0.38	24,348	63.68	671	120	0.31	30,224	79.04
582	128	0.33	18,343	47.97	627	144	0.38	24,492	64.05	672	106	0.28	30,330	79.32
583	136	0.36	18,479	48.33	628	137	0.36	24,629	64.41	673	125	0.33	30,455	79.65
584	129	0.34	18,608	48.66	629	149	0.39	24,778	64.80	674	117	0.31	30,572	79.95
585	130	0.34	18,738	49.00	630	125	0.33	24,903	65.13	675	134	0.35	30,706	80.30
586	151	0.39	18,889	49.40	631	125	0.33	25,028	65.45	676	107	0.28	30,813	80.58
587	118	0.31	19,007	49.71	632	136	0.36	25,164	65.81	677	110	0.29	30,923	80.87
588	132	0.35	19,139	50.05	633	146	0.38	25,310	66.19	678	110	0.29	31,033	81.16
589	128	0.33	19,267	50.39	634	132	0.35	25,442	66.54	679	117	0.31	31,150	81.47
590	134	0.35	19,401	50.74	635	133	0.35	25,575	66.89	680	98	0.26	31,248	81.72
591	138	0.36	19,539	51.10	636	126	0.33	25,701	67.22	681	97	0.25	31,345	81.98
592	129	0.34	19,668	51.44	637	133	0.35	25,834	67.56	682	109	0.29	31,454	82.26
593	128	0.33	19,796	51.77	638	128	0.33	25,962	67.90	683	120	0.31	31,574	82.57
594	139	0.36	19,935	52.14	639	140	0.37	26,102	68.26	684	111	0.29	31,685	82.86
595	125	0.33	20,060	52.46	640	128	0.33	26,230	68.60	685	103	0.27	31,788	83.13
596	163	0.43	20,223	52.89	641	118	0.31	26,348	68.91	686	110	0.29	31,898	83.42
597	118	0.31	20,341	53.20	642	138	0.36	26,486	69.27	687	91	0.24	31,989	83.66
598	138	0.36	20,479	53.56	643	119	0.31	26,605	69.58	688	110	0.29	32,099	83.95
599	128	0.33	20,607	53.89	644	130	0.34	26,735	69.92	689	99	0.26	32,198	84.21
600	142	0.37	20,749	54.26	645	157	0.41	26,892	70.33	690	98	0.26	32,296	84.46
601	122	0.32	20,871	54.58	646	122	0.32	27,014	70.65	691	86	0.22	32,382	84.69
602	133	0.35	21,004	54.93	647	125	0.33	27,139	70.98	692	99	0.26	32,481	84.95
603	124	0.32	21,128	55.26	648	131	0.34	27,270	71.32	693	102	0.27	32,583	85.21
604	142	0.37	21,270	55.63	649	129	0.34	27,399	71.66	694	89	0.23	32,672	85.45
605	150	0.39	21,420	56.02	650	120	0.31	27,519	71.97	695	105	0.27	32,777	85.72
606	145	0.38	21,565	56.40	651	139	0.36	27,658	72.33	696	97	0.25	32,874	85.97
607	146	0.38	21,711	56.78	652	127	0.33	27,785	72.67	697	98	0.26	32,972	86.23
608	121	0.32	21,832	57.10	653	122	0.32	27,907	72.98	698	83	0.22	33,055	86.45
609	145	0.38	21,977	57.48	654	138	0.36	28,045	73.35	699	95	0.25	33,150	86.70
610	150	0.39	22,127	57.87	655	140	0.37	28,185	73.71	700	100	0.26	33,250	86.96
611	128	0.33	22,255	58.20	656	135	0.35	28,320	74.06	701	92	0.24	33,342	87.20
612	130	0.34	22,385	58.54	657	128	0.33	28,448	74.40	702	104	0.27	33,446	87.47
613	146	0.38	22,531	58.92	658	148	0.39	28,596	74.79	703	87	0.23	33,533	87.70
614	141	0.37	22,672	59.29	659	105	0.27	28,701	75.06	704	93	0.24	33,626	87.94

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

SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %	SS	Freq	%	Cum Freq	Cum %
705	97	0.25	33,723	88.19	750	39	0.10	36,652	95.85	795	12	0.03	37,890	99.09
706	78	0.20	33,801	88.40	751	47	0.12	36,699	95.98	796	11	0.03	37,901	99.12
707	79	0.21	33,880	88.61	752	54	0.14	36,753	96.12	797	6	0.02	37,907	99.14
708	78	0.20	33,958	88.81	753	49	0.13	36,802	96.25	798	8	0.02	37,915	99.16
709	95	0.25	34,053	89.06	754	45	0.12	36,847	96.36	799	14	0.04	37,929	99.19
710	71	0.19	34,124	89.24	755	39	0.10	36,886	96.47	800	10	0.03	37,939	99.22
711	72	0.19	34,196	89.43	756	31	0.08	36,917	96.55	801	19	0.05	37,958	99.27
712	93	0.24	34,289	89.67	757	26	0.07	36,943	96.62	802	9	0.02	37,967	99.29
713	73	0.19	34,362	89.87	758	40	0.10	36,983	96.72	803	8	0.02	37,975	99.31
714	78	0.20	34,440	90.07	759	33	0.09	37,016	96.81	804	7	0.02	37,982	99.33
715	83	0.22	34,523	90.29	760	31	0.08	37,047	96.89	805	4	0.01	37,986	99.34
716	60	0.16	34,583	90.44	761	40	0.10	37,087	96.99	806	17	0.04	38,003	99.39
717	74	0.19	34,657	90.64	762	39	0.10	37,126	97.09	807	9	0.02	38,012	99.41
718	64	0.17	34,721	90.80	763	27	0.07	37,153	97.17	808	10	0.03	38,022	99.44
719	61	0.16	34,782	90.96	764	30	0.08	37,183	97.24	809	12	0.03	38,034	99.47
720	79	0.21	34,861	91.17	765	47	0.12	37,230	97.37	810	10	0.03	38,044	99.50
721	68	0.18	34,929	91.35	766	37	0.10	37,267	97.46	811	10	0.03	38,054	99.52
722	70	0.18	34,999	91.53	767	24	0.06	37,291	97.53	812	7	0.02	38,061	99.54
723	75	0.20	35,074	91.73	768	22	0.06	37,313	97.58	813	10	0.03	38,071	99.57
724	76	0.20	35,150	91.93	769	26	0.07	37,339	97.65	814	6	0.02	38,077	99.58
725	64	0.17	35,214	92.09	770	26	0.07	37,365	97.72	815	9	0.02	38,086	99.61
726	66	0.17	35,280	92.27	771	33	0.09	37,398	97.81	816	6	0.02	38,092	99.62
727	84	0.22	35,364	92.49	772	21	0.05	37,419	97.86	817	1	0.00	38,093	99.62
728	57	0.15	35,421	92.64	773	28	0.07	37,447	97.93	818	6	0.02	38,099	99.64
729	70	0.18	35,491	92.82	774	20	0.05	37,467	97.99	819	9	0.02	38,108	99.66
730	71	0.19	35,562	93.00	775	22	0.06	37,489	98.04	820	4	0.01	38,112	99.67
731	60	0.16	35,622	93.16	776	30	0.08	37,519	98.12	821	5	0.01	38,117	99.69
732	56	0.15	35,678	93.31	777	28	0.07	37,547	98.20	822	8	0.02	38,125	99.71
733	70	0.18	35,748	93.49	778	30	0.08	37,577	98.27	823	2	0.01	38,127	99.71
734	69	0.18	35,817	93.67	779	23	0.06	37,600	98.33	824	4	0.01	38,131	99.72
735	61	0.16	35,878	93.83	780	24	0.06	37,624	98.40	825	5	0.01	38,136	99.74
736	60	0.16	35,938	93.99	781	23	0.06	37,647	98.46	826	6	0.02	38,142	99.75
737	46	0.12	35,984	94.11	782	20	0.05	37,667	98.51	827	7	0.02	38,149	99.77
738	63	0.16	36,047	94.27	783	25	0.07	37,692	98.57	828	3	0.01	38,152	99.78
739	60	0.16	36,107	94.43	784	18	0.05	37,710	98.62	829	4	0.01	38,156	99.79
740	52	0.14	36,159	94.57	785	20	0.05	37,730	98.67	830	3	0.01	38,159	99.80
741	50	0.13	36,209	94.70	786	24	0.06	37,754	98.74	832	2	0.01	38,161	99.80
742	43	0.11	36,252	94.81	787	18	0.05	37,772	98.78	833	4	0.01	38,165	99.81
743	51	0.13	36,303	94.94	788	20	0.05	37,792	98.84	834	1	0.00	38,166	99.81
744	43	0.11	36,346	95.05	789	11	0.03	37,803	98.86	835	4	0.01	38,170	99.82
745	48	0.13	36,394	95.18	790	18	0.05	37,821	98.91	837	5	0.01	38,175	99.84
746	56	0.15	36,450	95.33	791	18	0.05	37,839	98.96	838	3	0.01	38,178	99.85
747	58	0.15	36,508	95.48	792	22	0.06	37,861	99.02	839	2	0.01	38,180	99.85
748	55	0.14	36,563	95.62	793	8	0.02	37,869	99.04	840	3	0.01	38,183	99.86
749	50	0.13	36,613	95.75	794	9	0.02	37,878	99.06	841	4	0.01	38,187	99.87

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

SS	Freq	%	Cum Freq	Cum %
842	2	0.01	38,189	99.87
843	1	0.00	38,190	99.88
844	3	0.01	38,193	99.88
845	2	0.01	38,195	99.89
847	2	0.01	38,197	99.90
848	1	0.00	38,198	99.90
849	2	0.01	38,200	99.90
850	2	0.01	38,202	99.91
851	4	0.01	38,206	99.92
852	3	0.01	38,209	99.93
853	2	0.01	38,211	99.93
854	1	0.00	38,212	99.93
856	1	0.00	38,213	99.94
857	1	0.00	38,214	99.94
858	1	0.00	38,215	99.94
859	1	0.00	38,216	99.95
860	1	0.00	38,217	99.95
861	2	0.01	38,219	99.95
862	1	0.00	38,220	99.96
863	2	0.01	38,222	99.96
864	1	0.00	38,223	99.96
865	1	0.00	38,224	99.97
868	1	0.00	38,225	99.97
872	1	0.00	38,226	99.97
875	2	0.01	38,228	99.98
878	1	0.00	38,229	99.98
879	1	0.00	38,230	99.98
881	1	0.00	38,231	99.98
886	1	0.00	38,232	99.99
888	1	0.00	38,233	99.99
900	4	0.01	38,237	100.0

Table 35. Scale Score Performance Summary

Content Area	Grade	N	Mean	SD	Median
Social Studies	4	21,069	617	113.6	629
	7	19,187	590	120.3	607
Science	5	65,689	600	111.4	611
	8	58,391	580	126.6	593
	HS	38,237	576	114.5	588

Table 36. Performance Level Distribution

Content Area	Grade	Partially Met Expectations	Approached Expectations	Met Expectations	Exceeded Expectations
Social Studies	4	25.7%	50.4%	20.1%	3.9%
	7	45.2%	36.9%	14.3%	3.6%
Science	5	28.6%	35.4%	31.8%	4.1%
	8	38.7%	29.9%	28.2%	3.3%
	HS	35.1%	44.3%	18.6%	2.1%

*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	606	144.9	629	615	126.0	627	615	128.9	626	599	150.3	632
	7	583	136.3	603	582	138.8	605	588	137.7	605	590	132.1	606
Science	5	600	125.5	614	601	120.5	611	602	120.2	610	600	121.4	611
	8	580	135.5	592	576	137.5	591	578	137.8	594	580	138.6	593
	HS	567	130.5	586	572	124.4	587	567	134.4	589	556	146.3	588

*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	122.1	614	125.0
	7	589	128.1	587	129.5
Science	5	603	117.2	597	121.2
	8	580	132.1	578	133.5
	HS	575	119.1	564	134.8

Table 39. Grade 4 Social Studies Percent Correct Performance Summary by GLE

Content Standard	GLE	Mean	SD	Average Percent Correct
History	1	3.2	2.1	35.9%
	2	3.9	2.4	39.0%
Geography	1	4.9	2.3	44.2%
	2	4.7	2.1	52.0%
Economics	1	4.1	2.2	45.7%
	2	4.1	1.9	51.6%
Civics	1	2.8	2.1	30.6%
	2	3.5	2.4	34.6%

Table 40. Grade 5 Science Percent Correct Performance Summary by GLE

Content Standard	GLE	Mean	SD	Average Percent Correct
Physical Science	1	9.3	4.3	48.8%
Life Science	1	7.1	2.9	54.3%
	2	10.0	3.9	59.1%
Earth Systems Science	1	5.6	2.8	50.9%
	2	4.2	1.9	46.2%
	3	6.0	2.3	59.6%

Table 41. Grade 7 Social Studies Percent Correct Performance Summary by GLE

Content Standard	GLE	Mean	SD	Average Percent Correct
History	1	2.8	1.9	35.6%
	2	4.2	2.8	35.0%
Geography	1	2.8	2.2	30.7%
	2	4.0	2.2	44.4%
Economics	1	4.5	2.1	56.3%
	2	3.1	2.2	38.6%
Civics	1	3.6	2.3	40.2%
	2	4.7	2.3	51.8%

Table 42. Grade 8 Science Percent Correct Performance Summary by GLE

Content Standard	GLE	Mean	SD	Average Percent Correct
Physical Science	1	3.0	2.0	42.7%
	2	3.2	1.8	45.3%
	3	2.5	1.7	35.8%
	4	3.5	1.8	44.6%
Life Science	1	4.5	2.6	41.2%
	2	5.0	3.6	38.2%
Earth Systems Science	1	2.4	1.8	39.5%
	2	2.6	1.7	43.7%
	3	4.0	2.3	50.2%
	4	2.1	1.8	30.2%

Table 43. High School Science Percent Correct Performance Summary by PGC

Content Standard	PGC	Mean	SD	Average Percent Correct
Physical Science	1	2.1	1.8	30.2%
	2	2.8	2.3	24.9%
	3	1.7	1.7	22.0%
Life Science	1	2.1	1.9	26.4%
	2	2.5	2.1	25.4%
	3	1.4	1.1	27.9%
	4	n/a	n/a	n/a
Earth Systems Science	1	3.0	1.8	43.1%
	2	4.4	2.9	31.7%
	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 Social Studies Selected-Response Classical Statistics

Item	% Omit	p-value	Item-Total Corr.
1	0.08	0.58	0.27
2	0.22	0.51	0.50
3	0.07	0.77	0.35
4	0.09	0.83	0.35
5	0.10	0.72	0.37
6	0.21	0.18	0.32
7	0.28	0.67	0.49
8	0.48	0.38	0.38
9	0.59	0.32	0.21
10	3.22	0.14	0.26
11	2.82	0.24	0.43
12	3.21	0.70	0.46
13	5.53	0.58	0.55
14	6.03	0.50	0.46
15	0.09	0.56	0.41
16	0.10	0.21	0.33
17	0.07	0.72	0.40
18	0.08	0.49	0.52
19	0.07	0.40	0.37
20	2.12	0.41	0.22
21	2.26	0.71	0.52
22	2.86	0.55	0.37
23	3.22	0.54	0.40
24	0.07	0.44	0.45
25	0.02	0.54	0.30
26	0.04	0.64	0.28
27	0.29	0.73	0.30
28	0.07	0.43	0.46
29	0.15	0.34	0.33
30	0.40	0.30	0.23
31	0.32	0.56	0.21
32	0.21	0.60	0.36
33	0.79	0.43	0.37
34	0.98	0.56	0.47
35	1.08	0.23	0.29
36	1.32	0.29	0.46
37	1.84	0.51	0.35
38	1.85	0.59	0.43
39	1.94	0.51	0.29

Table 45. Grade 4 Social Studies Constructed-Response Classical Statistics

Item	Omit %	%0	%1	%2	%3	p-value	Item- Total Corr.
1	3.80	50.91	24.04	14.23	7.02	0.25	0.49
2	3.55	35.04	32.39	23.62	5.41	0.32	0.61
3	5.64	38.01	31.18	16.11	9.06	0.30	0.64
4	5.98	17.48	27.15	24.62	24.76	0.50	0.72
5	8.96	36.47	23.41	16.40	14.77	0.34	0.64
6	0.72	8.73	23.22	41.89	25.43	0.61	0.59
7	7.84	48.02	20.26	13.99	9.89	0.26	0.53
8	2.00	38.54	22.58	19.97	16.91	0.38	0.50
9	2.87	51.86	21.62	16.21	7.43	0.25	0.58
10	3.62	35.86	33.01	20.21	7.30	0.32	0.63
11	3.89	48.68	22.15	16.29	8.99	0.27	0.59
12	5.64	55.00	19.20	11.62	8.54	0.23	0.59

Table 46. Grade 5 Science Selected-Response Classical Statistics

Item	% Omit	p-value	Item-Total Corr.
1	0.03	0.89	0.35
2	0.03	0.43	0.36
3	0.14	0.82	0.54
4	0.04	0.90	0.34
5	0.05	0.90	0.39
6	0.11	0.46	0.46
7	0.17	0.66	0.43
8	0.44	0.48	0.54
9	0.39	0.76	0.42
10	2.54	0.29	0.26
11	2.98	0.46	0.45
12	3.33	0.50	0.50
13	0.02	0.67	0.54
14	0.01	0.45	0.38
15	0.03	0.79	0.40
16	0.01	0.87	0.43
17	0.03	0.67	0.44
18	0.05	0.79	0.48
19	0.04	0.77	0.55
20	0.07	0.72	0.30
21	0.19	0.58	0.58
22	0.18	0.75	0.36
23	0.27	0.50	0.28
24	0.39	0.62	0.53
25	0.56	0.81	0.57

Item	% Omit	p-value	Item-Total Corr.
26	0.86	0.77	0.47
27	0.85	0.63	0.43
28	0.03	0.51	0.40
29	0.02	0.67	0.27
30	0.06	0.68	0.40
31	0.02	0.70	0.43
32	0.06	0.39	0.21
33	0.06	0.32	0.38
34	0.10	0.43	0.23
35	0.05	0.72	0.47
36	0.07	0.86	0.43
37	0.15	0.34	0.47
38	0.15	0.46	0.24
39	0.29	0.55	0.32
40	0.47	0.88	0.37
41	0.72	0.60	0.52
42	0.73	0.66	0.53

Table 47. Grade 5 Science Constructed-Response Classical Statistics

Item	Max Points	Omit %	%0	%1	%2	%3	p-value	Item-Total Corr.
1	2	1.45	62.55	30.81	5.18		0.21	0.45
2	2	2.52	52.35	34.18	10.95		0.28	0.57
3	3	2.89	37.34	28.84	19.77	11.15	0.34	0.64
4	2	4.59	31.12	13.42	50.86		0.58	0.63
5	2	0.91	33.52	49.87	15.70		0.41	0.52
6	2	0.80	30.00	47.41	21.79		0.46	0.34
7	2	0.86	63.01	30.98	5.14		0.21	0.40
8	3	1.33	24.58	19.84	32.40	21.86	0.50	0.68
9	2	1.13	24.86	25.39	48.62		0.61	0.62
10	2	1.59	40.18	37.40	20.83		0.40	0.64
11	2	1.27	17.11	13.77	67.85		0.75	0.44
12	2	0.55	28.36	44.43	26.66		0.49	0.58
13	2	1.57	46.14	22.56	29.73		0.41	0.63
14	3	2.02	37.04	36.52	12.04	12.37	0.33	0.61
15	2	1.42	37.82	30.94	29.82		0.45	0.64
16	2	2.02	55.50	35.53	6.95		0.25	0.46
17	2	1.55	17.46	38.45	42.54		0.62	0.61

Table 48. Grade 7 Social Studies Selected-Response Classical Statistics

Item	% Omit	p-value	Item-Total Corr.
1	0.05	0.76	0.47
2	0.05	0.74	0.43
3	0.05	0.76	0.34
4	0.14	0.50	0.28
5	0.07	0.65	0.42
6	0.16	0.48	0.40
7	0.18	0.51	0.49
8	0.22	0.44	0.29
9	1.43	0.40	0.34
10	1.05	0.33	0.45
11	1.15	0.54	0.48
12	1.82	0.19	0.28
13	1.88	0.54	0.41
14	2.03	0.45	0.55
15	0.05	0.24	0.44
16	0.03	0.37	0.52
17	0.04	0.27	0.40
18	0.04	0.36	0.34
19	0.42	0.36	0.34
20	0.62	0.64	0.51
21	0.68	0.64	0.41
22	0.73	0.27	0.43
23	0.83	0.52	0.47
24	0.04	0.33	0.49
25	0.01	0.44	0.26
26	0.02	0.71	0.33
27	0.03	0.41	0.36
28	0.01	0.50	0.45
29	0.07	0.52	0.46
30	0.08	0.58	0.58
31	0.23	0.25	0.57
32	0.21	0.47	0.58
33	0.28	0.46	0.41
34	0.38	0.57	0.43
35	0.47	0.44	0.45
36	0.47	0.41	0.58

Table 49. Grade 7 Social Studies Constructed-Response Classical Statistics

Item	Omit %	%0	%1	%2	%3	p-value	Item- Total Corr.
1	1.64	45.37	25.50	18.16	9.33	0.30	0.68
2	2.42	39.18	27.41	23.47	7.52	0.32	0.70
3	3.40	58.29	21.43	14.11	2.76	0.19	0.63
4	3.46	41.27	22.29	18.92	14.06	0.34	0.67
5	3.90	24.67	23.84	33.94	13.65	0.44	0.66
6	1.48	18.48	24.69	35.56	19.78	0.52	0.65
7	2.60	19.01	19.11	28.27	31.00	0.56	0.64
8	1.17	22.43	29.82	32.49	14.09	0.46	0.57
9	2.16	39.64	27.23	23.63	7.35	0.32	0.73
10	1.74	50.07	29.82	13.30	5.07	0.24	0.64
11	2.89	41.30	35.34	16.00	4.47	0.27	0.67
12	3.27	61.69	17.45	12.91	4.68	0.19	0.64

Table 50. Grade 8 Science Selected-Response Classical Statistics

Item	% Omit	p-value	Item-Total Corr.
1	0.02	0.75	0.43
2	0.07	0.59	0.34
3	0.03	0.55	0.50
4	0.03	0.45	0.42
5	0.10	0.52	0.31
6	0.11	0.28	0.32
7	0.08	0.20	0.43
8	0.09	0.69	0.49
9	0.11	0.45	0.37
10	0.12	0.51	0.38
11	0.40	0.36	0.43
12	0.70	0.58	0.36
13	0.71	0.45	0.48
14	0.01	0.43	0.41
15	0.09	0.20	0.31
16	0.04	0.46	0.31
17	0.06	0.34	0.40
18	0.06	0.39	0.43
19	0.05	0.28	0.28
20	0.10	0.18	0.31
21	0.09	0.59	0.45
22	0.16	0.34	0.52
23	0.25	0.50	0.41
24	0.21	0.22	0.34
25	0.23	0.87	0.32

Item	% Omit	p-value	Item-Total Corr.
26	0.34	0.50	0.47
27	0.40	0.42	0.49
28	0.47	0.42	0.30
29	0.02	0.56	0.36
30	0.04	0.61	0.46
31	0.02	0.26	0.33
32	0.09	0.36	0.36
33	0.03	0.55	0.38
34	0.05	0.31	0.48
35	0.05	0.44	0.37
36	0.08	0.30	0.31
37	0.04	0.36	0.39
38	0.10	0.61	0.52
39	0.20	0.61	0.51
40	0.18	0.23	0.49
41	0.22	0.63	0.32
42	0.31	0.47	0.28
43	0.34	0.35	0.43

Table 51. Grade 8 Science Constructed-Response Classical Statistics

Item	Max Points	Omit %	%0	%1	%2	%3	p-value	Item-Total Corr.
1	2	1.88	50.05	40.92	7.15		0.28	0.54
2	2	1.37	32.37	17.96	48.31		0.57	0.61
3	3	2.43	49.71	34.76	10.16	2.93	0.21	0.60
4	2	3.79	41.98	19.03	35.20		0.45	0.65
5	2	1.24	41.98	21.64	35.14		0.46	0.59
6	2	1.34	27.61	6.02	65.03		0.68	0.62
7	2	1.34	68.38	16.93	13.35		0.22	0.47
8	3	2.36	49.21	14.30	17.57	16.56	0.33	0.73
9	2	2.64	56.75	25.03	15.58		0.28	0.67
10	2	2.44	43.41	17.97	36.18		0.45	0.70
11	2	3.24	40.88	28.22	27.66		0.42	0.68
12	2	1.20	56.58	25.20	17.02		0.30	0.59
13	2	2.06	67.84	19.02	11.08		0.21	0.56
14	3	2.79	44.19	10.16	11.13	31.73	0.43	0.76
15	2	2.46	51.35	31.20	14.99		0.31	0.64
16	2	3.05	44.07	22.15	30.74		0.42	0.69
17	2	2.21	34.15	43.05	20.59		0.42	0.58

Table 52. High School Science Selected-Response Classical Statistics

Item	% Omit	p-value	Item-Total Corr.
1	0.08	0.34	0.14
2	0.93	0.55	0.48
3	0.10	0.31	0.28
4	0.10	0.55	0.43
5	0.19	0.33	0.53
6	0.29	0.44	0.30
7	0.18	0.52	0.39
8	0.26	0.30	0.25
9	0.46	0.62	0.40
10	0.57	0.57	0.47
11	2.25	0.14	0.41
12	4.13	0.15	0.31
13	4.84	0.45	0.37
14	0.04	0.29	0.51
15	0.09	0.46	0.39
16	0.16	0.53	0.36
17	0.20	0.71	0.46
18	1.22	0.61	0.35
19	0.13	0.40	0.45
20	0.23	0.29	0.38
21	0.26	0.31	0.35
22	0.27	0.18	0.44
23	2.65	0.13	0.35
24	0.87	0.42	0.45
25	1.01	0.29	0.45

Item	% Omit	p-value	Item-Total Corr.
26	1.09	0.29	0.39
27	2.17	0.14	0.29
28	2.48	0.08	0.29
29	0.03	0.29	0.56
30	0.09	0.30	0.30
31	0.26	0.26	0.38
32	0.08	0.64	0.41
33	0.27	0.21	0.51
34	8.03	0.35	0.56
35	0.14	0.47	0.25
36	0.28	0.37	0.39
37	0.15	0.42	0.30
38	0.50	0.30	0.46
39	0.51	0.48	0.40
40	0.94	0.22	0.54
41	0.71	0.39	0.55
42	0.85	0.44	0.36
43	1.12	0.37	0.67

Table 53. High School Science Constructed-Response Classical Statistics

Item	Max Points	Omit %	%0	%1	%2	%3	p-value	Item-Total Corr.
1	2	4.48	57.57	23.14	14.81		0.26	0.66
2	2	6.24	53.99	33.85	5.93		0.23	0.55
3	3	14.26	64.28	12.54	5.87	3.04	0.11	0.59
4	2	15.57	46.31	20.64	17.47		0.28	0.45
5	2	4.16	41.77	46.26	7.81		0.31	0.56
6	2	7.95	64.49	22.61	4.95		0.16	0.54
7	2	3.63	52.42	24.07	19.88		0.32	0.56
8	3	10.90	58.00	23.31	7.36	0.43	0.13	0.58
9	2	8.82	59.07	18.15	13.96		0.23	0.62
10	2	10.55	59.55	20.13	9.77		0.20	0.62
11	2	13.18	72.63	12.81	1.37		0.08	0.45
12	2	9.02	53.45	28.73	8.81		0.23	0.60
13	2	8.02	42.59	34.37	15.02		0.32	0.62
14	3	8.32	48.76	26.83	13.78	2.32	0.20	0.66
15	2	12.03	67.75	16.12	4.10		0.12	0.57
16	2	9.44	51.14	13.52	25.90		0.33	0.66
17	2	14.21	61.83	16.08	7.88		0.16	0.62

Table 54. Correlations Between Content Standards

Grade	Content Standard	2	3	4	Full Test
4	1	0.719	0.690	0.696	0.856
	2		0.729	0.731	0.906
	3			0.709	0.880
	4				0.858
5	1	0.798	0.802	0.862	0.914
	2		0.831	0.904	0.943
	3			0.889	0.942
	4				0.948
7	1	0.754	0.735	0.780	0.888
	2		0.763	0.785	0.901
	3			0.775	0.888
	4				0.924
8	1	0.812	0.829	0.873	0.937
	2		0.830	0.865	0.929
	3			0.881	0.938
	4				0.930
HS Sci	1	0.754	0.757	0.817	0.890
	2		0.775	0.795	0.921
	3			0.788	0.914
	4				0.869

Table 55. Number of Items Field Tested

	Grade 4 Social Studies	Grade 7 Social Studies	Grade 5 Science	Grade 8 Science	HS Science
Number of Field Test Forms	8	8	11	10	10
Number of Items Field Tested	72	89	34	57	55

Table 56. Data Review Outcomes

	Grade 4 Social Studies	Grade 7 Social Studies	Grade 5 Science	Grade 8 Science	HS Science
Number of Items Field Tested	72	89	34	57	55
Number of Items Flagged and Reviewed	26	31	29	33	32
Data Review Outcome					
• Accept	24	26	7	14	18
• Reject	2	5	6	3	11
• Revise and Re-Field Test	0	0	2	1	0