

APPENDIX O

CLASSICAL RELIABILITY

**Table O-1. 2018 Next-Generation MCAS:
Subgroup Reliabilities – ELA (Paper)**

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
3	All Students	24,859	44	26.70	8.11	0.89	2.71
	Economically Disadvantaged	8,957	44	22.82	8.28	0.89	2.80
	African American	2,567	44	23.33	8.25	0.88	2.80
	Asian	2,337	44	30.17	7.15	0.86	2.65
	Hispanic	5,160	44	22.49	8.51	0.89	2.83
	Native American	60	44	23.72	7.88	0.88	2.76
	White	13,544	44	28.24	7.22	0.87	2.63
	Pacific Islander/Hawaiian	33	44	28.36	7.53	0.86	2.77
	Multi-race	1,152	44	28.18	7.84	0.88	2.66
	Female	12,017	44	27.77	7.99	0.88	2.72
	Male	12,836	44	25.71	8.09	0.89	2.68
	Limited English Proficient	3,688	44	20.34	8.27	0.88	2.85
	Former LEP	1,444	44	29.25	7.07	0.85	2.69
	LEPFLEP	5,132	44	22.84	8.91	0.90	2.84
	Plan 504	1,223	44	25.23	7.63	0.88	2.67
	Special Education	4,729	44	19.96	7.81	0.88	2.75
	Title I	11,234	44	23.72	8.40	0.89	2.79
6	All Students	15,275	51	29.79	10.48	0.91	3.15
	Economically Disadvantaged	5,784	51	24.85	10.59	0.90	3.30
	African American	1,882	51	25.91	10.30	0.90	3.27
	Asian	1,398	51	35.11	9.03	0.90	2.91
	Hispanic	3,505	51	24.45	10.67	0.90	3.31
	Native American	19	51	28.58	13.06	0.94	3.30
	White	7,907	51	32.08	9.35	0.90	3.03
	Pacific Islander/Hawaiian	18	51	34.67	8.29	0.87	3.02
	Multi-race	539	51	30.64	10.53	0.91	3.12
	Female	7,566	51	32.15	9.91	0.90	3.06
	Male	7,702	51	27.48	10.51	0.91	3.16
	Limited English Proficient	1,154	51	17.30	9.01	0.87	3.27
	Former LEP	1,870	51	30.75	8.74	0.87	3.16
	LEPFLEP	3,024	51	25.62	11.00	0.91	3.31
	Plan 504	1,075	51	28.16	9.68	0.89	3.19
	Special Education	3,238	51	20.07	9.54	0.88	3.24
	Title I	6,312	51	25.96	10.66	0.90	3.30

**Table O-2. 2018 Next-Generation MCAS:
Subgroup Reliabilities – ELA (Online)**

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
3	All Students	42,958	44	25.08	7.69	0.88	2.71
	Economically Disadvantaged	16,201	44	22.06	7.77	0.87	2.75
	African American	3,593	44	21.65	7.81	0.88	2.76
	Asian	2,415	44	27.99	7.54	0.87	2.71
	Hispanic	9,022	44	21.93	7.95	0.88	2.78
	Native American	119	44	23.21	7.16	0.87	2.59
	White	25,966	44	26.36	7.09	0.86	2.66
	Pacific Islander/Hawaiian	34	44	24.21	8.95	0.90	2.87
	Multi-race	1,806	44	25.41	7.67	0.88	2.71
	Female	21,033	44	26.02	7.67	0.87	2.74
	Male	21,925	44	24.17	7.60	0.88	2.67
	Limited English Proficient	5,244	44	19.26	7.45	0.86	2.78
	Former LEP	1,789	44	26.64	7.01	0.85	2.71
	LEPFLEP	7,033	44	21.14	8.01	0.88	2.78
	Plan 504	2,076	44	24.36	7.19	0.86	2.67
	Special Education	7,334	44	18.63	7.29	0.86	2.70
	Title I	21,976	44	23.02	7.88	0.88	2.77
	4	All Students	68,960	44	28.17	8.01	0.87
Economically Disadvantaged		24,973	44	24.64	8.26	0.86	3.04
African American		6,032	44	24.43	8.29	0.86	3.05
Asian		4,912	44	31.58	7.23	0.85	2.79
Hispanic		14,270	44	24.41	8.42	0.87	3.06
Native American		157	44	24.99	8.12	0.87	2.92
White		40,759	44	29.60	7.22	0.84	2.85
Pacific Islander/Hawaiian		52	44	28.19	8.32	0.87	3.02
Multi-race		2,765	44	28.92	7.98	0.87	2.88
Female		33,811	44	29.12	7.95	0.87	2.90
Male		35,143	44	27.27	7.97	0.87	2.93
Limited English Proficient		7,771	44	20.83	8.08	0.85	3.10
Former LEP		4,223	44	29.93	6.85	0.82	2.89
LEPFLEP		11,994	44	24.03	8.82	0.88	3.07
Plan 504		4,070	44	27.16	7.53	0.85	2.91
Special Education		11,738	44	21.03	7.91	0.85	3.01
Title I		32,984	44	25.67	8.25	0.87	3.01

continued

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
5	All Students	69,242	48	29.47	9.20	0.90	2.92
	Economically Disadvantaged	24,502	48	25.23	9.34	0.89	3.03
	African American	6,023	48	24.93	9.39	0.90	3.04
	Asian	4,874	48	33.83	8.36	0.89	2.75
	Hispanic	13,986	48	25.13	9.55	0.90	3.04
	Native American	147	48	26.32	9.07	0.89	2.97
	White	41,500	48	31.05	8.32	0.88	2.85
	Pacific Islander/Hawaiian	60	48	28.32	10.48	0.92	3.05
	Multi-race	2,646	48	30.16	9.28	0.90	2.91
	Female	34,170	48	30.78	8.97	0.90	2.89
	Male	35,070	48	28.19	9.23	0.90	2.91
	Limited English Proficient	5,260	48	19.01	8.85	0.88	3.04
	Former LEP	6,179	48	29.55	7.99	0.86	2.97
	LEPFLEP	11,439	48	24.70	9.91	0.90	3.06
	Plan 504	4,555	48	28.41	8.35	0.88	2.92
	Special Education	11,978	48	20.97	8.86	0.89	2.98
	Title I	29,471	48	26.29	9.44	0.90	3.01
6	All Students	53,862	51	27.99	10.28	0.91	3.12
	Economically Disadvantaged	18,048	51	23.03	10.11	0.90	3.18
	African American	4,193	51	22.87	10.12	0.90	3.17
	Asian	3,242	51	33.16	9.66	0.90	2.99
	Hispanic	10,287	51	22.84	10.36	0.91	3.19
	Native American	106	51	24.87	10.29	0.91	3.16
	White	34,011	51	29.65	9.47	0.90	3.06
	Pacific Islander/Hawaiian	38	51	29.05	10.10	0.91	3.03
	Multi-race	1,976	51	28.95	10.55	0.91	3.15
	Female	26,291	51	30.14	9.99	0.90	3.09
	Male	27,563	51	25.94	10.13	0.91	3.09
	Limited English Proficient	3,224	51	15.34	8.25	0.86	3.05
	Former LEP	4,898	51	26.68	9.45	0.89	3.19
	LEPFLEP	8,122	51	22.18	10.57	0.91	3.20
	Plan 504	3,560	51	26.50	9.29	0.89	3.11
	Special Education	9,378	51	18.44	8.74	0.88	3.06
	Title I	18,340	51	24.20	10.34	0.90	3.20

continued

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
7	All Students	66,262	51	31.77	10.33	0.91	3.10
	Economically Disadvantaged	21,306	51	26.61	10.65	0.91	3.24
	African American	5,666	51	27.00	10.61	0.91	3.24
	Asian	4,432	51	36.29	9.15	0.90	2.90
	Hispanic	11,908	51	26.32	10.81	0.91	3.25
	Native American	148	51	28.60	10.23	0.91	3.15
	White	41,743	51	33.48	9.41	0.90	3.01
	Pacific Islander/Hawaiian	52	51	30.73	11.30	0.92	3.25
	Multi-race	2,302	51	32.23	10.43	0.91	3.11
	Female	32,588	51	34.28	9.61	0.90	3.01
	Male	33,666	51	29.34	10.41	0.91	3.11
	Limited English Proficient	4,083	51	18.24	9.16	0.88	3.19
	Former LEP	5,367	51	30.41	9.24	0.88	3.19
	LEPFLEP	9,450	51	25.15	11.00	0.91	3.28
	Plan 504	4,824	51	30.26	9.46	0.89	3.10
	Special Education	11,195	51	21.71	9.58	0.89	3.16
	Title I	20,122	51	28.02	10.69	0.91	3.24
8	All Students	69,280	51	30.49	10.17	0.90	3.28
	Economically Disadvantaged	21,716	51	25.28	10.29	0.89	3.38
	African American	5,928	51	25.49	10.07	0.89	3.37
	Asian	4,662	51	35.45	8.98	0.89	3.04
	Hispanic	12,554	51	24.92	10.47	0.90	3.38
	Native American	153	51	28.45	9.91	0.89	3.31
	White	43,581	51	32.20	9.28	0.88	3.20
	Pacific Islander/Hawaiian	68	51	30.69	9.78	0.88	3.40
	Multi-race	2,324	51	31.36	10.34	0.90	3.26
	Female	34,168	51	32.39	9.55	0.89	3.21
	Male	35,102	51	28.63	10.40	0.90	3.27
	Limited English Proficient	4,119	51	16.88	8.71	0.86	3.21
	Former LEP	4,211	51	28.38	8.88	0.86	3.32
	LEPFLEP	8,330	51	22.69	10.51	0.90	3.40
	Plan 504	5,036	51	29.48	9.19	0.87	3.27
	Special Education	11,322	51	20.75	9.48	0.88	3.26
	Title I	21,031	51	26.64	10.33	0.89	3.36

**Table O-3. 2018 Next-Generation MCAS:
Subgroup Reliabilities – Mathematics (Paper)**

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
3	All Students	25,018	48	28.90	10.47	0.92	2.90
	Economically Disadvantaged	9,057	48	23.88	10.23	0.91	2.99
	African American	2,585	48	23.90	10.24	0.92	2.97
	Asian	2,348	48	35.21	8.91	0.91	2.64
	Hispanic	5,240	48	23.85	10.28	0.92	2.99
	Native American	61	48	24.80	10.78	0.92	2.97
	White	13,597	48	30.62	9.63	0.91	2.85
	Pacific Islander/Hawaiian	33	48	28.67	11.62	0.94	2.87
	Multi-race	1,150	48	30.25	10.28	0.92	2.85
	Female	12,098	48	28.74	10.37	0.92	2.91
	Male	12,917	48	29.06	10.55	0.93	2.88
	Limited English Proficient	3,741	48	22.59	10.14	0.91	3.00
	Former LEP	1,455	48	32.46	9.60	0.92	2.75
	LEPFLEP	5,196	48	25.36	10.93	0.93	2.95
	Plan 504	1,228	48	26.94	10.04	0.91	2.96
	Special Education	4,784	48	20.80	10.21	0.91	3.02
	Title I	11,366	48	25.20	10.43	0.92	2.96
6	All Students	15,366	54	29.27	13.28	0.93	3.45
	Economically Disadvantaged	5,837	54	22.79	12.09	0.92	3.36
	African American	1,894	54	23.53	11.84	0.92	3.37
	Asian	1,416	54	38.94	12.14	0.93	3.27
	Hispanic	3,550	54	22.29	12.08	0.92	3.34
	Native American	20	54	27.85	14.85	0.94	3.51
	White	7,918	54	31.98	12.19	0.92	3.40
	Pacific Islander/Hawaiian	18	54	35.89	12.01	0.92	3.31
	Multi-race	540	54	30.05	13.97	0.94	3.47
	Female	7,611	54	29.68	12.98	0.93	3.46
	Male	7,750	54	28.86	13.55	0.94	3.44
	Limited English Proficient	1,168	54	16.35	9.71	0.90	3.14
	Former LEP	1,910	54	29.96	12.13	0.92	3.47
	LEPFLEP	3,078	54	24.80	13.07	0.93	3.45
	Plan 504	1,078	54	27.19	12.17	0.92	3.39
	Special Education	3,233	54	17.95	10.71	0.91	3.21
	Title I	6,414	54	24.04	12.48	0.93	3.39

**Table O-4. 2018 Next-Generation MCAS:
Subgroup Reliabilities – Mathematics (Online)**

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
3	All Students	43,383	48	27.02	10.45	0.92	2.96
	Economically Disadvantaged	16,485	48	22.69	10.29	0.92	2.99
	African American	3,636	48	21.59	10.32	0.92	2.97
	Asian	2,425	48	33.14	9.28	0.91	2.80
	Hispanic	9,164	48	22.62	10.36	0.92	2.98
	Native American	119	48	25.08	10.69	0.92	2.97
	White	26,176	48	28.76	9.72	0.91	2.93
	Pacific Islander/Hawaiian	36	48	25.50	12.79	0.95	2.97
	Multi-race	1,821	48	27.04	10.56	0.92	2.96
	Female	21,204	48	26.85	10.33	0.92	2.98
	Male	22,178	48	27.18	10.56	0.92	2.94
	Limited English Proficient	5,382	48	20.73	10.16	0.91	2.97
	Former LEP	1,797	48	29.37	9.94	0.91	2.92
	LEPFLEP	7,179	48	22.89	10.77	0.92	2.98
	Plan 504	2,085	48	25.95	10.04	0.91	2.99
	Special Education	7,741	48	18.56	9.89	0.91	2.94
	Title I	22,257	48	24.17	10.44	0.92	2.98
	4	All Students	69,559	54	32.46	12.85	0.93
Economically Disadvantaged		25,343	54	26.70	12.67	0.92	3.54
African American		6,121	54	26.26	12.57	0.92	3.54
Asian		4,933	54	40.29	10.90	0.92	3.11
Hispanic		14,491	54	26.70	12.80	0.92	3.54
Native American		158	54	28.68	13.17	0.93	3.61
White		40,995	54	34.48	11.95	0.92	3.43
Pacific Islander/Hawaiian		54	54	31.30	13.27	0.93	3.59
Multi-race		2,792	54	32.82	12.96	0.93	3.47
Female		34,005	54	32.16	12.56	0.92	3.49
Male		35,548	54	32.76	13.10	0.93	3.47
Limited English Proficient		7,990	54	23.29	12.09	0.92	3.50
Former LEP		4,233	54	35.85	11.83	0.92	3.33
LEPFLEP		12,223	54	27.64	13.41	0.93	3.52
Plan 504		4,078	54	30.79	12.39	0.92	3.53
Special Education		12,315	54	21.53	12.24	0.92	3.49
Title I		33,373	54	28.65	12.85	0.92	3.53

continued

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
5	All Students	69,885	54	29.13	12.17	0.92	3.47
	Economically Disadvantaged	24,910	54	23.32	11.11	0.91	3.34
	African American	6,127	54	22.90	10.91	0.91	3.33
	Asian	4,892	54	37.34	11.34	0.91	3.40
	Hispanic	14,229	54	23.19	11.22	0.91	3.34
	Native American	145	54	25.69	11.48	0.91	3.40
	White	41,748	54	31.07	11.46	0.91	3.47
	Pacific Islander/Hawaiian	61	54	25.54	13.24	0.93	3.43
	Multi-race	2,676	54	29.91	12.96	0.93	3.48
	Female	34,405	54	29.05	11.83	0.91	3.47
	Male	35,478	54	29.20	12.49	0.92	3.46
	Limited English Proficient	5,486	54	18.37	10.01	0.90	3.17
	Former LEP	6,184	54	29.07	11.25	0.91	3.46
	LEPFLEP	11,670	54	24.04	11.95	0.92	3.38
	Plan 504	4,558	54	27.59	11.24	0.91	3.46
	Special Education	12,608	54	18.83	10.46	0.90	3.24
	Title I	29,867	54	24.87	11.49	0.91	3.38
6	All Students	54,385	54	28.76	12.82	0.93	3.38
	Economically Disadvantaged	18,361	54	22.14	11.64	0.92	3.22
	African American	4,258	54	21.43	11.57	0.92	3.21
	Asian	3,244	54	38.01	12.35	0.93	3.34
	Hispanic	10,481	54	22.02	11.78	0.93	3.22
	Native American	105	54	25.60	12.84	0.93	3.27
	White	34,262	54	30.84	11.95	0.92	3.36
	Pacific Islander/Hawaiian	38	54	28.53	13.73	0.94	3.43
	Multi-race	1,990	54	29.34	13.45	0.94	3.40
	Female	26,434	54	29.16	12.56	0.93	3.38
	Male	27,947	54	28.38	13.05	0.93	3.37
	Limited English Proficient	3,407	54	15.67	9.88	0.91	2.95
	Former LEP	4,888	54	27.18	11.89	0.92	3.36
	LEPFLEP	8,295	54	22.45	12.47	0.93	3.27
	Plan 504	3,556	54	27.19	11.45	0.91	3.34
	Special Education	9,921	54	17.26	10.49	0.92	3.04
	Title I	18,541	54	23.95	12.16	0.93	3.27

continued

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
7	All Students	63,560	55	24.84	12.93	0.92	3.55
	Economically Disadvantaged	20,641	55	17.81	11.08	0.91	3.33
	African American	5,419	55	17.14	10.64	0.91	3.27
	Asian	4,217	55	34.51	13.09	0.93	3.42
	Hispanic	11,618	55	17.42	11.22	0.91	3.30
	Native American	147	55	18.97	10.95	0.90	3.39
	White	39,889	55	27.01	12.10	0.91	3.57
	Pacific Islander/Hawaiian	50	55	23.22	13.24	0.93	3.59
	Multi-race	2,209	55	25.62	13.55	0.93	3.57
	Female	31,154	55	24.97	12.73	0.92	3.56
	Male	32,400	55	24.72	13.12	0.93	3.54
	Limited English Proficient	4,122	55	11.88	8.70	0.89	2.89
	Former LEP	5,129	55	22.30	12.03	0.92	3.48
	LEPFLEP	9,251	55	17.66	11.87	0.92	3.31
	Plan 504	4,579	55	23.37	11.66	0.91	3.52
	Special Education	11,261	55	13.70	9.49	0.90	3.07
	Title I	19,450	55	19.57	11.79	0.92	3.40
8	All Students	69,810	54	30.56	12.60	0.92	3.52
	Economically Disadvantaged	22,062	54	23.98	11.65	0.91	3.51
	African American	6,001	54	23.92	11.46	0.91	3.51
	Asian	4,679	54	39.95	11.54	0.93	3.09
	Hispanic	12,748	54	23.86	11.81	0.91	3.52
	Native American	154	54	27.31	12.12	0.92	3.53
	White	43,813	54	32.40	11.75	0.91	3.47
	Pacific Islander/Hawaiian	68	54	31.41	11.65	0.91	3.49
	Multi-race	2,336	54	31.28	13.23	0.93	3.49
	Female	34,299	54	31.42	12.18	0.92	3.48
	Male	35,502	54	29.73	12.93	0.93	3.54
	Limited English Proficient	4,275	54	17.92	9.74	0.89	3.29
	Former LEP	4,250	54	28.49	11.95	0.91	3.51
	LEPFLEP	8,525	54	23.19	12.11	0.92	3.50
	Plan 504	5,035	54	28.67	11.28	0.90	3.53
	Special Education	11,885	54	18.91	9.91	0.89	3.31
	Title I	21,297	54	26.06	12.27	0.92	3.54

**Table O-5. 2018 Next-Generation MCAS:
Reliabilities by Reporting Category by Grade – ELA (paper)**

Grade	Item Reporting Category	Number of Items	Raw Score			Alpha	SEM
			<i>Maximum</i>	<i>Mean</i>	<i>Standard Deviation</i>		
3	Reading	19	24	17.24	4.70	0.83	1.92
	Writing	2	8	2.37	1.71	0.60	1.08
	Language	8	12	7.09	2.56	0.68	1.45
4	Reading	18	22	12.36	4.57	0.77	2.17
	Writing	2	8	2.19	1.48	0.56	0.98
	Language	9	14	7.50	2.77	0.62	1.71
5	Reading	20	23	12.60	5.18	0.82	2.21
	Writing	3	12	3.53	2.16	0.72	1.14
	Language	7	13	6.10	2.76	0.71	1.48
6	Reading	21	11	17.47	5.57	0.84	2.23
	Writing	3	11	5.55	2.88	0.81	1.24
	Language	5	11	6.77	2.91	0.75	1.45
7	Reading	21	23	15.19	5.42	0.85	2.08
	Writing	3	15	5.74	3.36	0.83	1.39
	Language	6	13	8.19	3.65	0.80	1.64
8	Reading	22	25	12.87	5.35	0.80	2.38
	Writing	3	15	4.41	3.30	0.83	1.36
	Language	5	11	5.41	3.21	0.77	1.54

**Table O-6. 2018 Next-Generation MCAS:
Reliabilities by Reporting Category by Grade – ELA (online)**

Grade	Item Reporting Category	Number of Items	Raw Score			Alpha	SEM
			<i>Maximum</i>	<i>Mean</i>	<i>Standard Deviation</i>		
3	Reading	19	12	18.54	5.00	0.81	2.15
	Writing	2	12	1.98	1.60	0.61	0.99
	Language	5	12	4.55	1.93	0.62	1.18
4	Reading	19	14	18.28	4.67	0.78	2.17
	Writing	2	14	3.46	1.85	0.65	1.10
	Language	5	14	6.43	2.39	0.65	1.42
5	Reading	17	13	15.54	4.57	0.80	2.05
	Writing	3	13	4.97	2.38	0.75	1.19
	Language	7	13	8.96	3.15	0.78	1.49
6	Reading	19	25	17.01	5.46	0.84	2.21
	Writing	3	15	4.94	2.86	0.82	1.23
	Language	5	11	6.05	2.87	0.74	1.46
7	Reading	18	13	16.81	4.72	0.82	1.98
	Writing	3	13	6.14	3.13	0.84	1.25
	Language	6	13	8.82	3.38	0.78	1.57
8	Reading	19	11	16.57	4.86	0.78	2.25
	Writing	3	11	6.60	3.29	0.84	1.31
	Language	5	11	7.32	2.95	0.77	1.43

**Table O-7. 2018 Next-Generation MCAS:
Reliabilities by Reporting Category by Grade – Mathematics (Paper)**

Grade	Item Reporting Category	Number of Items	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
3	Geometry	4	4	2.12	1.11	0.43	0.84
	Measurement & Data	10	12	6.67	2.69	0.72	1.43
	Number & Operations in Base Ten	6	8	5.13	2.19	0.75	1.10
	Number & Operations-Fractions	7	9	4.96	2.50	0.72	1.33
	Operations & Algebraic Thinking	13	15	10.03	3.64	0.81	1.57
4	Geometry	5	5	2.40	1.37	0.52	0.94
	Measurement & Data	8	11	5.60	2.76	0.60	1.75
	Number & Operations in Base Ten	7	10	3.28	2.44	0.65	1.45
	Number & Operations-Fractions	13	17	8.10	4.19	0.78	1.98
	Operations & Algebraic Thinking	7	11	4.87	2.70	0.66	1.59
5	Geometry	5	6	2.86	1.41	0.34	1.15
	Measurement & Data	8	11	3.40	2.36	0.63	1.43
	Number & Operations in Base Ten	12	16	6.84	3.65	0.74	1.85
	Number & Operations-Fractions	10	13	4.58	2.93	0.70	1.60
	Operations & Algebraic Thinking	5	8	3.89	1.87	0.43	1.42
6	Expressions and Equations	12	16	7.84	4.09	0.80	1.83
	Geometry	7	8	4.48	2.19	0.75	1.09
	Ratios and Proportional Relationships	8	11	6.67	3.18	0.72	1.68
	Statistics and Probability	5	8	3.16	2.35	0.61	1.46
	The Number System	8	11	7.12	2.92	0.70	1.61
7	Expressions and Equations	9	13	6.03	3.53	0.73	1.83
	Geometry	8	9	3.48	2.07	0.60	1.31
	Ratios and Proportional Relationships	7	10	5.17	2.74	0.69	1.51
	Statistics and Probability	9	12	6.13	3.07	0.66	1.79
	The Number System	8	11	6.31	3.05	0.76	1.48
8	Number System & Expressions/Equations	18	21	8.06	4.24	0.77	2.03
	Functions	8	11	5.35	2.42	0.54	1.64
	Geometry	11	16	6.59	3.55	0.73	1.86
	Statistics and Probability	3	6	1.65	1.73	0.37	1.38

**Table O-8. 2018 Next-Generation MCAS:
Reliabilities by Reporting Category by Grade – Mathematics (Online)**

Grade	Item Reporting Category	Number of Items	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
3	Geometry	4	15	2.29	0.97	0.33	0.79
	Measurement & Data	10	15	6.19	2.59	0.70	1.43
	Number & Operations in Base Ten	6	15	5.07	2.35	0.73	1.22
	Number & Operations-Fractions	7	15	5.09	2.36	0.69	1.32
	Operations & Algebraic Thinking	13	15	8.38	3.78	0.81	1.64
4	Geometry	5	11	2.68	1.51	0.65	0.89
	Measurement & Data	8	11	7.05	2.85	0.65	1.69
	Number & Operations in Base Ten	7	11	5.53	2.71	0.71	1.45
	Number & Operations-Fractions	13	11	10.61	4.71	0.83	1.92
	Operations & Algebraic Thinking	7	11	6.59	2.80	0.66	1.63
5	Geometry	5	8	3.53	1.57	0.51	1.10
	Measurement & Data	8	8	5.22	3.04	0.69	1.69
	Number & Operations in Base Ten	12	8	9.18	4.08	0.79	1.87
	Number & Operations-Fractions	10	8	6.32	3.37	0.76	1.66
	Operations & Algebraic Thinking	5	8	4.89	1.82	0.45	1.35
6	Expressions and Equations	12	11	6.91	4.17	0.83	1.74
	Geometry	7	11	4.20	2.04	0.71	1.09
	Ratios and Proportional Relationships	8	11	6.55	3.05	0.70	1.67
	Statistics and Probability	5	11	3.64	2.13	0.54	1.43
	The Number System	8	11	7.46	2.90	0.70	1.58
7	Expressions and Equations	9	11	5.78	3.57	0.74	1.83
	Geometry	8	11	3.30	2.05	0.60	1.30
	Ratios and Proportional Relationships	7	11	4.86	2.82	0.70	1.54
	Statistics and Probability	8	11	4.93	2.98	0.66	1.74
	The Number System	8	11	5.98	3.13	0.77	1.49
8	Number System & Expressions/Equations	18	6	11.59	5.14	0.84	2.04
	Functions	8	6	6.68	2.67	0.64	1.61
	Geometry	11	6	8.88	3.91	0.77	1.87
	Statistics and Probability	3	6	3.42	2.01	0.42	1.53

**Table O-9. 2018 Next-Generation MCAS:
Subgroup Reliabilities – Alt/ELA**

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
3	All Students	991	39	28.95	3.53	0.68	1.99
	Economically Disadvantaged	600	39	29.08	3.48	0.68	1.97
	African American	155	39	29.43	3.57	0.70	1.96
	Asian	67	39	28.82	3.36	0.44	2.50
	Hispanic	290	39	28.83	3.57	0.73	1.85
	Multi-Race	30	39	28.93	3.70	0.58	2.40
	Native American	0					
	Pacific Islander/Hawaiian	0					
	White	447	39	28.87	3.51	0.66	2.03
	Female	292	39	28.99	3.61	0.72	1.90
	Male	698	39	28.93	3.50	0.66	2.05
	LEP	151	39	29.21	3.32	0.64	1.99
	FLEP	29	39	29.59	3.04	0.64	1.83
	LEPFLEP	180	39	29.27	3.27	0.64	1.96
	Plan 504	8					
	Special Education	990	39	28.95	3.53	0.68	1.99
	Title I	534	39	29.48	3.29	0.64	1.97
4	All Students	1,109	39	29.15	3.32	0.63	2.02
	Economically Disadvantaged	728	39	29.37	3.22	0.66	1.89
	African American	156	39	29.48	3.10	0.61	1.92
	Asian	58	39	29.53	2.75	0.67	1.58
	Hispanic	352	39	29.43	3.27	0.67	1.87
	Multi-Race	47	39	28.96	3.35	0.53	2.30
	Native American	4					
	Pacific Islander/Hawaiian	0					
	White	490	39	28.82	3.46	0.62	2.14
	Female	330	39	29.20	3.23	0.65	1.90
	Male	779	39	29.13	3.36	0.62	2.07
	LEP	164	39	29.77	3.22	0.65	1.90
	FLEP	39	39	29.38	2.91	0.69	1.62
	LEPFLEP	203	39	29.69	3.16	0.66	1.84
	Plan 504	9					
	Special Education	1,109	39	29.15	3.32	0.63	2.02
	Title I	603	39	29.78	2.94	0.62	1.82
5	All Students	1,065	39	29.55	3.21	0.62	1.99
	Economically Disadvantaged	671	39	29.54	3.25	0.62	2.00
	African American	172	39	29.93	2.94	0.67	1.68
	Asian	50	39	29.40	3.26	0.68	1.85
	Hispanic	305	39	29.83	3.05	0.59	1.95
	Multi-Race	43	39	29.47	2.93	0.71	1.58
	Native American	2					
	Pacific Islander/Hawaiian	0					
	White	493	39	29.25	3.40	0.59	2.18
	Female	350	39	29.22	3.33	0.65	1.98
	Male	715	39	29.71	3.14	0.60	2.00

continued

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
5	LEP	139	39	30.00	2.75	0.52	1.90
	FLEP	49	39	30.35	2.89	0.69	1.60
	LEPFLEP	188	39	30.09	2.78	0.58	1.81
	Plan 504	9					
	Special Education	1,065	39	29.55	3.21	0.62	1.99
	Title I	564	39	30.04	2.88	0.60	1.81
6	All Students	1,062	39	29.32	3.39	0.65	2.01
	Economically Disadvantaged	603	39	29.37	3.49	0.65	2.07
	African American	155	39	29.58	3.49	0.73	1.81
	Asian	68	39	29.12	3.24	0.53	2.22
	Hispanic	291	39	29.50	3.37	0.58	2.18
	Multi-Race	26	39	30.27	2.46	0.57	1.61
	Native American	5					
	Pacific Islander/Hawaiian	2					
	White	514	39	29.12	3.44	0.66	2.00
	Female	336	39	29.34	3.33	0.65	1.96
	Male	725	39	29.32	3.42	0.64	2.04
	LEP	128	39	30.16	3.02	0.59	1.94
	FLEP	39	39	29.67	3.60	0.68	2.02
	LEPFLEP	167	39	30.05	3.16	0.61	1.97
7	Plan 504	7					
	Special Education	1,061	39	29.33	3.39	0.65	2.02
	Title I	444	39	29.77	3.21	0.68	1.82
	All Students	961	39	29.54	3.44	0.67	1.96
	Economically Disadvantaged	560	39	29.47	3.57	0.68	2.03
	African American	143	39	29.31	3.79	0.70	2.08
	Asian	47	39	28.60	3.87	0.67	2.23
	Hispanic	269	39	29.79	3.22	0.60	2.03
	Multi-Race	31	39	29.52	3.12	0.75	1.57
	Native American	2					
	Pacific Islander/Hawaiian	1					
	White	467	39	29.57	3.41	0.68	1.92
	Female	341	39	29.62	3.44	0.65	2.04
	Male	620	39	29.50	3.43	0.69	1.92
8	LEP	106	39	29.88	3.10	0.54	2.10
	FLEP	37	39	30.38	2.94	0.57	1.94
	LEPFLEP	143	39	30.01	3.06	0.55	2.05
	Plan 504	8					
	Special Education	961	39	29.54	3.44	0.67	1.96
	Title I	400	39	29.96	3.28	0.62	2.02
	All Students	887	39	29.21	3.68	0.65	2.17
	Economically Disadvantaged	496	39	29.22	3.74	0.68	2.10
	African American	107	39	29.61	3.70	0.62	2.27
	Asian	53	39	29.09	3.61	0.69	2.02
Hispanic	229	39	29.44	3.37	0.67	1.93	
Multi-Race	23	39	29.70	2.98	0.67	1.70	
Native American	1						

continued

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
8	Pacific Islander/Hawaiian	3					
	White	469	39	29.00	3.86	0.64	2.31
	Female	304	39	29.18	3.59	0.68	2.03
	Male	583	39	29.22	3.73	0.64	2.24
	LEP	93	39	29.77	3.60	0.67	2.06
	FLEP	31	39	28.94	3.47	0.62	2.13
	LEPFLEP	124	39	29.56	3.58	0.65	2.11
	Plan 504	7					
	Special Education	887	39	29.21	3.68	0.65	2.17
	Title I	306	39	30.01	3.26	0.72	1.71
10	All Students	783	39	28.66	4.09	0.71	2.21
	Economically Disadvantaged	393	39	28.87	4.00	0.74	2.05
	African American	96	39	29.06	4.24	0.65	2.49
	Asian	52	39	28.29	4.37	0.63	2.67
	Hispanic	172	39	29.37	3.91	0.70	2.12
	Multi-Race	15	39	28.60	4.07	0.90	1.28
	Native American	2					
	Pacific Islander/Hawaiian	0					
	White	446	39	28.36	4.07	0.70	2.21
	Female	266	39	28.52	4.41	0.76	2.15
	Male	517	39	28.74	3.92	0.66	2.28
	LEP	89	39	29.96	3.63	0.71	1.95
	FLEP	10	39	30.90	3.98	0.83	1.62
	LEPFLEP	99	39	30.05	3.66	0.73	1.90
	Plan 504	3					
Special Education	783	39	28.66	4.09	0.71	2.21	
Title I	212	39	29.73	3.58	0.72	1.89	

Note: No reliability or SEM values are reported for some subgroups, because there were some items for which only one student in the subgroup received a score.

**Table O-10. 2018 Next-Generation MCAS:
Subgroup Reliabilities – Alt/Mathematics**

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
3	All Students	923	26	21.30	1.42	0.68	0.81
	Economically Disadvantaged	548	26	21.33	1.43	0.70	0.79
	African American	142	26	21.38	1.50	0.77	0.72
	Asian	61	26	21.70	0.69	0.34	0.56
	Hispanic	266	26	21.29	1.47	0.71	0.79
	Multi-Race	30	26	21.43	0.90	0.19	0.81
	Native American	0					
	Pacific Islander/Hawaiian	0					
	White	421	26	21.23	1.44	0.64	0.87
	Female	282	26	21.17	1.70	0.76	0.84
	Male	640	26	21.36	1.28	0.62	0.79

continued

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
3	LEP	135	26	21.49	1.16	0.70	0.64
	FLEP	22	26	21.45	1.47	0.68	0.83
	LEPFLEP	157	26	21.48	1.21	0.69	0.67
	Plan 504	8					
	Special Education	922	26	21.30	1.42	0.68	0.81
	Title I	498	26	21.50	1.27	0.69	0.70
4	All Students	1,050	26	21.20	1.50	0.65	0.89
	Economically Disadvantaged	685	26	21.25	1.50	0.66	0.87
	African American	154	26	21.44	1.12	0.58	0.73
	Asian	55	26	21.02	1.76	0.74	0.90
	Hispanic	331	26	21.23	1.46	0.68	0.83
	Multi-Race	46	26	21.09	2.18	0.67	1.24
	Native American	4					
	Pacific Islander/Hawaiian	0					
	White	458	26	21.14	1.53	0.63	0.93
	Female	328	26	21.14	1.58	0.64	0.94
	Male	722	26	21.23	1.47	0.66	0.86
	LEP	158	26	21.42	1.31	0.71	0.70
	FLEP	36	26	21.42	1.32	0.81	0.57
	LEPFLEP	194	26	21.42	1.31	0.73	0.68
Plan 504	8						
Special Education	1,050	26	21.20	1.50	0.65	0.89	
Title I	586	26	21.45	1.28	0.65	0.75	
5	All Students	976	26	21.40	1.20	0.60	0.76
	Economically Disadvantaged	615	26	21.46	1.18	0.62	0.73
	African American	168	26	21.39	1.40	0.69	0.78
	Asian	39	26	21.23	1.44	0.81	0.63
	Hispanic	280	26	21.48	1.05	0.54	0.72
	Multi-Race	38	26	21.50	1.11	0.60	0.70
	Native American	1					
	Pacific Islander/Hawaiian	0					
	White	450	26	21.35	1.20	0.57	0.79
	Female	314	26	21.22	1.42	0.67	0.82
	Male	662	26	21.48	1.08	0.55	0.73
	LEP	122	26	21.52	0.99	0.55	0.67
	FLEP	47	26	21.40	1.69	0.89	0.57
	LEPFLEP	169	26	21.49	1.22	0.72	0.64
Plan 504	7						
Special Education	976	26	21.40	1.20	0.60	0.76	
Title I	517	26	21.58	1.00	0.58	0.65	
6	All Students	993	26	21.34	1.28	0.62	0.79
	Economically Disadvantaged	568	26	21.43	1.20	0.60	0.76
	African American	149	26	21.52	1.09	0.55	0.73
	Asian	64	26	21.14	1.34	0.55	0.91
	Hispanic	260	26	21.53	1.07	0.57	0.70
	Multi-Race	25	26	21.44	0.77	-0.01	0.77
	Native American	5					

continued

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
6	Pacific Islander/Hawaiian	2					
	White	487	26	21.20	1.43	0.65	0.85
	Female	324	26	21.29	1.29	0.61	0.80
	Male	668	26	21.36	1.28	0.62	0.79
	LEP	114	26	21.67	0.79	0.49	0.57
	FLEP	35	26	21.54	1.17	0.73	0.61
	LEPFLEP	149	26	21.64	0.89	0.58	0.58
	Plan 504	7					
	Special Education	992	26	21.34	1.28	0.62	0.79
	Title I	409	26	21.57	0.97	0.54	0.65
7	All Students	901	26	21.45	1.23	0.67	0.71
	Economically Disadvantaged	516	26	21.48	1.21	0.67	0.69
	African American	132	26	21.42	1.15	0.62	0.70
	Asian	43	26	21.40	1.42	0.66	0.83
	Hispanic	246	26	21.57	1.01	0.56	0.67
	Multi-Race	34	26	21.44	0.99	0.31	0.82
	Native American	0					
	Pacific Islander/Hawaiian	1					
	White	444	26	21.40	1.33	0.72	0.70
	Female	334	26	21.47	1.17	0.66	0.68
	Male	567	26	21.43	1.26	0.67	0.72
	LEP	101	26	21.59	0.94	0.65	0.56
	FLEP	36	26	21.86	0.42	0.27	0.36
	LEPFLEP	137	26	21.66	0.84	0.62	0.52
	Plan 504	7					
	Special Education	901	26	21.45	1.23	0.67	0.71
	Title I	363	26	21.68	0.86	0.53	0.58
8	All Students	815	26	21.37	1.21	0.56	0.81
	Economically Disadvantaged	448	26	21.41	1.18	0.54	0.80
	African American	96	26	21.63	0.82	0.58	0.53
	Asian	53	26	21.42	1.25	0.52	0.86
	Hispanic	199	26	21.38	1.27	0.53	0.87
	Multi-Race	24	26	21.54	0.78	0.37	0.62
	Native American	1					
	Pacific Islander/Hawaiian	3					
	White	437	26	21.29	1.28	0.57	0.83
	Female	282	26	21.30	1.28	0.58	0.83
	Male	533	26	21.40	1.18	0.54	0.80
	LEP	75	26	21.61	0.94	0.44	0.71
	FLEP	29	26	21.59	0.95	0.41	0.72
	LEPFLEP	104	26	21.61	0.94	0.43	0.71
	Plan 504	7					
	Special Education	815	26	21.37	1.21	0.56	0.81
	Title I	281	26	21.55	1.04	0.50	0.74
10	All Students	754	39	30.24	4.16	0.84	1.64
	Economically Disadvantaged	378	39	30.40	4.04	0.89	1.33
	African American	86	39	30.09	4.64	0.71	2.48
	Asian	48	39	30.29	3.80	0.78	1.78

continued

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
10	Hispanic	175	39	30.61	4.16	0.92	1.21
	Multi-Race	11	39	29.00	5.80		
	Native American	2					
	Pacific Islander/Hawaiian	0					
	White	432	39	30.15	4.06	0.82	1.71
	Female	251	39	29.99	4.48	0.91	1.37
	Male	503	39	30.36	3.99	0.75	1.98
	LEP	89	39	31.18	3.37	0.92	0.97
	FLEP	9					
	LEPFLEP	98	39	31.40	3.33	0.93	0.85
	Plan 504	3					
	Special Education	754	39	30.24	4.16	0.84	1.64
Title I	211	39	31.05	3.51	0.96	0.68	

Note: No reliability or SEM values are reported for some subgroups, because there were some items for which only one student in the subgroup received a score.

**Table O-11. 2018 Next-Generation MCAS:
Subgroup Reliabilities – Alt/Science**

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM	
			Maximum	Mean	Standard Deviation			
5	All Students	965	39	31.56	2.80	0.76	1.37	
	Economically Disadvantaged	612	39	31.64	2.72	0.78	1.28	
	African American	157	39	31.53	3.10	0.86	1.18	
	Asian	45	39	31.04	3.45	0.70	1.88	
	Hispanic	274	39	31.88	2.55	0.69	1.42	
	Multi-Race	38	39	31.84	2.50	0.55	1.67	
	Native American	2						
	Pacific Islander/Hawaiian	0						
	White	449	39	31.40	2.79	0.74	1.43	
	Female	311	39	31.35	3.04	0.82	1.30	
	Male	654	39	31.66	2.68	0.70	1.46	
	LEP	123	39	31.73	2.70	0.71	1.46	
	FLEP	44	39	32.07	3.03	0.89	1.01	
	LEPFLEP	167	39	31.82	2.79	0.77	1.34	
	Plan 504	9						
	Special Education	965	39	31.56	2.80	0.76	1.37	
	Title I	521	39	31.98	2.41	0.72	1.27	
	8	All Students	842	39	31.31	3.04	0.78	1.42
		Economically Disadvantaged	476	39	31.32	3.07	0.82	1.31
		African American	100	39	31.74	2.79	0.83	1.14
Asian		54	39	31.06	3.18	0.70	1.74	
Hispanic		212	39	31.44	2.96	0.74	1.52	
Multi-Race		23	39	32.13	2.22	0.89	0.74	
Native American		0						
Pacific Islander/Hawaiian		3						
White		448	39	31.13	3.15	0.79	1.46	
Female		277	39	31.21	3.02	0.78	1.43	
Male		565	39	31.35	3.06	0.79	1.42	
LEP		82	39	31.50	3.03	0.89	1.01	
FLEP		28	39	31.54	2.63	0.70	1.43	
LEPFLEP		110	39	31.51	2.92	0.88	1.01	
Plan 504		7						
Special Education		842	39	31.31	3.04	0.78	1.42	
Title I	288	39	31.61	2.88	0.84	1.16		

**Table O-12. 2018 Next-Generation MCAS:
Subgroup Reliabilities – Alt/Biology**

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
5	All Students	608	39	30.71	3.46	0.71	1.88
	Economically Disadvantaged	309	39	30.95	3.46	0.74	1.77
	African American	75	39	31.47	3.31	0.67	1.89
	Asian	36	39	30.19	3.48	0.68	1.97
	Hispanic	122	39	31.20	3.26	0.69	1.82
	Multi-Race	10	39	30.70	3.62	0.89	1.18
	Native American	1					
	Pacific Islander/Hawaiian	2					
	White	360	39	30.47	3.52	0.71	1.90
	Female	201	39	30.46	3.49	0.76	1.70
	Male	407	39	30.84	3.44	0.65	2.05
	LEP	67	39	32.04	2.25	0.79	1.02
	FLEP	6					
	LEPFLEP	73	39	32.08	2.16	0.77	1.04
	Plan 504	3					
	Special Education	608	39	30.71	3.46	0.71	1.88
	Title I	153	39	31.65	2.68	0.75	1.34

**Table O-13. 2018 Next-Generation MCAS:
Subgroup Reliabilities – Alt/Chemistry**

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
5	All Students	42	39	30.40	3.35	0.77	1.60
	Economically Disadvantaged	33	39	30.79	3.08	0.74	1.58
	African American	6					
	Asian	1					
	Hispanic	22	39	30.86	3.26	0.82	1.38
	Multi-Race	0					
	Native American	0					
	Pacific Islander/Hawaiian	0					
	White	13	39	29.54	3.57	0.79	1.62
	Female	9					
	Male	33	39	30.18	3.48	0.79	1.58
	LEP	10	39	31.30	3.33	0.00	3.33
	FLEP	0					
	LEPFLEP	10	39	31.30	3.33	0.00	3.33
	Plan 504	0					
	Special Education	42	39	30.40	3.35	0.77	1.60
	Title I	31	39	30.55	3.55	0.63	2.16

**Table O-14. 2018 Next-Generation MCAS:
Subgroup Reliabilities – Alt/Physics**

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
5	All Students	59	39	30.32	3.79	0.68	2.13
	Economically Disadvantaged	27	39	31.26	3.85	0.79	1.78
	African American	5					
	Asian	8					
	Hispanic	13	39	32.54	3.78	0.76	1.85
	Multi-Race	1					
	Native American	0					
	Pacific Islander/Hawaiian	0					
	White	32	39	29.78	3.41	0.47	2.48
	Female	27	39	30.19	4.23	0.72	2.23
	Male	32	39	30.44	3.44	0.54	2.34
	LEP	4					
	FLEP	1					
	LEPFLEP	5					
	Plan 504	0					
	Special Education	59	39	30.32	3.79	0.68	2.13
	Title I	24	39	31.21	4.25	0.76	2.10

**Table O-15. 2018 Next-Generation MCAS:
Subgroup Reliabilities – Alt/Tech/Eng**

Grade	Subgroup	Number of Students	Raw Score			Alpha	SEM
			Maximum	Mean	Standard Deviation		
5	All Students	63	39	29.95	3.82	0.79	1.77
	Economically Disadvantaged	26	39	29.08	3.77	0.74	1.93
	African American	5					
	Asian	3					
	Hispanic	11	39	31.09	3.18	0.63	1.94
	Multi-Race	1					
	Native American	0					
	Pacific Islander/Hawaiian	0					
	White	43	39	29.88	3.97	0.82	1.66
	Female	19	39	28.79	4.14	0.78	1.94
	Male	44	39	30.45	3.60	0.79	1.65
	LEP	4					
	FLEP	0					
	LEPFLEP	4					
	Plan 504	0					
	Special Education	63	39	29.95	3.82	0.79	1.77
	Title I	7					