STATISTICAL SUMMARY

SPRING 2022 ADMINISTRATION OF OHIO'S STATE TESTS (OST) IN ENGLISH LANGUAGE ARTS, MATHEMATICS, SCIENCE AND SOCIAL

STUDIES

The State Board of Education of Ohio adopted Ohio's Learning Standards in English language arts and mathematics in 2010 as part of a multi-state effort. The State Board also adopted new, more rigorous, standards in science and social studies. Ohio's Learning Standards for English language arts, mathematics, science and social studies describe the educational targets for students in each subject area. Ohio's State Tests are designed to measure progress toward achievement of Ohio's learning standards. In spring 2016, the Ohio Department of Education administered, for the first time, Ohio's State Tests in English language arts (ELA) and mathematics to assess proficiency with respect to Ohio's Learning Standards. Specifically, the state tests assess student achievement in meeting: The English language arts and mathematics in grades 3 through 8 and high school. Students take social studies tests after completing high school coursework in American history and American government. In science, students take state tests in grades 5 and 8, and following instruction in biology in high school.

Ohio's State Tests are fixed form assessments that were intended for online administration. However, paper format is available as an accommodation or for special circumstances. For ELA OST spring 2022 assessments except High School ELA I, multiple operational field test (OPFT) forms were administered online. No new items were developed for ELA I due to the phase out of this test. For students who enter grade 9 on or after July 1, 2019, state law has removed this test as a required assessment in the state testing system. The test form administered for paper-based test was one of the online OPFT test form.

Statistics reported here are based on the results of all public school and community students participating in the spring 2022 administration. Data for grade 3 ELA and all high school tests include both first-time and repeat test takers, and repeat test takers tend to do less well than first-time testers.

Table 1 – Operational Summary Statistics

Test	N-count	Max Raw Score	Raw Score Mean	Raw Score Standard Deviation	Raw Score SEM	Max Scale Score	Min Scale Score	Scale Score Mean	Scale Score Standard Deviation	Scale Score SEM	Reliability
English Language Arts											
Grade 3 ELA	118,164	40-42	18.50	7.68	2.87	863	545	709.14	47.26	17.90	0.86
Grade 4 ELA	118,279	40-42	22.21	8.34	2.89	846	549	711.99	49.62	17.11	0.88
Grade 5 ELA	119,964	40-42	22.14	8.27	2.86	848	552	715.87	46.76	16.42	0.88
Grade 6 ELA	120,548	60-62	31.25	11.36	3.59	851	555	703.72	41.94	13.23	0.90
Grade 7 ELA	124,872	60-62	31.25	12.25	3.68	833	568	709.85	41.16	12.15	0.91
Grade 8 ELA	127,010	60-62	33.88	11.92	3.58	805	586	699.83	34.09	10.11	0.91
High School ELA I*	3,923	62	18.87	10.70	3.55	800	606	678.92	28.67	9.50	0.89
High School ELA II	134,681	60-62	30.95	12.03	3.80	808	597	704.70	30.39	9.39	0.90
Mathematics											
Grade 3 Math	119,225	49	27.01	11.51	3.05	818	587	710.07	48.65	12.78	0.93
Grade 4 Math	117,793	51	25.50	13.26	3.25	835	605	719.38	50.29	12.47	0.94
Grade 5 Math	118,638	49	21.34	11.94	3.16	804	624	704.01	38.03	9.96	0.93
Grade 6 Math	118,979	54	25.12	13.06	3.20	790	616	699.91	38.44	9.26	0.94
Grade 7 Math	119,166	52	20.99	11.38	3.22	806	605	697.78	36.67	10.37	0.92
Grade 8 Math	103,826	52	22.01	10.63	3.19	774	633	698.36	23.93	7.02	0.91
Algebra	148,673	54	20.17	12.06	3.41	814	618	698.56	36.16	10.15	0.92
Geometry	114,094	54	17.82	11.74	3.32	810	604	692.88	39.79	11.52	0.92
Integrated Math 1	3,567	55	18.04	12.19	3.45	814	618	688.78	37.40	10.54	0.92
Integrated Math 2	2,680	56	18.76	11.68	3.30	813	594	687.79	40.18	11.57	0.92

Test	N-count	Max Raw Score	Raw Score Mean	Raw Score Standard Deviation	Raw Score SEM	Max Scale Score	Min Scale Score	Scale Score Mean	Scale Score Standard Deviation	Scale Score SEM	Reliability
Sciences											
Grade 5 Science	119,754	56	31.35	12.28	3.25	845	559	716.40	51.60	13.98	0.93
Grade 8 Science	126,202	56	26.70	11.60	3.28	868	575	717.52	47.74	13.71	0.92
Biology	131,629	55	23.83	10.84	3.43	823	617	710.51	31.73	9.83	0.90
Social Studies											
American Government	78,375	53	28.02	11.64	3.49	774	642	712.96	21.01	6.18	0.91
American History	125,024	53	27.61	11.14	3.34	800	619	713.62	27.37	8.37	0.91

Note: Since all spring 2022 ELA tests except High School ELA I had Operational Field Test writing prompts with associated reading items, highest possible raw scores within the blueprint ranges in each test vary depending on passages associated with writing prompts. SEM is standard error of measurement. Min and Max Scale Score and Max Raw Score show the minimum/maximum possible score the students could achieve. High School ELA I is phasing out.

Table 2 – Scale Score Cut Points for Basic, Proficient, Accomplished, and Advanced Performance Levels

Test	Basic	Proficient	Accomplished	Advanced
English Language Arts				
Grade 3 ELA	672	700	725	752
Grade 4 ELA	674	700	725	753
Grade 5 ELA	669	700	725	755
Grade 6 ELA	668	700	725	751
Grade 7 ELA	670	700	725	749
Grade 8 ELA	682	700	725	744
High School ELA I	683	700	725	739
High School ELA II	679	700	725	742
Mathematics				
Grade 3 Math	683	700	725	753
Grade 4 Math	686	700	725	759
Grade 5 Math	687	700	725	749
Grade 6 Math	682	700	725	744
Grade 7 Math	684	700	725	755
Grade 8 Math	690	700	725	744
Algebra	682	700	725	754
Geometry	678	700	725	756
Integrated Math 1	682	700	725	754
Integrated Math 2	677	700	725	758
Science				
Grade 5 Science	664	700	725	753
Grade 8 Science	674	700	725	766
Biology	685	700	725	735
Social Studies				
American Government	687	700	725	739
American History	684	700	725	738

Table 3 – Percentage of Students at Each Performance Level

Test	N-Count	Limited	Basic	Proficient	Accomplished	Advanced	At or Above Proficient
English Language Arts							
Grade 3 ELA	118,164	21	21	19	19	20	58
Grade 4 ELA	118,279	21	16	20	21	22	63
Grade 5 ELA	119,964	15	20	20	22	22	65
Grade 6 ELA	120,548	19	25	23	19	13	56
Grade 7 ELA	124,872	17	23	23	19	18	61
Grade 8 ELA	127,010	29	18	28	15	10	53
High School ELA I	3,923	58	20	14	4	4	22
High School ELA II	134,681	21	21	31	16	11	58
Mathematics							
Grade 3 Math	119,225	29	12	19	18	22	59
Grade 4 Math	117,793	27	9	17	24	24	64
Grade 5 Math	118,638	35	11	24	16	14	54
Grade 6 Math	118,979	34	16	23	12	15	50
Grade 7 Math	119,166	39	15	21	17	8	46
Grade 8 Math	103,826	40	17	28	10	4	43
Algebra	148,673	35	20	21	16	8	45
Geometry	114,094	40	18	21	15	7	43
Integrated Math 1	3,567	48	17	17	12	6	35
Integrated Math 2	2,680	45	19	17	14	6	36
Science							
Grade 5 Science	119,754	18	19	17	18	28	63
Grade 8 Science	126,202	18	19	20	27	16	63
Biology	131,629	21	17	28	10	24	62
Social Studies							
American Government	78,375	10	19	44	14	13	72
American History	125,024	15	19	30	16	20	66

Subscale data

Table 4 – Raw Score Ranges for Below Proficient, At/Near Proficient and Above Proficient

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
High School ELA I	RI	0-8	9-14	15-26
	RL	0-5	6-8	9-16
	W	0-6	7-9	10-20

Note: The ranges are based on online test form. Since Spring 2022 ELA tests except High School ELA I had Operational Field Test Writing prompts, the subscale raw score ranges varied depending on passages associated with writing prompts and are not reported here.

RL = Reading Literary Text; RI = Reading Informational Text; W = Writing).

Table 4 – Continued

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
Grade 3 Math	FRA	0-4	5-7	8-12
	G	0-3	4-6	7-12
	MUD	0-5	6-9	10-14
	NO	0-4	5-7	8-11
	MR	0-12	13-17	18-33
Grade 4 Math	FRA	0-5	6-9	10-20
	G	0-3	4-6	7-12
	MUD	0-5	6-9	10-19
	MR	0-9	10-15	16-34
Grade 5 Math	D	0-6	7-10	11-19
	FRA	0-3	4-7	8-18
	G	0-3	4-7	8-12
	MR	0-6	7-11	12-29
Grade 6 Math	EE	0-6	7-10	11-17
	GS	0-2	3-4	5-11
	NS	0-3	4-6	7-12
	RP	0-6	7-9	10-14
	MR	0-5	6-9	10-22
Grade 7 Math	G	0-2	3-4	5-11
	NS	0-3	4-7	8-15
	RP	0-5	6-9	10-14
	SP	0-3	4-6	7-12
	MR	0-8	9-13	14-29
Grade 8 Math	EE	0-3	4-6	7-12
	F	0-4	5-7	8-13
	G	0-5	6-9	10-16
	NS	0-2	3-5	6-11
	MR	0-7	8-12	13-27
Algebra	F	0-5	6-10	11-25
	NQEE	0-5	6-9	10-19
	S	0-2	3-5	6-10
	MR	0-6	7-11	12-25
Geometry	C	0-1	2-4	5-12
	CP	0-5	6-9	10-19
	P	0-1	2-4	5-10
	ST	0-3	4-7	8-13

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
	MR	0-5	6-9	10-30
Integrated Math 1	A	0-3	4-6	7-13
	G	0-2	3-6	7-13
	NQF	0-4	5-8	9-19
	S	0-3	4-6	7-10
	MR	0-6	7-11	12-24
Integrated Math 2	F	0-2	3-5	6-11
	G	0-6	7-10	11-21
	NQEE	0-4	5-8	9-14
	P	0-1	2-4	5-10
	MR	0-7	8-11	12-27

Note: The ranges are based on online test form. Modeling and Reasoning items are embedded within the other mathematics reporting categories.

MUD = Multiplication & Division; NO = Numbers & Operations; G = Geometry; FRA = Fractions; D = Decimals; EE = Expressions & Equations; NS = The Number System; GS = Geometry and Statistics; RP = Ratios and Proportions; SP = Statistics and Probability; F = Functions; NQEE = Number, Quantities, Equations and Expressions; S = Statistics; CP = Congruence & Proof; ST = Similarity & Trigonometry; C = Circles; P = Probability; A = Algebra; NQF = Number & Quantity/Functions; MR = Model Reasoning.

Table 4 – Continued

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
Grade 5 Science	ESS	0-6	7-10	11-15
	LS	0-9	10-13	14-21
	PS	0-5	6-9	10-20
Grade 8 Science	ESS	0-7	8-11	12-22
	LS	0-4	5-8	9-17
	PS	0-4	5-7	8-17
Biology	Ce	0-3	4-6	7-13
	DI	0-3	4-6	7-15
	E	0-3	4-6	7-13
	H	0-3	4-7	8-14

Note: The ranges are based on online test form.

ES = Earth Science; LS = Life Science; PS = Physical Science; H = Heredity; E = Evolution; DI = Diversity and Interdependence of Life; Ce = Cells.

Table 4 – Continued

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
American Government	AGA	0-4	5-8	9-17
	AGB	0-5	6-10	11-23
	AGC	0-3	4-7	8-13
American History	AHA	0-2	3-5	6-12
	AHB	0-7	8-12	13-23
	AHC	0-5	6-9	10-18

Note: The ranges are based on online test form.

EG = Economics and Geography; GO=Government; HI=History; EC=Economics; GE=Geography; HG=History and Government; AGA = Historic Documents; AGB = Principles & Structures; AGC = Ohio/Policy/Economy; AHA = Skills & Documents; AHB = 1877-1945; AHC = 1945-Present.

Subscale data

Table 5 - Percentage of Students Below Proficient, At/Near Proficient and Above Proficient

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
Grade 3 ELA	RI	31	35	35
	RL	25	35	40
	W	30	49	21
Grade 4 ELA	RI	28	33	40
	RL	23	31	45
	W	30	26	44
Grade 5 ELA	RI	25	33	41
	RL	22	34	44
	W	30	32	38
Grade 6 ELA	RI	29	34	36
	RL	28	37	35
	W	33	30	37
Grade 7 ELA	RI	28	29	43
	RL	24	30	46
	W	34	24	42
Grade 8 ELA	RI	35	30	35
	RL	29	39	32
	W	34	32	34
High School ELA 1	RI	55	31	14
	RL	52	30	18
	W	76	10	13
High School ELA 2	RI	29	29	42
	RL	27	40	33
	W	34	24	43

RL = Reading Literary Text; RI = Reading Informational Text; W = Writing.

Table 5 - Continued

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
Grade 3 Math	FRA	26	31	43
	G	19	36	44
	MUD	28	30	42
	NO	31	31	38
	MR	31	19	49
Grade 4 Math	FRA	29	22	49
	G	30	23	47
	MUD	26	22	52
	MR	27	21	53
Grade 5 Math	D	37	21	42
	FRA	33	32	35
	G	25	43	32
	MR	38	23	39
Grade 6 Math	EE	39	22	39
	GS	37	28	35
	NS	31	34	35
	RP	42	26	32
	MR	33	30	37
Grade 7 Math	G	41	27	32
	NS	38	35	27
	RP	32	38	29
	SP	41	31	28
	MR	44	25	31
Grade 8 Math	EE	34	40	26
	F	32	37	31
	G	39	33	29
	NS	37	38	25
	MR	40	31	30
Algebra	F	40	24	36
	NQEE	40	31	29
	S	32	38	30
	MR	38	33	29
Geometry	CP	48	25	27
	C	38	41	21
	P	36	39	25
	ST	39	32	29
	MR	51	19	30
Integrated Math 1	A	0	0	0
	G	51	29	20

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
	NQF	52	24	24
	S	51	21	27
	MR	53	35	13
Integrated Math 2	F	39	28	33
	G	43	33	24
	NQEE	58	21	22
	P	41	39	20
	MR	60	18	22

Note: Modeling and Reasoning items are embedded within the other mathematics reporting categories.

MUD = Multiplication & Division; NO = Numbers & Operations; G = Geometry; FRA = Fractions; D = Decimals; EE = Expressions & Equations; NS = The Number System; GS = Geometry and Statistics; RP = Ratios and Proportions; SP = Statistics and Probability; F = Functions; NQEE = Number, Quantities, Equations and Expressions; S = Statistics; CP = Congruence & Proof; ST = Similarity & Trigonometry; C = Circles; P = Probability; A = Algebra; NQF = Number & Quantity/Functions; MR = Model Reasoning.

Table 5 - Continued

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
Grade 5 Science	ES	23	27	50
	LS	29	18	53
	PS	24	33	42
Grade 8 Science	ES	24	26	50
	LS	27	32	41
	PS	23	28	49
Biology	Ce	20	47	32
	DI	31	32	37
	E	23	29	48
	H	25	38	37

ES = Earth Science; LS = Life Science; PS = Physical Science; H = Heredity; E = Evolution; DI = Diversity and Interdependence of Life; Ce = Cells.

Table 5 - Continued

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
American Government	AGA	17	25	58
	AGB	16	33	52
	AGC	11	41	48
American History	AHA	13	39	48
	AHB	22	26	52
	AHC	20	32	48

EG = Economics and Geography; GO=Government; HI=History; EC=Economics; GE=Geography; HG=History and Government; AGA = Historic Documents; AGB = Principles & Structures; AGC = Ohio/Policy/Economy; AHA = Skills & Documents; AHB = 1877-1945; AHC = 1945-Present.