STATISTICAL SUMMARY

SPRING 2023 ADMINISTRATION OF OHIO'S STATE TESTS IN ENGLISH LANGUAGE ARTS, MATHEMATICS, SCIENCE AND SOCIAL

STUDIES

The Ohio State Board of Education adopted Ohio's Learning Standards in English language arts (ELA) and mathematics in 2010 as part of a multi-state effort. Also that year, the State Board adopted new, more rigorous standards in science and social studies. Ohio's Learning Standards for ELA, 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 Ohio's State Tests in ELA and mathematics to assess student achievement in grades 3 through 8 and high school for the first time. Students take social studies tests after completing high school coursework in U.S. history and U.S. 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 are intended for online administration. However, paper format is available as an accommodation for special circumstances.

Statistics reported here are based on the results of all public school and community school students participating in the spring 2023 administration. Data for grade 3 ELA and all high school tests include both first-time and repeat test takers; repeat takers tend to do less well than first-timers. The high school ELA 1 assessment was discontinued after this administration.

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	118,132	41	19.92	8.77	2.91	863	545	716.01	56.16	18.80	0.89
Grade 4 ELA	120,147	41	21.34	8.49	2.94	846	549	709.74	49.66	17.20	0.88
Grade 5 ELA	119,548	42	24.30	8.60	2.85	848	552	719.27	49.98	16.90	0.89
Grade 6 ELA	120,780	62	33.22	12.43	3.73	851	555	704.42	45.06	13.40	0.91
Grade 7 ELA	121,780	61	35.88	12.44	3.52	833	568	713.64	42.21	12.25	0.92
Grade 8 ELA	125,941	62	34.72	11.91	3.57	805	586	704.03	34.33	10.04	0.91
High School ELA 1	1,117	53	18.53	10.57	3.66	770	606	677.70	27.51	9.41	0.88
High School ELA 2	138,005	60	31.23	12.38	3.71	808	597	704.25	30.86	9.32	0.91
Mathematics											
Grade 3 Math	119,373	49	26.64	11.62	3.07	818	587	714.95	49.86	12.85	0.93
Grade 4 Math	119,589	49	25.96	12.48	3.06	835	605	724.31	51.40	12.96	0.94
Grade 5 Math	118,106	51	22.79	12.54	3.07	804	624	708.58	38.39	9.72	0.94
Grade 6 Math	119,164	54	25.15	13.44	3.29	790	616	700.63	38.14	9.24	0.94
Grade 7 Math	115,320	52	22.36	11.43	3.23	806	605	699.29	34.69	10.09	0.92
Grade 8 Math	104,451	53	22.55	11.57	3.27	774	633	698.38	24.73	7.04	0.92
Algebra	153,327	54	19.70	11.83	3.35	814	618	699.28	36.72	10.32	0.92
Geometry	116,643	55	18.86	12.07	3.19	810	604	693.59	43.26	11.52	0.93
Integrated Math 1	3,716	56	17.76	11.79	3.54	814	618	689.09	35.61	10.48	0.91
Integrated Math 2	2,875	54	19.22	12.69	3.36	813	594	687.26	44.96	12.02	0.93

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	119,501	55	30.29	11.8	3.34	845	559	717.51	48.08	13.66	0.92
Grade 8 Science	125,713	54	26.79	11.18	3.35	868	575	716.31	46.55	13.74	0.91
Biology	135,489	54	23.88	9.78	3.24	823	617	709.79	28.54	9.59	0.89
Social Studies											
American Government	78,693	53	28.77	12.16	3.65	774	642	712.76	21.47	6.33	0.91
American History	126,410	53	27.14	11.56	3.66	800	619	714.35	26.69	8.28	0.90

Note: SEM is standard error of measurement. Min and Max Scale Score show the highest and lowest score the students could achieve. The High School ELA 1 assessment has been phased out.

Note: Starting with the Spring 2022 administration, the Elaboration and Organization rubrics for the Grade 3-8 and HS ELA 2 writing prompts are coded from 1-4 to 0-3 for student ability estimation purposes. The Conventions rubric is not coded because its lowest possible score is zero, and nonscorable responses receiving condition codes always earn no points. The data in Table 1 reflect raw scores before coding.

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 1	683	700	725	739
High School ELA 2	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	118,132	22	16	15	19	28	62
Grade 4 ELA	120,147	24	17	19	20	20	59
Grade 5 ELA	119,548	15	17	19	22	28	68
Grade 6 ELA	120,780	22	23	19	20	16	55
Grade 7 ELA	121,780	16	19	21	21	23	65
Grade 8 ELA	125,941	25	17	28	17	12	58
High School ELA 1	1,117	60	22	11	4	3	18
High School ELA 2	138,005	23	20	30	16	11	57
Mathematics							
Grade 3 Math	119,373	28	10	18	20	25	63
Grade 4 Math	119,589	24	9	18	21	28	67
Grade 5 Math	118,106	30	13	23	18	16	57
Grade 6 Math	119,164	32	18	22	14	14	50
Grade 7 Math	115,320	35	17	24	18	7	48
Grade 8 Math	104,451	40	14	32	10	5	47
Algebra	153,327	36	18	19	18	9	46
Geometry	116,643	39	18	19	15	10	43
Integrated Math 1	3,716	49	16	16	13	6	35
Integrated Math 2	2,875	48	17	14	12	9	35
Science							
Grade 5 Science	119,501	14	22	17	20	27	64
Grade 8 Science	125,713	19	16	20	29	16	64
Biology	135,489	20	19	29	11	21	61
Social Studies							
American Government	78,693	10	20	41	17	12	69
American History	126,410	10	22	33	14	21	68

Note: The High School ELA 1 assessment has been phased out.

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
Grade 3 ELA	RI	0-5	6-9	10-16
	RL	0-5	6-9	10-15
	W	0	1-2	3-8
Grade 4 ELA	RI	0-6	7-10	11-16
	RL	0-5	6-8	9-15
	W	0-1	2-3	4-8
Grade 5 ELA	RI	0-5	6-9	10-16
	RL	0-6	7-10	11-16
	W	0-2	3-4	5-8
Grade 6 ELA	RI	0-10	11-15	16-24
	RL	0-6	7-10	11-18
	W	0-5	6-8	9-16
Grade 7 ELA	RI	0-7	8-12	13-22
	RL	0-10	11-15	16-20
	W	0-3	4-6	7-16
Grade 8 ELA	RI	0-11	12-16	17-24
	RL	0-6	7-10	11-18
	W	0-5	6-8	9-16
High School ELA 1	RI	0-7	8-12	13-26
	RL	0-5	6-9	10-15
	W	0-7	8-11	12-20
High School ELA 2	RI	0-9	10-14	15-23
	RL	0-6	7-10	11-18
	W	0-3	4-7	8-16

Note: RI = Reading Informational Text; RL = Reading Literary Text; W = Writing. The ranges are based on the online test form. The High School ELA 1 assessment has been phased out.

Note: Starting with the Spring 2022 administration, the Elaboration and Organization rubrics for the Grade 3-8 and HS ELA 2 writing prompts are coded from 1-4 to 0-3 for student ability estimation purposes. The Conventions rubric is not coded because its lowest possible score is zero, and nonscorable responses receiving condition codes always earn no points. The data in Table 4 reflect raw scores after coding.

Table 4 – Continued

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
Grade 3 Math	FRA	0-4	5-7	8-12
	G	0-5	6-8	9-12
	MUD	0-4	5-7	8-13
	MR	0-7	8-12	13-28
	NO	0-2	3-5	6-12
Grade 4 Math	FRA	0-4	5-8	9-17
	G	0-4	5-7	8-12
	MUD	0-5	6-9	10-20
	MR	0-7	8-11	12-29
Grade 5 Math	D	0-5	6-10	11-20
	FRA	0-4	5-7	8-19
	G	0-3	4-6	7-12
	MR	0-6	7-11	12-30
Grade 6 Math	EE	0-5	6-9	10-18
	GS	0-2	3-5	6-11
	MR	0-5	6-9	10-22
	NS	0-4	5-7	8-11
	RP	0-5	6-8	9-14
Grade 7 Math	G	0-3	4-6	7-12
	MR	0-9	10-14	15-30
	NS	0-5	6-8	9-16
	RP	0-4	5-7	8-12
	SP	0-2	3-5	6-12
Grade 8 Math	EE	0-3	4-7	8-14
	F	0-3	4-7	8-12
	G	0-4	5-8	9-16
	MR	0-7	8-12	13-29
	NS	0-3	4-6	7-11
Algebra	F	0-6	7-10	11-24
	MR	0-7	8-12	13-28
	NQEE	0-4	5-8	9-20
	S	0-2	3-5	6-10
Geometry	C	0-3	4-6	7-11
	CP	0-5	6-9	10-20
	MR	0-7	8-11	12-28
	P	0-1	2-3	4-10

Office of Assessment, Ohio Department of Education

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
	ST	0-3	4-6	7-14
Integrated Math 1	A	0-4	5-7	8-14
	G	0-2	3-5	6-13
	MR	0-9	10-14	15-33
	NQF	0-4	5-8	9-19
	S	0-2	3-4	5-10
Integrated Math 2	F	0-3	4-6	7-11
	G	0-6	7-10	11-20
	MR	0-8	9-13	14-29
	NQEE	0-3	4-7	8-14
	P	0-2	3-4	5-10

Note: MR = Model Reasoning; 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 & Expressions; S = Statistics; CP = Congruence & Proof; ST = Similarity & Trigonometry; C = Circles; P = Probability; A = Algebra; NQF = Number & Quantity/Functions. The ranges are based on the online test form. Modeling and Reasoning items are embedded within the other mathematics reporting categories.

Table 4 – Continued

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
Grade 5 Science	ES	0-5	6-9	10-15
	LS	0-7	8-11	12-21
	PS	0-7	8-11	12-19
Grade 8 Science	ES	0-6	7-11	12-23
	LS	0-4	5-8	9-16
	PS	0-4	5-8	9-16
Biology	Ce	0-1	2-4	5-13
	DI	0-3	4-6	7-14
	E	0-4	5-8	9-14
	H	0-3	4-7	8-14

Note: ES = Earth Science; LS = Life Science; PS = Physical Science; Ce = Cells; DI = Diversity & Interdependence of Life; E = Evolution; H = Heredity. The ranges are based on the online test form.

Table 4 – Continued

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
American Government	AGA	0-5	6-9	10-17
	AGB	0-5	6-10	11-22
	AGC	0-3	4-7	8-14
American History	AHA	0-3	4-7	8-13
	AHB	0-6	7-10	11-23
	AHC	0-4	5-8	9-17

Note: AGA = Historic Documents; AGB = Principles & Structure; AGC = Ohio/Policy/Economy; AHA = Skills & Documents; AHB = 1877-1945; AHC = 1945-Present. The ranges are based on the online test form.

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	26	30	43
	RL	28	32	41
	W	32	39	30
Grade 4 ELA	RI	28	32	40
	RL	32	26	42
	W	33	14	53
Grade 5 ELA	RI	17	35	48
	RL	26	29	46
	W	28	37	35
Grade 6 ELA	RI	30	29	41
	RL	29	30	42
	W	37	33	30
Grade 7 ELA	RI	22	33	45
	RL	23	34	43
	W	28	16	56
Grade 8 ELA	RI	29	30	42
	RL	24	39	37
	W	32	31	37
High School ELA 1	RI	53	29	17
	RL	44	37	19
	W	85	6	9
High School ELA 2	RI	30	30	40
	RL	32	31	37
	W	32	20	48

Note: RI = Reading Informational Text; RL = Reading Literary Text; W = Writing

Table 5 - Continued

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
Grade 3 Math	FRA	27	33	40
	G	22	38	40
	MUD	30	22	48
	MR	30	21	49
	NO	26	23	51
Grade 4 Math	FRA	21	28	51
	G	26	24	50
	MUD	27	21	52
	MR	25	17	58
Grade 5 Math	D	28	27	45
	FRA	33	23	44
	G	31	32	37
	MR	33	23	44
Grade 6 Math	EE	37	23	40
	GS	34	38	28
	MR	40	24	35
	NS	33	31	36
	RP	39	21	39
Grade 7 Math	G	28	39	33
	MR	41	24	35
	NS	41	21	38
	RP	40	32	28
	SP	36	33	31
Grade 8 Math	EE	31	38	30
	F	29	49	22
	G	38	34	27
	MR	42	25	33
	NS	34	28	38
Algebra	F	43	20	37
	MR	42	23	35
	NQEE	42	29	29
	S	28	39	33
Geometry	CP	47	24	29
	C	40	40	21
	MR	48	22	30
	P	38	29	33
	ST	47	27	26
Integrated Math 1	A	45	29	26
	G	56	28	16

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
	MR	57	17	26
	NQF	48	25	27
	S	48	24	29
Integrated Math 2	F	50	26	24
	G	55	24	21
	MR	52	20	28
	NQEE	47	31	22
	P	49	19	32

Note: MR = Model Reasoning; 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 & Expressions; S = Statistics; CP = Congruence & Proof; ST = Similarity & Trigonometry; C = Circles; P = Probability; A = Algebra; NQF = Number & Quantity/Functions. Modeling and Reasoning items are embedded within the other mathematics reporting categories.

Table 5 - Continued

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
Grade 5 Science	ES	22	34	44
	LS	27	22	51
	PS	28	29	43
Grade 8 Science	ES	25	36	39
	LS	20	31	49
	PS	17	35	48
Biology	Ce	14	48	38
	DI	27	37	35
	E	20	39	41
	H	15	47	38

Note: ES = Earth Science; LS = Life Science; PS = Physical Science; Ce = Cells; DI = Diversity & Interdependence of Life; E = Evolution;

Table 5 - Continued

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
American Government	AGA	18	25	57
	AGB	19	27	55
	AGC	13	44	43
American History	AHA	11	42	47
	AHB	20	25	54
	AHC	23	31	46

Note: AGA = Historic Documents; AGB = Principles & Structure; AGC = Ohio/Policy/Economy; AHA = Skills & Documents; AHB = 1877-1945; AHC = 1945-Present.