STATISTICAL SUMMARY

SPRING 2018 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. Also that year, the State Board 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. The Ohio's State Tests are designed to measure student 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 standards in grades 3 through 8 and high school coursework; and social studies standards in 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 physical science and biology in high school.

Statistics reported here are based on the results of all public school and community students participating in the spring 2018 adminstration in elementary, middle and high school. The statistics include repeat as well as first-time examinees; most of the repeaters are either third graders who had taken the ELA test in the fall or high school students attempting to earn additional points toward the state's graduation requirement.

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	126,540	40	18.62	7.31	2.64	863	545	710.88	48.41	17.78	0.87
Grade 4 ELA	126,494	40	20.82	7.53	2.82	846	549	715.11	43.83	16.33	0.86
Grade 5 ELA	127,957	42	23.68	7.90	2.85	848	552	719.40	46.20	16.54	0.87
Grade 6 ELA	126,408	61	32.07	11.39	3.60	851	555	707.69	41.83	12.99	0.90
Grade 7 ELA	124,315	62	32.38	11.38	3.41	833	568	710.20	40.01	11.94	0.91
Grade 8 ELA	125,288	62	31.18	11.01	3.48	805	586	700.32	30.45	9.62	0.90
High School ELA I	149,393	62	31.12	11.96	3.38	800	606	707.94	30.52	8.78	0.92
High School ELA II	139,973	61	28.70	11.50	3.45	808	597	703.19	30.96	9.27	0.91
Mathematics											
Grade 3 Math	127,422	49	28.49	10.78	2.85	818	587	719.56	47.92	12.86	0.93
Grade 4 Math	125,922	49	26.50	12.30	3.25	835	605	728.85	49.05	12.73	0.93
Grade 5 Math	126,613	50	23.76	12.25	3.00	804	624	711.09	39.20	9.90	0.94
Grade 6 Math	124,820	53	27.79	12.47	3.05	790	616	708.74	37.46	9.29	0.94
Grade 7 Math	119,692	52	25.38	12.63	3.34	806	605	708.49	40.74	10.55	0.93
Grade 8 Math	97,465	53	24.83	10.97	2.90	774	633	701.91	27.78	7.49	0.93
Algebra	144,489	54	21.76	11.49	3.25	814	618	703.27	34.14	9.78	0.92
Geometry	127,017	55	18.84	12.15	3.21	810	604	693.30	41.93	11.43	0.93
Integrated Math 1	12,228	54	18.44	11.68	3.50	814	618	690.82	35.64	10.40	0.91
Integrated Math 2	10,536	54	17.12	10.45	3.30	813	594	684.48	37.95	11.79	0.90
Sciences											
Grade 5 Science	127,869	55	31.74	10.93	3.28	845	559	720.45	46.43	13.82	0.91

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
Grade 8 Science	126,202	55	26.95	10.21	3.23	868	575	718.20	44.71	13.95	0.90
Biology	135,480	56	26.19	11.37	3.60	823	617	715.36	29.09	9.14	0.90
Physical Science	484	56	9.77	5.24	3.10	815	634	679.34	18.24	10.73	0.65
Social Studies											
American Government	87,077	63	32.93	12.21	4.05	774	642	712.61	16.68	5.41	0.89
American History	126,208	63	34.15	13.33	3.77	800	619	716.79	26.15	7.62	0.92

Note: 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. The number of students taking Physical Science is low because only members of the Class of 2018 can use thus test to meet graduation requirements.

Table 2 – Scale Score Cut Scores for Basic, Proficient, Accelerated, and Advanced Performance Levels

Test	Basic	Proficient	Accelerated	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
Physical Science	684	700	725	749
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	Accelerated	Advanced	At or Above Proficient
English Language Arts							
Grade 3 ELA	126,540	20	20	18	18	24	60
Grade 4 ELA	126,494	16	18	22	22	22	66
Grade 5 ELA	127,957	13	17	19	28	22	70
Grade 6 ELA	126,408	16	24	24	21	15	59
Grade 7 ELA	124,315	15	21	24	21	18	64
Grade 8 ELA	125,288	27	19	31	15	8	54
High School ELA I	149,393	20	20	30	14	18	62
High School ELA II	139,973	20	22	33	15	10	59
Mathematics							
Grade 3 Math	127,422	23	10	20	19	27	67
Grade 4 Math	125,922	19	9	18	26	29	73
Grade 5 Math	126,613	27	10	26	18	19	63
Grade 6 Math	124,820	25	16	23	17	19	59
Grade 7 Math	119,692	27	14	22	23	15	59
Grade 8 Math	97,465	31	15	33	14	7	54
Algebra	144,489	27	21	26	18	9	53
Geometry	127,017	40	17	19	16	9	44
Integrated Math 1	12,228	45	17	21	13	6	40
Integrated Math 2	10,536	48	23	14	11	5	30
Science							
Grade 5 Science	127,869	11	20	20	24	25	69
Grade 8 Science	126,202	15	17	23	29	15	68
Biology	135,480	15	15	33	10	26	70
Physical Science	484	58	38	9	1	0	10
Social Studies							
American Government	87,077	6	14	59	16	6	81
American History	126,208	11	17	33	17	22	72

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	0-6	7-9	10-15
	RL	0-4	5-8	9-15
	W	0-1	2-3	4-10
Grade 4 ELA	RI	0-5	6-9	10-15
	RL	0-5	6-9	10-15
	W	0-1	2-4	5-10
Grade 5 ELA	RI	0-5	6-9	10-16
	RL	0-6	7-10	11-16
	W	0-3	4-5	6-10
Grade 6 ELA	RI	0-7	8-12	13-24
	RL	0-7	8-11	12-17
	W	0-8	9-12	13-20
Grade 7 ELA	RI	0-8	9-13	14-24
	RL	0-6	7-11	12-18
	W	0-7	8-10	11-20
Grade 8 ELA	RI	0-8	9-13	14-23
	RL	0-8	9-12	13-19
	W	0-7	8-11	12-20
High School ELA I	RI	0-9	10-14	15-25
	RL	0-5	6-9	10-17
	W	0-6	7-10	11-20
High School ELA II	RI	0-8	9-13	14-26
	RL	0-5	6-9	10-15
	W	0-6	7-9	10-20

Note: RL = Reading Literary Text; RI = Reading Informational Text; W = Writing. The ranges are based on the online test form.

Table 4 – Continued

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
Grade 3 Math	FRA	0-4	5-7	8-11
	G	0-4	5-6	7-12
	MUD	0-4	5-8	9-14
	MR	0-10	11-15	16-34
	NO	0-4	5-7	8-12
Grade 4 Math	FRA	0-5	6-9	10-19
	G	0-2	3-5	6-11
	MUD	0-4	5-8	9-19
	MR	0-4	5-8	9-23
Grade 5 Math	D	0-6	7-10	11-19
	FRA	0-3	4-7	8-17
	G	0-3	4-6	7-14
	MR	0-5	6-9	10-23
Grade 6 Math	EE	0-6	7-10	11-17
	GS	0-4	5-6	7-11
	MR	0-8	9-13	14-27
	NS	0-4	5-7	8-11
	RP	0-3	4-6	7-14
Grade 7 Math	G	0-2	3-5	6-11
	MR	0-9	10-14	15-30
	NS	0-4	5-8	9-17
	RP	0-3	4-6	7-12
	SP	0-4	5-7	8-12
Grade 8 Math	EE	0-3	4-7	8-14
	F	0-4	5-6	7-11
	G	0-6	7-9	10-16
	MR	0-6	7-10	11-26
	NS	0-3	4-6	7-12
Algebra	F	0-7	8-12	13-24
	MR	0-8	9-13	14-33
	NQEE	0-4	5-8	9-19
	S	0-2	3-5	6-11
Geometry	CP	0-5	6-9	10-19
	C	0-2	3-4	5-10
	MR	0-8	9-13	14-33
	P	0-2	3-5	6-10

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
	ST	0-3	4-7	8-16
Integrated Math 1	A	0-2	3-6	7-13
	G	0-2	3-5	6-11
	MR	0-10	11-15	16-35
	NQF	0-5	6-10	11-19
	S	0-2	3-5	6-11
Integrated Math 2	F	0-3	4-6	7-11
	G	0-5	6-9	10-18
	MR	0-7	8-12	13-29
	NQEE	0-3	4-6	7-15
	P	0-2	3-5	6-10

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 and 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.

Table 4 – Continued

Test	Strand	Below Proficient	At/Near Proficient	Above Proficient
Grade 5 Science	ES	0-6	7-9	10-16
	LS	0-7	8-11	12-20
	PS	0-7	8-11	12-19
Grade 8 Science	ES	0-6	7-10	11-21
	LS	0-5	6-8	9-18
	PS	0-5	6-8	9-16
Biology	BS-A	0-2	3-5	6-13
	BS-B	0-3	4-7	8-15
	BS-C	0-3	4-6	7-14
	BS-D	0-3	4-7	8-14
Physical Science	PS-A	0-2	3-6	7-17
	PS-B	0-1	2-5	6-15
	PS-C	0-3	4-6	7-15
	PS-D	0-2	3-5	5-9

Note: ES = Earth Science; LS = Life Science; PS = Physical Science; BS-A = Heredity; BS-B = Evolution; BS-C = Diversity and Interdependence of Life; BS-D = Cells; PS-A = Study of Matter; PS-B = Energy & Waves; PS-C = Forces & Motions; PS-D = The Universe. 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	6-10	11-23
	AGB	0-6	7-11	12-24
	AGC	0-4	5-8	9-16
American History	AHA	0-4	5-8	9-17
	AHB	0-7	8-12	13-26
	AHC	0-6	7-10	11-20

Note: 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. The ranges are based on online test form.

Subscale data

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

Test	Strand	Below Proficient	At Proficient	Above Proficient
Grade 3 ELA	RI	27	35	38
	RL	22	36	42
	W	37	30	34
Grade 4 ELA	RI	20	37	43
	RL	18	45	37
	W	20	36	44
Grade 5 ELA	RI	18	33	50
	RL	21	33	46
	W	26	26	48
Grade 6 ELA	RI	24	32	44
	RL	23	35	43
	W	34	42	24
Grade 7 ELA	RI	21	30	50
	RL	24	45	31
	W	31	19	50
Grade 8 ELA	RI	30	38	31
	RL	34	31	35
	W	33	25	42
High School ELA I	RI	25	28	47
	RL	17	39	44
	W	35	25	40
High School ELA II	RI	24	34	43
	RL	25	39	36
	W	33	20	46

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

Table 5 - Continued

Test	Strand	Below Proficient	At Proficient	Above Proficient
Grade 3 Math	FRA	16	37	47
	G	20	22	58
	MUD	25	26	49
	MR	26	19	56
	NO	23	33	44
Grade 4 Math	FRA	19	22	59
	G	17	26	57
	MUD	19	21	60
	MR	19	20	61
Grade 5 Math	D	28	21	51
	FRA	23	33	43
	G	25	31	45
	MR	26	23	51
Grade 6 Math	EE	31	25	45
	GS	27	27	46
	MR	29	27	44
	NS	26	37	37
	RP	30	28	43
Grade 7 Math	G	25	32	43
	MR	33	23	43
	NS	26	33	41
	RP	26	25	49
	SP	32	25	43
Grade 8 Math	EE	26	39	35
	F	32	33	35
	G	37	30	34
	MR	36	25	39
	NS	32	31	37
Algebra	F	34	27	40
	MR	37	25	38
	NQEE	35	33	32
	S	29	43	28
Geometry	CP	46	26	28
	C	46	25	29
	MR	47	22	31
	P	34	40	26
	ST	45	30	25
Integrated Math 1	A	39	39	22
	G	44	33	24

Test	Strand	Below Proficient	At Proficient	Above Proficient
	MR	53	17	29
	NQF	45	30	25
	S	35	41	24
	F	47	34	20
	G	61	25	15
Integrated Math 2	MR	59	22	19
	NQEE	48	32	20
	P	43	36	21

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 and Expressions; S = Statistics; CP = Congruence & Proof; ST = Similarity & Trigonometry; C = Circles; P = Probability; A = Algebra; NQF = Number & Quantity/Functions

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Table 5 - Continued

Test	Strand	Below Proficient	At Proficient	Above Proficient
Grade 5 Science	ES	21	29	50
	LS	23	24	53
	PS	21	29	51
Grade 8 Science	ES	21	32	47
	LS	21	29	50
	PS	24	29	46
Biology	BS-A	17	30	53
	BS-B	14	48	38
	BS-C	19	29	51
	BS-D	19	39	42
Physical Science	PS-A	71	26	2
	PS-B	33	63	4
	PS-C	75	21	4
	PS-D	39	55	7

Note: ES = Earth Science; LS = Life Science; PS = Physical Science; BS-A = Heredity; BS-B = Evolution; BS-C = Diversity and Interdependence of Life; BS-D = Cells; PS-A = Study of Matter; PS-B = Energy & Waves; PS-C = Forces & Motions; PS-D = The Universe

Table 5 - Continued

Test	Strand	Below Proficient	At Proficient	Above Proficient
American Government	AGA	10	34	56
	AGB	12	28	61
	AGC	15	36	49
American History	AHA	10	27	62
	AHB	18	26	56
	AHC	22	26	52

Note: 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

The raw score to scale score conversion tables are included in Appendix G in the full technical report. The frequency tables are included in Appendix D. You can find the full technical report here: https://oh.portal.airast.org/core/fileparse.php/3094/urlt/OST_Annual_Technical_Report_Spring2018.pdf