

Student Performance

Score Interpretation

To help provide appropriate interpretation of the 2012 MSA Science operational test scores, two types of scores were created: scale scores and performance levels and descriptions.

Scale Scores

As explained in the proceeding section, the 2012 MSA Science tests yield scale scores that range between 240 and 650. As a result of calibration, equating, and scaling the scale scores from the two base forms are comparable within the same grade, but not across grade levels. The only inferences that can be appropriately drawn from scale scores are that higher scale scores represent higher performance on the MSA Science test. Thus, performance levels and descriptions can give a specific interpretation other than a simple interpretation because they were developed to bring meaning to the scale scores.

Performance Levels and Descriptions

Performance levels and descriptions provide specific information about students' performance levels and help interpret the 2012 MSA Science scale scores. They describe what students at a particular level generally know and are able to do and can be applicable to all students within a grade level.

Performance standards for the MSA Science tests were established in 2007. Details of the standard-setting process and outcomes are provided in MSA Science standard-setting technical report (Pearson, 2007). The Maryland State Board of Education reviewed the performance standards recommended by the standard-setting committee and made a modification in the recommendation. The performance standards approved by the State Board are listed in Table 9. Students whose scale scores are lower than the Proficient cut score are classified as "Basic." The highest performance group whose scale score is equal or higher than Advanced cut score belongs to the "Advanced" group. The middle group is called "Proficient."

Table 9. Scale score cut scores for grades 5 and 8 MSA Science.

Grade	Proficient Cut score	Advanced Cut score
5	391	467
8	387	478

Table 10 reports percentages of grade 5 students in three performance groups and the descriptive statistics for the selected subgroups (gender and ethnicity). The analysis was conducted for all students in grades 5 as well as by administration mode.

Table 10. Grade 5 Performance Level Percentages and Summary Statistics

	Overall						Online Administration						Paper Administration					
	Performance Levels			Mean	SD	N	Performance Levels			Mean	SD	N	Performance Levels			Mean	SD	N
	B	P	A				B	P	A				B	P	A			
Subgroup																		
<i>All Students</i>																		
All	31	57	11	412	46.7	60777	29	60	11	414	44.1	32262	34	54	11	409	49.5	28515
<i>Gender</i>																		
Male	32	57	11	411	47.9	30941	29	59	11	414	45.2	16407	35	53	12	408	50.5	14534
Female	31	58	11	412	45.5	29832	29	61	10	414	42.9	15855	34	55	11	410	48.2	13977
<i>Ethnicity</i>																		
Hispanic/Latino	41	54	5	398	42.9	7214	40	55	5	400	42.0	3428	42	54	5	397	43.7	3786
Non-Hispanic/Latino	30	58	12	413	46.9	53559	28	61	12	415	44.0	28834	33	54	12	411	50.0	24725
<i>Race</i>																		
American Indian	33	60	7	409	41.9	177	28	67	5	411	40.3	97	39	53	9	406	43.8	80
Asian/Pacific Islander	15	63	22	434	46.3	3663	15	65	20	433	44.0	1692	15	61	24	435	48.2	1971
African American	51	46	3	389	42.4	21358	47	50	3	393	41.0	10321	55	43	2	384	43.2	11037
Native Hawaiian	47	50	3	384	62.1	64	32	65	3	407	39.9	34	63	33	3	358	72.7	30
White	16	66	18	430	41.5	25833	17	67	16	428	40.1	15277	15	65	20	433	43.2	10556
<i>Note: Performance Levels, B=Basic, P=Proficient, A=Advanced</i>																		

Table 11 reports percentages of grade 8 students in three performance groups and the descriptive statistics for the selected subgroups (gender and ethnicity). The analysis was conducted for all students in grades 8 as well as by administration mode.

Table 11. Grade 8 Performance Level Percentages and Summary Statistics

	Overall						Online Administration						Paper Administration						
	Performance Levels			Mean	SD	N	Performance Levels			Mean	SD	N	Performance Levels			Mean	SD	N	
	B	P	A				B	P	A				B	P	A				
Subgroup																			
<i>All Students</i>																			
All	29	63	7	411	49.4	61100	28	66	6	411	46.7	38540	32	59	9	409	53.6	22560	
<i>Gender</i>																			
Male	30	62	9	411	51.8	31169	28	65	8	412	49.3	19705	32	57	10	410	55.7	11464	
Female	29	65	6	410	46.6	29918	28	67	5	411	43.9	18835	31	61	8	409	51.0	11083	
<i>Ethnicity</i>																			
Hispanic/Latino	40	57	3	395	48.4	6445	41	57	3	393	48.2	3666	39	57	4	396	48.7	2779	
Non-Hispanic/Latino	28	64	8	412	49.1	54642	26	67	7	413	46.2	34874	31	59	10	411	53.8	19768	
<i>Race</i>																			
American Indian	31	65	3	406	44.4	188	34	64	3	404	44.4	140	25	71	4	412	44.5	48	
Asian/Pacific Islander	11	69	20	440	47.6	3526	12	72	16	436	46.4	1763	11	65	24	443	48.6	1763	
African American	49	50	1	385	44.4	21994	47	52	1	388	43.0	12811	52	47	1	382	46.0	9183	
Native Hawaiian	36	62	3	399	47.3	78	35	61	4	403	48.9	49	38	62		391	44.4	29	
White	14	75	12	430	42.2	26775	14	76	10	428	40.5	18734	13	71	17	437	45.5	8041	
<i>Note: Performance Levels, B=Basic, P=Proficient, A=Advanced</i>																			