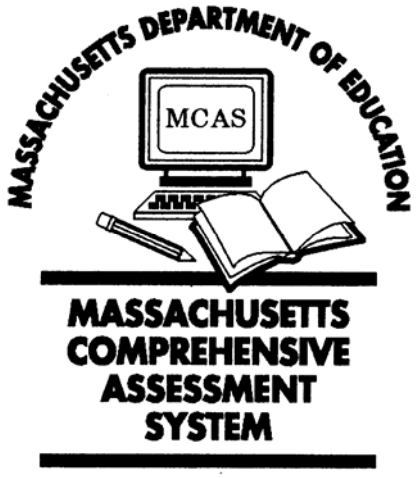

Spring 2007
MCAS High School
Science and Technology/Engineering Tests

Summary of
State Results

October 2007
Massachusetts Department of Education

I. Summary of the 2007 MCAS Science and Technology/Engineering (STE) State Results

In spring 2007, four MCAS Science and Technology/Engineering (STE) operational tests were introduced at the high school level (grades 9 and 10): Biology, Chemistry, Introductory Physics, and Technology/Engineering. Over 100,000 Massachusetts public high school students in grades 9 and 10 participated in the MCAS STE tests. State-level results for these four tests are provided in this report.

In total, 101,809 high school students in grades 9 and 10 statewide participated in the MCAS high school STE tests: 38,741 (38%) students were in grade 9 and 63,068 (62%) were in grade 10. The aggregate passing rate for the tests was 81% for the grade 9 students and 69% for the grade 10 students. The overall percent of students scoring *Proficient* and higher for all the MCAS STE tests was 53% for the grade 9 students and 35% for the grade 10 students.

The percent of grade 9 students scoring *Proficient* and higher on the 2007 STE tests ranged from 21 percent in Chemistry to 58 percent in Biology. Among grade 10 students, the range is from 25 percent in Technology/Engineering to 46 percent in Introductory Physics. The percent of students in grades 9 and 10 who received a *Failing* performance level in the 2007 STE tests ranged from 22 percent in Introductory Physics to 39 percent in Chemistry.

Tables 1-5 below summarize the statewide results from the 2007 MCAS high school STE tests.

Table 1
2007 Statewide MCAS STE Aggregate Results: Grades 9 and 10

Grade	*Advanced*		*Proficient*		*Needs Improvement*		*Failing*		Students Included	
	#	%	#	%	#	%	#	%	#	%
Grade 9	5,688	15	14,697	38	11,148	29	7,208	19	38,741	38
Grade 10	3,847	6	18,278	29	21,691	34	19,252	31	63,068	62
Total	**9,535**	**9**	**32,975**	**32**	**32,839**	**32**	**26,460**	**26**	**101,809**	**100**

Table 2
2007 Statewide MCAS STE Results: Grades 9 and 10

Subject Areas	Number and Percent of Students Scoring *Proficient* and Higher			
	Grade 9		Grade 10	
	#	%	#	%
Biology	11,957	58	15,621	35
Chemistry	115	21	5,366	36
Introductory Physics	7,731	48	992	45
Technology/Engineering	582	40	146	25

Table 3
2007 Statewide MCAS STE Results: Grades 9 and 10

Subject Areas	*Advanced*		*Proficient*		*Needs Improvement*		*Failing*		Students Included
	#	%	#	%	#	%	#	%	
Biology	5,275	8	22,303	34	22,504	34	15,848	24	65,930
Chemistry	1,689	11	3,792	24	4,078	26	6,086	39	15,645
Introductory Physics	2,523	14	6,200	34	5,438	30	4,039	22	18,200
Technology/Engineering	48	2	680	33	819	40	487	24	2,034

Table 4 2007 Statewide MCAS STE Results: Grade 9									
Subject Areas	***Advanced***		***Proficient***		***Needs Improvement***		***Failing***		**Students Included**
	#	%	#	%	#	%	#	%	
Biology	3,348	16	8,609	42	5,532	27	3,245	16	20,734
Chemistry	37	7	78	14	148	27	293	53	556
Introductory Physics	2,267	14	5,464	34	4,845	30	3,431	21	16,007
Technology/Engineering	36	3	546	38	623	43	239	17	1,444

Table 5 2007 Statewide MCAS STE Results: Grades 10									
Subject Areas	***Advanced***		***Proficient***		***Needs Improvement***		***Failing***		**Students Included**
	#	%	#	%	#	%	#	%	
Biology	1,927	4	13,694	30	16,972	38	12,603	28	45,196
Chemistry	1,652	11	3,714	25	3,930	26	5,793	38	15,089
Introductory Physics	256	12	736	34	593	27	608	28	2,193
Technology/Engineering	12	2	134	23	196	33	248	42	590

II. High School Science and Technology/Engineering Tests At-A-Glance

Background

The Massachusetts Department of Education piloted MCAS high school STE tests in 2004 and 2005. There was a full STE test administration in 2006 with the release of item analysis reports (but no scaled scores or performance levels). In spring 2007, the Department administered four operational STE tests: Biology, Chemistry, Introductory Physics, and Technology/Engineering. High school students in grades 9 and 10 were eligible to participate in these tests.

Competency Determination for the MCAS High School Science and Technology/Engineering Tests

Massachusetts state law requires that all students earn a Competency Determination (CD) as well as meet all local graduation requirements in order to receive a high school diploma from a Massachusetts public high school. Currently, to earn a CD a student must attain a score of *Needs Improvement* or higher in both the MCAS grade 10 English Language Arts and Mathematics tests. Starting with the class of 2010 a student must meet or exceed the scaled score of 220 on one of the MCAS high school STE tests in order to satisfy the CD requirement in addition to meeting or exceeding the state standards in English language arts and mathematics. Every student in the class of 2010 (and beyond) must take at least one STE test by the end of grade 10. A student who passes one of the STE tests in grade 9 will fulfill his or her CD requirement in STE.

Participation Requirements for the Spring 2007 STE Tests

Grade 9
In spring 2007, grade 9 students who were enrolled in a corresponding STE course, including those who took a yearlong course and those who took a course in a fall or spring semester block, were **eligible** to take an STE test. The Department strongly encouraged students to take advantage of the opportunity to take an STE test in grade 9. However, parents/guardians in consultation with teachers, guidance counselors, and school officials, had the option to exclude a student from this testing opportunity.

Grade 10
In spring 2007, all grade 10 students enrolled in a corresponding STE course, including those who took a yearlong course and those who took a course in a fall or spring semester block, were **required** to participate in an STE test. These students were required to take the test in 2007 in part because the Department needed sufficient data to accurately set the cut-point scores that are used to determine eligibility for the Competency Determination. Members of the Class of 2009 are **not required** to pass an STE test in order to graduate.

Grades 11 and 12
Students in grades 11 and 12 were not eligible to participate in the 2007 high school STE tests. Consequently, if those students did participate in the tests, their test results were not reported to districts, schools, or parents, and are not included in this report.

Students with Disabilities
Students with significant cognitive disabilities who are unable to take the standard MCAS tests, even with accommodations, must take the MCAS Alternate Assessment (MCAS-Alt). The MCAS-Alt enables these students to submit portfolios of their work that demonstrate their performance on the *Curriculum Framework* learning standards. Current requirements for compiling STE MCAS-Alt portfolios for high school students are outlined in the 2008 Educator's Manual for MCAS-Alt available at http://www.doe.mass.edu/mcas/alt.

MCAS STE Tests: Format, Structure, and Score Reporting Categories

Each STE test was administered in two sessions over two days. Each session is designed to take approximately 60 minutes. However, MCAS test sessions are untimed. Therefore, students who required more time to complete their work are permitted to keep working until the end of the regular school day. Each test session must be completed the same day on which it begins.

The STE test items are aligned with the *Massachusetts Science and Technology/Engineering Curriculum Framework (October 2006).* Table 6 presents the breakdown of multiple-choice and open-response items for the high school STE tests. Multiple-choice items are worth one point each. Each open-response item receives a score of 0-4 points based on the scoring guidelines for that question.

Table 6 Total Raw Score Points by Item Type: 2007 MCAS High School STE Tests						
Grades	STE Tests	Multiple Choice		Open Response		Total Number of Possible Raw Score Points
		Total Number of Items	*Total Raw Score Points*	*Total Number of Items*	*Total Raw Score Points*	
9 &10	Biology Chemistry Introductory Physics Technology/Engineering	40	40	5	20	60

Each MCAS test booklet contains both *common* and *matrix-sampled* questions. Common questions—which compose roughly 75 percent of a student's test booklet—are those items that are identical in each student's booklet and from which all student, school, and district results are derived. After each test administration, the Department releases 100 percent of the common items to the public for use as a tool to improve curriculum and instruction. These test items may be found at http://www.doe.mass.edu/mcas/testitems.html. To view sample student work and scoring guides for common open-response items, see http://www.doe.mass.edu/mcas/student. Matrix-sampled questions are used to equate MCAS tests from year to year and to field test new items for future tests.

Table 7 below provides high school STE reporting categories derived from the *Massachusetts Science and Technology/Engineering Curriculum Framework (October 2006)* content standards. The approximate percentages (+/-5%) of these categories for each of the tests are provided.

TABLE 7 MCAS High School STE Reporting Categories and Approximate Percent of Items		
Subject Area	**Reporting Categories**	**Percent of Items (+/- 5%)**
Biology	Biochemistry & Cell Biology	25
	Genetics	20
	Anatomy & Physiology	15
	Ecology	20
	Evolution & Biodiversity	20
	Total	**100**
Chemistry	Properties of Matter & Thermochemistry	25
	Atomic Structure & Periodicity	25
	Bonding & Reactions	30
	Solutions, Equilibrium, & Acid-Base Theory	20
	Total	**100**
Introductory Physics	Motion & Forces	40
	Heat & Heat Transfer	15
	Waves & Radiation	25
	Electromagnetism	20
	Total	**100**
Technology/ Engineering	Engineering Design	20
	Construction & Manufacturing	20
	Fluid & Thermal Systems	30
	Electrical & Communications Systems	30
	Total	**100**

MCAS High School STE Test Score and Performance Level Reporting

Results of the MCAS high school STE tests are reported according to performance levels that describe a student's knowledge and skills as they relate to performance standards. School and district results are reported according to the percent of students attaining each performance level in both grades 9 and 10 (combined) and at each grade level (9 and 10 separately) for each content area tested.

Student-level MCAS results are reported as scaled scores, which range from 200 to 280. Scaled scores provide more precise feedback to schools, parents, and students by quantifying a student's performance according to the continuum of scores within each performance level. Tables 8 and 9 below show the scaled score ranges and the general definitions of MCAS performance levels: *Advanced, Proficient, Needs Improvement,* and *Failing.* These score ranges and performance level definitions apply to all MCAS testing in all content areas from grade 4 through grade 10.

Table 8
MCAS Scaled Score Ranges

Scaled Score Points	Performance Level
260–280	*Advanced*
240–258	*Proficient*
220–238	*Needs Improvement*
200–218	*Warning/Failing*

Table 9
MCAS Performance Level Definitions

Performance Level	Definition
Advanced	Students at this level demonstrate a comprehensive and in-depth understanding of rigorous subject matter and provide sophisticated solutions to complex problems.
Proficient	Students at this level demonstrate a solid understanding of challenging subject matter and solve a wide variety of problems.
Needs Improvement	Students at this level demonstrate a partial understanding of subject matter and solve some simple problems.
Warning/Failing	Students at this level demonstrate a minimal understanding of subject matter and do not solve simple problems.

Threshold Scores for the 2007 MCAS High School STE Tests

Table 10 on the following page provides the scaled score point ranges for the high school STE MCAS tests and their corresponding performance levels.

Table 10 Threshold Scores for MCAS High School STE Test Performance Levels				
Tests	**Maximum Raw Score**	**Minimum Scores for Performance Level**		
		Advanced	***Proficient***	***Needs Improvement***
Biology	60	50	35	21
Chemistry	60	48	36	24
Introductory Physics	60	49	34	20
Technology/Engineering	60	52	37	24

For more information on the STE test raw score-to-scaled score conversion table and related topics, please review the threshold scores on the 2007 MCAS tests at http://www.doe.mass.edu/mcas/2007/results/threshscore.html.

MCAS High School STE Test Retesting Opportunities

Students who fail one of the MCAS high school STE tests will have multiple opportunities to take one or more of the tests again. There will be no "focused" retests (focused retests measure *Failing* and *Needs Improvement* levels only) for the high school STE tests, as is currently the case for MCAS English Language Arts and Mathematics tests. Students who are taking a test as a "retest" will be taking the same test as first-time test-takers. Below is a list of retesting opportunities for students in the Class of 2010 and beyond.

- Retesting opportunities will begin in spring 2008 for students who took and failed an STE test in grade 9 in spring 2007.

- Students may participate in a MCAS high school STE test in the following spring in the same subject area in which they were first tested. For example, if a student failed a Biology test in grade 9, he/she may take a Biology test the following year, regardless of course enrollment.

- Students may participate in a MCAS high school STE test in the following spring in a subject area different from the one in which they were previously tested, provided they are completing a course that corresponds with that test. For example, if a student failed an Introductory Physics test in grade 9, he/she may take a Chemistry test in grade 10 if he/she has completed or is completing a high school chemistry course.

- Starting in 2009, the Biology test will be offered twice a year (once in February and once in June). This will also accommodate students on semester block schedules. Students who fail the February Biology test will be eligible to take the June Biology test. All other tests (Chemistry, Introductory Physics, and Technology/Engineering) will only be offered once a year in June.

Additional Information on the high school MCAS STE Tests

The Department's Web site is a resource for educators, parents, and others who seek additional information on MCAS results, released items, the Massachusetts Curriculum Frameworks, and other MCAS-related topics. To access this information, please visit http://www.doe.mass.edu/mcas. The Department has also set up a high school STE Resources and Frequently Asked Questions page at http://www.doe.mass.edu/mcas/science. Finally, a University of Massachusetts–Amherst report titled *Psychometric Analyses of the 2006 MCAS High School Science Tests* is posted at http://www.mcasservicecenter.com/files/MCAS/2006MCASHS_PA.pdf. If you have additional questions, you may contact the Department's Student Assessment Services Unit at 781-338-3625.

III. 2007 MCAS High School STE Test Participation Results

In total, 101,809 high school students participated in the MCAS high school STE tests. Among them, 65,930 students (65%) participated in the Biology test. In contrast, only 2,034 students (2%) participated in the Technology/Engineering test. Another 18,200 students (18%) participated in the Introductory Physics test and 15,645 (15%) participated in the Chemistry test.

In both grades 9 and 10, the highest percentage of the students (54% for grade 9 and 72% for grade 10) took the Biology test. A substantially higher percentage of the students in grade 10 (24%) than in grade 9 (1%) participated in the Chemistry test. Only 1% of grade 10 students participated in Technology/Engineering as opposed to 4% of grade 9 students. Forty-one percent of the grade 9 students participated in the Introductory Physics test, while only 3% of grade 10 students took the test.

Tables 12, 13 and 14 on the following pages present information on the percentage of students in grades 9 and 10 who were administered STE tests in spring 2007. In compliance with federal guideline, this report provides aggregate MCAS results according to the following seven race/ethnicity categories and three student status subgroups:

African American/Black
Asian
Hispanic/Latino
Native American
White
Native Hawaiian/Pacific Islander
Multi-race–Non-Hispanic/Latino

Students with Disabilities: A student with a disability has an Individualized Education Program (IEP) provided under the *Individuals with Disabilities Education Act*.

Limited English *Proficient*/Formerly Limited English *Proficient* (LEP/FLEP): A limited English *Proficient* (LEP) student is "a student whose first language is a language other than English and who is unable to perform ordinary classroom work in English." A

formerly limited English *Proficient* (FLEP) has transitioned out of LEP status during the current school year or within the past two school years. The federal government requires that states continue to monitor the progress of FLEP students. The combined LEP and FLEP reporting category in the following tables represents the official AYP subgroup reporting category.

Low Income: Students identified as low income are those who are eligible to receive free and reduced-price school lunches according to federal guidelines.

Table 12
Summary of Participation by Subject in the STE Tests: Grades 9 and 10

Student Group	Biology		Chemistry		Introductory Physics		Technology/ Engineering	
	#	%	#	%	#	%	#	%
All Students	65,930	65	15,645	15	18,200	18	2,034	2
Race/Ethnicity								
African-American/Black	5,186	61	1,046	12	2,115	25	174	2
Asian	2,757	55	1,117	22	1,078	22	41	1
Hawaiian/Pacific Islander	117	61	14	7	57	30	4	2
Hispanic/Latino	8,352	68	1,570	13	2,163	18	235	2
Multi-Race (non-Hispanic/Latino)	805	61	211	16	267	20	36	3
Native American	159	62	39	15	50	20	7	3
White	48,523	65	11,642	16	12,469	17	1,537	2
Student Status								
Students with Disabilities	9,891	70	1,062	8	2,679	19	400	3
LEP & FLEP	3,347	67	484	10	1,090	22	66	1
Low Income	17,059	66	3,055	12	5,133	20	588	2

Table 13 Summary of Participation by Subject in the STE Tests: Grades 9								
Student Group	**Biology**		**Chemistry**		**Introductory Physics**		**Technology/ Engineering**	
	#	%	#	%	#	%	#	%
All Students	20,734	54	556	1	16,007	41	1,444	4
Race/Ethnicity								
African-American/Black	1,491	42	69	2	1,837	52	142	4
Asian	1,051	53	16	1	905	45	25	1
Hawaiian/Pacific Islander	66	72	0	0	24	26	2	2
Hispanic/Latino	3,323	60	99	2	1,961	36	139	3
Multi-Race (non-Hispanic/Latino)	252	48	11	2	235	45	25	5
Native American	47	48	0	0	45	46	6	6
White	14,496	54	358	1	11,000	41	1,105	4
Student Status								
Students with Disabilities	2,760	52	69	1	2,297	43	224	4
LEP & FLEP	1,060	49	40	2	1,000	47	48	2
Low Income	5,650	52	178	2	4,554	42	396	4

Table 14 Summary of Participation by Subject in the STE Tests: Grades 10								
Student Group	**Biology**		**Chemistry**		**Introductory Physics**		**Technology/ Engineering**	
	#	%	#	%	#	%	#	%
All Students	45,196	72	15,089	24	2,193	3	590	1
Race/Ethnicity								
African-American/Black	3,695	74	977	20	278	6	32	1
Asian	1,706	57	1,101	37	173	6	16	1
Hawaiian/Pacific Islander	51	51	14	14	33	33	2	2
Hispanic/Latino	5,029	74	1,471	22	202	3	96	1
Multi-Race (non-Hispanic/Latino)	553	69	200	25	32	4	11	1
Native American	112	71	39	25	5	3	1	1
White	34,027	72	11,284	24	1,469	3	432	1
Student Status								
Students with Disabilities	7,131	82	993	11	382	4	176	2
LEP & FLEP	2,287	81	444	16	90	3	18	1
Low Income	11,409	76	2,877	19	579	4	192	1

IV. 2007 MCAS High School STE Test Performance Results

Tables 15-26 below provide summary statewide performance level results for the 2007 high school STE tests.

Table 15
2007 Statewide MCAS Biology Results: Grades 9 and 10
***Percent of Students at Each Performance Level*[1]**

Student Group	*Advanced*	*Proficient*	*Needs Improvement*	*Failing*	Students Included
All Students	**8**	**34**	**34**	**24**	**65,930**
Gender					
Female	8	35	35	22	32,770
Male	8	33	33	26	33,129
Race/Ethnicity					
African-American/Black	1	17	37	44	5,186
Asian	18	36	28	17	2,757
Hawaiian/Pacific Islander	10	38	31	21	117
Hispanic/Latino	1	13	36	49	8,352
Multi-Race (non-Hispanic/Latino)	8	32	37	23	805
Native American	3	28	36	33	159
White	9	39	34	18	48,523
Student Status					
Non-Disabled	9	38	34	18	56,014
Students with Disabilities	1	10	34	56	9,891
Limited English *Proficient* (LEP)	1	6	21	71	2,126
Formerly LEP (FLEP)	3	13	36	48	1,221
LEP & FLEP	2	9	27	63	3,347
Low Income	2	17	38	43	17,059

[1] Percentages may not total 100 due to rounding.

Table 16
2007 Statewide MCAS Biology Results: Grade 9
***Percent of Students at Each Performance Level*[1]**

Student Group	*Advanced*	*Proficient*	*Needs Improvement*	*Failing*	Students Included
All Students	16	42	27	16	20,734
Gender					
Female	16	42	27	14	10,549
Male	16	41	27	17	10,177
Race/Ethnicity					
African-American/Black	3	27	37	33	1,491
Asian	31	42	20	7	1,051
Hawaiian/Pacific Islander	14	48	29	9	66
Hispanic/Latino	2	14	38	46	3,323
Multi-Race (non-Hispanic/Latino)	15	40	34	12	252
Native American	4	36	36	23	47
White	20	49	23	8	14,496
Student Status					
Non-Disabled	18	46	25	11	17,966
Students with Disabilities	1	14	38	47	2,760
Limited English *Proficient* (LEP)	2	8	20	70	677
Formerly LEP (FLEP)	4	11	38	47	383
LEP & FLEP	2	9	27	62	1,060
Low Income	3	22	38	37	5,650

[1] Percentages may not total 100 due to rounding.

Table 17
2007 Statewide MCAS Biology Results: Grade 10
***Percent of Students at Each Performance Level*[1]**

Student Group	*Advanced*	*Proficient*	*Needs Improvement*	*Failing*	Students Included
All Students	4	30	38	28	45,196
Gender					
Female	4	31	39	26	22,221
Male	4	30	36	30	22,952
Race/Ethnicity					
African-American/Black	1	13	38	49	3,695
Asian	10	33	34	23	1,706
Hawaiian/Pacific Islander	6	25	33	35	51
Hispanic/Latino	1	12	35	52	5,029
Multi-Race (non-Hispanic/Latino)	5	28	38	29	553
Native American	3	25	36	37	112
White	5	35	38	22	34,027
Student Status					
Non-Disabled	5	34	39	22	38,048
Students with Disabilities	0	8	32	59	7,131
Limited English *Proficient* (LEP)	1	6	22	72	1,449
Formerly LEP (FLEP)	2	13	35	49	838
LEP & FLEP	1	9	27	64	2,287
Low Income	1	15	38	46	11,409

[1] Percentages may not total 100 due to rounding.

Table 18
2007 Statewide MCAS Chemistry Results: Grades 9 and 10
Percent and Total Number of Students at Each Performance Level[1]

Student Group	*Advanced*	*Proficient*	*Needs Improvement*	*Failing*	Students Included
All Students	11	24	26	39	15,645
Gender					
Female	10	24	28	38	8,237
Male	12	24	24	40	7,402
Race/Ethnicity					
African-American/Black	2	11	23	65	1,046
Asian	27	30	24	19	1,117
Hawaiian/Pacific Islander	14	29	21	36	14
Hispanic/Latino	2	9	18	71	1,570
Multi-Race (non-Hispanic/Latino)	11	23	28	37	211
Native American	3	13	23	62	39
White	11	27	28	34	11,642
Student Status					
Non-Disabled	11	26	27	36	14,578
Students with Disabilities	2	4	11	83	1,062
Limited English *Proficient* (LEP)	2	6	11	81	279
Formerly LEP (FLEP)	7	17	20	56	205
LEP & FLEP	4	11	15	70	484
Low Income	2	11	21	65	3,055

[1] Percentages may not total 100 due to rounding.

Table 19
2007 Statewide MCAS Chemistry Results: Grade 9
***Percent of Students at Each Performance Level*[1]**

Student Group	*Advanced*	*Proficient*	*Needs Improvement*	*Failing*	Students Included
All Students	7	14	27	53	556
Gender					
Female	6	13	29	52	282
Male	8	15	24	53	271
Race/Ethnicity					
African-American/Black	0	1	25	74	69
Asian	25	6	13	56	16
Hawaiian/Pacific Islander					
Hispanic/Latino	0	2	17	81	99
Multi-Race (non-Hispanic/Latino)	9	18	45	27	11
Native American	-	-	-	-	0
White	9	20	30	41	358
Student Status					
Non-Disabled	8	16	28	48	484
Students with Disabilities	0	1	17	81	69
Limited English *Proficient* (LEP)	0	7	7	85	27
Formerly LEP (FLEP)	0	8	0	92	13
LEP & FLEP	0	8	5	88	40
Low Income	1	4	20	75	178

[1] Percentages may not total 100 due to rounding.

Table 20
2007 Statewide MCAS Chemistry Results: Grade 10
***Percent of Students at Each Performance Level*[1]**

Student Group	*Advanced*	*Proficient*	*Needs Improvement*	*Failing*	Students Included
All Students	11	25	26	38	15,089
Gender					
Female	10	25	28	37	7,955
Male	12	24	24	40	7,131
Race/Ethnicity					
African-American/Black	2	12	22	64	977
Asian	27	30	24	19	1,101
Hawaiian/Pacific Islander	14	29	21	36	14
Hispanic/Latino	2	10	18	70	1,471
Multi-Race (non-Hispanic/Latino)	11	24	28	38	200
Native American	3	13	23	62	39
White	11	27	28	34	11,284
Student Status					
Non-Disabled	12	26	27	35	14,094
Students with Disabilities	2	4	10	83	993
Limited English *Proficient* (LEP)	2	6	12	80	252
Formerly LEP (FLEP)	7	18	22	53	192
LEP & FLEP	5	11	16	68	444
Low Income	3	12	21	64	2,877

[1] Percentages may not total 100 due to rounding.

Table 21
2007 Statewide MCAS Introductory Physics Results: Grades 9 and 10
***Percent of Students at Each Performance Level*[1]**

Student Group	*Advanced*	*Proficient*	*Needs Improvement*	*Failing*	Students Included
All Students	14	34	30	22	18,200
Gender					
Female	13	34	31	22	8,872
Male	15	34	29	22	9,327
Race/Ethnicity					
African-American/Black	2	16	35	47	2,115
Asian	31	34	21	14	1,078
Hawaiian/Pacific Islander	11	32	42	16	57
Hispanic/Latino	2	16	33	49	2,163
Multi-Race (non-Hispanic/Latino)	22	31	21	25	267
Native American	10	32	26	32	50
White	16	40	29	14	12,469
Student Status					
Non-Disabled	16	38	29	17	15,521
Students with Disabilities	2	13	33	51	2,679
Limited English *Proficient* (LEP)	3	9	25	62	795
Formerly LEP (FLEP)	5	26	33	36	295
LEP & FLEP	4	14	27	55	1,090
Low Income	3	18	35	44	5,133

[1] Percentages may not total 100 due to rounding.

Table 22
2007 Statewide MCAS Introductory Physics Results: Grade 9
***Percent of Students at Each Performance Level*[1]**

Student Group	*Advanced*	*Proficient*	*Needs Improvement*	*Failing*	Students Included
All Students	14	34	30	21	16,007
Gender					
Female	13	34	31	22	7,871
Male	15	35	29	21	8,136
Race/Ethnicity					
African-American/Black	1	14	36	48	1,837
Asian	30	33	22	15	905
Hawaiian/Pacific Islander	8	29	33	29	24
Hispanic/Latino	2	16	34	49	1,961
Multi-Race (non-Hispanic/Latino)	23	31	23	23	235
Native American	9	31	27	33	45
White	17	41	30	12	11,000
Student Status					
Non-Disabled	16	37	29	17	13,710
Students with Disabilities	2	14	35	49	2,297
Limited English *Proficient* (LEP)	3	10	26	61	724
Formerly LEP (FLEP)	5	26	33	35	276
LEP & FLEP	4	14	28	54	1,000
Low Income	2	17	37	44	4,554

[1] Percentages may not total 100 due to rounding.

Table 23
2007 Statewide MCAS Introductory Physics Results: Grade 10
***Percent of Students at Each Performance Level*[1]**

Student Group	*Advanced*	*Proficient*	*Needs Improvement*	*Failing*	Students Included
All Students	12	34	27	28	2,193
Gender					
Female	10	36	28	26	1,001
Male	13	32	26	29	1,191
Race/Ethnicity					
African-American/Black	3	31	27	38	278
Asian	35	40	16	10	173
Hawaiian/Pacific Islander	12	33	48	6	33
Hispanic/Latino	3	20	25	51	202
Multi-Race (non-Hispanic/Latino)	16	28	13	44	32
Native American	-	-	-	-	5
White	12	35	28	25	1,469
Student Status					
Non-Disabled	14	39	28	20	1,811
Students with Disabilities	1	8	24	66	382
Limited English *Proficient* (LEP)	0	6	15	79	71
Formerly LEP (FLEP)	0	16	32	53	19
LEP & FLEP	0	8	19	73	90
Low Income	8	27	25	40	579

[1] Percentages may not total 100 due to rounding.

Table 24
2007 Statewide MCAS Technology/Engineering Results: Grades 9 and 10
***Percent of Students at Each Performance Level*[1]**

Student Group	*Advanced*	*Proficient*	*Needs Improvement*	*Failing*	Students Included
ALL STUDENTS	2	33	40	24	2,034
GENDER					
Female	1	23	48	28	617
Male	3	38	37	22	1,417
RACE/ETHNICITY					
African-American/Black	0	13	41	46	174
Asian	7	32	41	20	41
Hawaiian/Pacific Islander	-	-	-	-	4
Hispanic/Latino	1	23	34	41	235
Multi-Race (non-Hispanic/Latino)	0	25	50	25	36
Native American	-	-	-	-	7
White	3	38	41	19	1,537
STUDENT STATUS					
Non-Disabled	3	39	42	16	1,634
Students with Disabilities	0	12	34	55	400
Limited English *Proficient* (LEP)	0	9	40	51	45
Formerly LEP (FLEP)	0	24	52	24	21
LEP & FLEP	0	14	44	42	66
Low Income	0	18	44	38	588

[1] Percentages may not total 100 due to rounding.

Table 25
2007 Statewide MCAS Technology/Engineering Results: Grade 9
***Percent of Students at Each Performance Level*[1]**

Student Group	*Advanced*	*Proficient*	*Needs Improvement*	*Failing*	Students Included
All Students	2	38	43	17	1,444
Gender					
Female	1	26	53	20	471
Male	3	44	38	15	973
Race/Ethnicity					
African-American/Black	0	14	45	41	142
Asian	8	40	44	8	25
Hawaiian/Pacific Islander	-	-	-	-	2
Hispanic/Latino	1	27	40	31	139
Multi-Race (non-Hispanic/Latino)	0	36	52	12	25
Native American	-	-	-	-	6
White	3	42	43	12	1,105
Student Status					
Non-Disabled	3	42	43	12	1,220
Students with Disabilities	0	17	44	39	224
Limited English *Proficient* (LEP)	0	6	44	50	34
Formerly LEP (FLEP)	0	7	57	36	14
LEP & FLEP	0	6	48	46	48
Low Income	0	21	48	31	396

[1] Percentages may not total 100 due to rounding.

Table 26
2007 Statewide MCAS Technology/Engineering Results: Grade 10
***Percent of Students at Each Performance Level*[1]**

Student Group	*Advanced*	*Proficient*	*Needs Improvement*	*Failing*	Students Included
All Students	2	23	33	42	590
Gender					
Female	1	14	32	53	146
Male	2	26	34	39	444
Race/Ethnicity					
African-American/Black	0	9	22	69	32
Asian	6	19	38	38	16
Hawaiian/Pacific Islander	-	-	-	-	2
Hispanic/Latino	1	18	26	55	96
Multi-Race (non-Hispanic/Latino)	0	0	45	55	11
Native American	-	-	-	-	1
White	2	26	35	37	432
Student Status					
Non-Disabled	3	30	39	28	414
Students with Disabilities	0	5	20	75	176
Limited English *Proficient* (LEP)	0	18	27	55	11
Formerly LEP (FLEP)	-	-	-	-	7
LEP & FLEP	0	33	33	33	18
Low Income	0	12	34	54	192

[1] Percentages may not total 100 due to rounding.