

E&R Report No. 04.23

August 2004

END-OF-COURSE MULTIPLE-CHOICE TEST RESULTS FOR 2003-04

Authors: Roger Regan, Glenda Haynie, Chuck Dulaney

ABSTRACT

End-of-Course (EOC) test scores in the Wake County Public School System (WCPSS) showed generally positive results when compared to prior years. Average scale scores rose in five of eight subject areas, and the percentage of students scoring in the proficient range (Level III or IV) reached new highs in four subjects: Algebra I, Algebra II, chemistry, and physics. More than 85% of students scored at Level III or IV in five subjects: Algebra I, Algebra II, English I, chemistry, and physics. The lowest percentage at Level III or IV was in physical science (65.8%); however, physical science showed the largest improvement from the previous year, rising more than four percentage points. The composite percentage of all EOC test scores at Level III or IV rose from 83.1% in 2002-03 to 83.2% for the eight courses tested in 2003-04.

BACKGROUND

In 2003-04, the North Carolina Department of Public Instruction (NCDPI) required that all schools administer End-of-Course (EOC) tests to students enrolled in eight courses usually taken in high school. The tests are aligned with the Standard Course of Study in each of the subjects tested (Algebra I, Algebra II, geometry, English I, biology, chemistry, physical science, and physics) and use a multiple-choice format. EOC tests were not given in U.S. history and ELP in 2003-04. NCDPI is currently revising the U.S. history test, and the ELP course has been replaced by Civics and Economics, for which there is not yet an EOC exam.

Under the state's ABCs of Public Education accountability program, targets for average EOC scores are established for each school giving EOC tests. The multiple-choice tests must be given during the last two weeks of the course. Results of the tests are used for state accountability programs.

Key Topics

Percent of Scores \geq Level III-----p. 4
Disaggregated Results-----p. 8-9
High School Results-----Attachment

Student performance on EOC multiple-choice tests is measured by both a scale score and an achievement level. There are four broad achievement levels, each representing a different level of competency in a subject area. Figure 1 shows the range of scale scores associated with each achievement level for each of the EOC tests. NCDPI defines the four achievement levels as follows:

Level I: students performing at this level do not have sufficient mastery of knowledge and skills of the course to be successful at a more advanced level in the content area.

Level II: students performing at this level demonstrate inconsistent mastery of knowledge and skills of the course, and are minimally prepared to be successful at a more advanced level in the content area.

Level III: students performing at this level consistently demonstrate mastery of the course subject matter and skills and are well prepared for a more advanced level in the content area.

Level IV: students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient in the course subject matter and skills and are very well prepared for a more advanced level in the content area.

Figure 1
EOC Achievement Levels by Scale Score Ranges

	Level I	Level II	Level III	Level IV
Algebra I	23-44	45-54	55-65	66-87
Algebra II	23-45	46-57	58-68	69-88
Geometry	23-45	46-56	57-66	67-91
English I	22-42	43-51	52-60	61-85
Biology	23-46	47-54	55-64	65-88
Chemistry	23-47	48-55	56-64	65-88
Physics	23-42	43-51	52-62	63-87
Physical Science	23-43	44-53	54-63	64-87

Impact of Block Schedule

Prior to districtwide implementation of a 4x4 block schedule in WCPSS high schools in 2003-04, very few students took two EOC tests in the same subject in the same school in one year. (Note: Southeast Raleigh High School and Fuquay-Varina High School implemented block schedules earlier than other schools.) In 2003-04, approximately 430 students took an EOC course and test in the fall block, and retook the same course and test in the spring block at the same school. If the students did not change schools, only the second score was included for analyses in this report in order to be consistent with state reporting. If a student changed schools from fall block to spring block, both test scores were reported as required by the ABC Accountability Program.

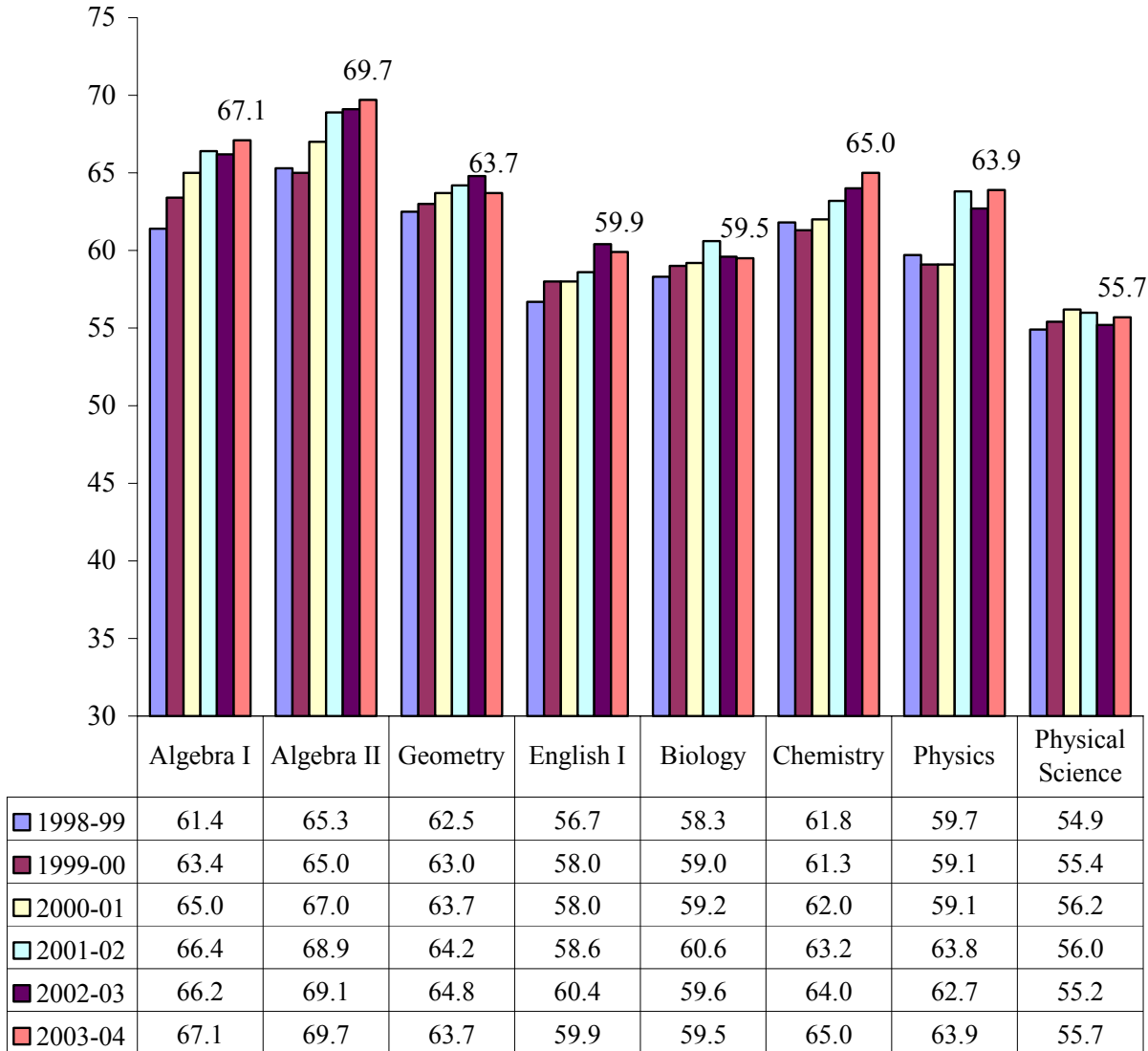
EOC MEAN SCALE SCORES

As shown in Figure 2, mean scale scores for WCPSS students in 2003-04 increased in five of eight subject areas compared with 2002-03: Algebra I (from 66.2 to 67.1), Algebra II (from 69.1 to 69.7), chemistry (from 64.0 to 65.0), physics (from 62.7 to 63.9), and physical science (from 55.2 to 55.7).

Average scale scores showed declines in three subjects: geometry (from 64.7 to 63.7), English I (from 60.4 to 59.9), and biology (from 59.6 to 59.5).

Mean scale scores surpassed the cut-off point for Level IV in four subjects: Algebra I (67.1), Algebra II (69.7), chemistry (65.0), and physics (63.9). The highest mean scale scores were in Algebra I and Algebra II. The lowest was in physical science (55.7).

Figure 2
EOC Mean Scale Scores Over Six Years

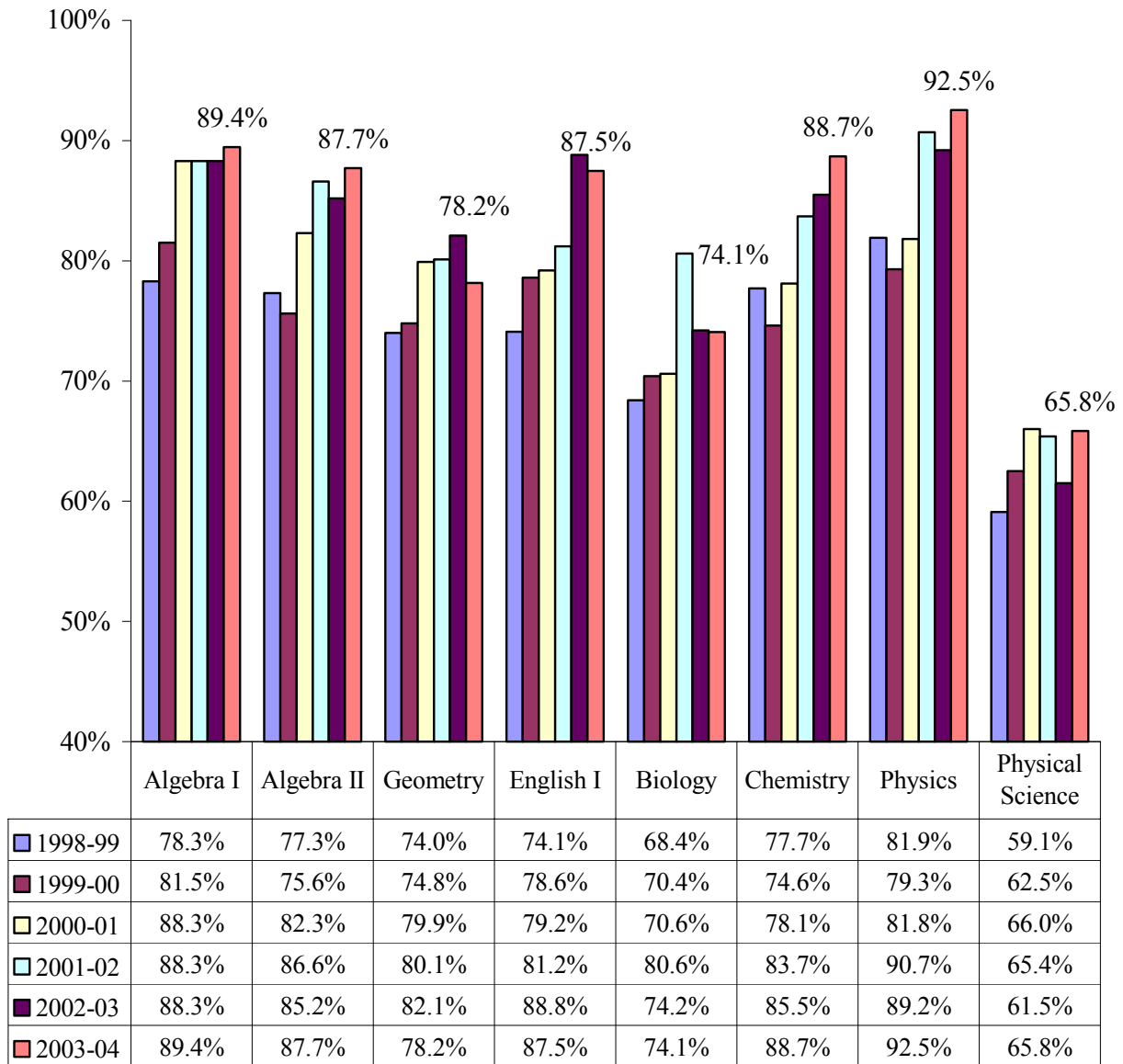


EXAM RESULTS BY ACHIEVEMENT LEVEL

The percentage of students scoring at Levels III or IV on EOC exams reached new highs in four of the eight tested courses in 2003-04. However, the percentage of students scoring in the proficient range declined from the previous year in three subject areas.

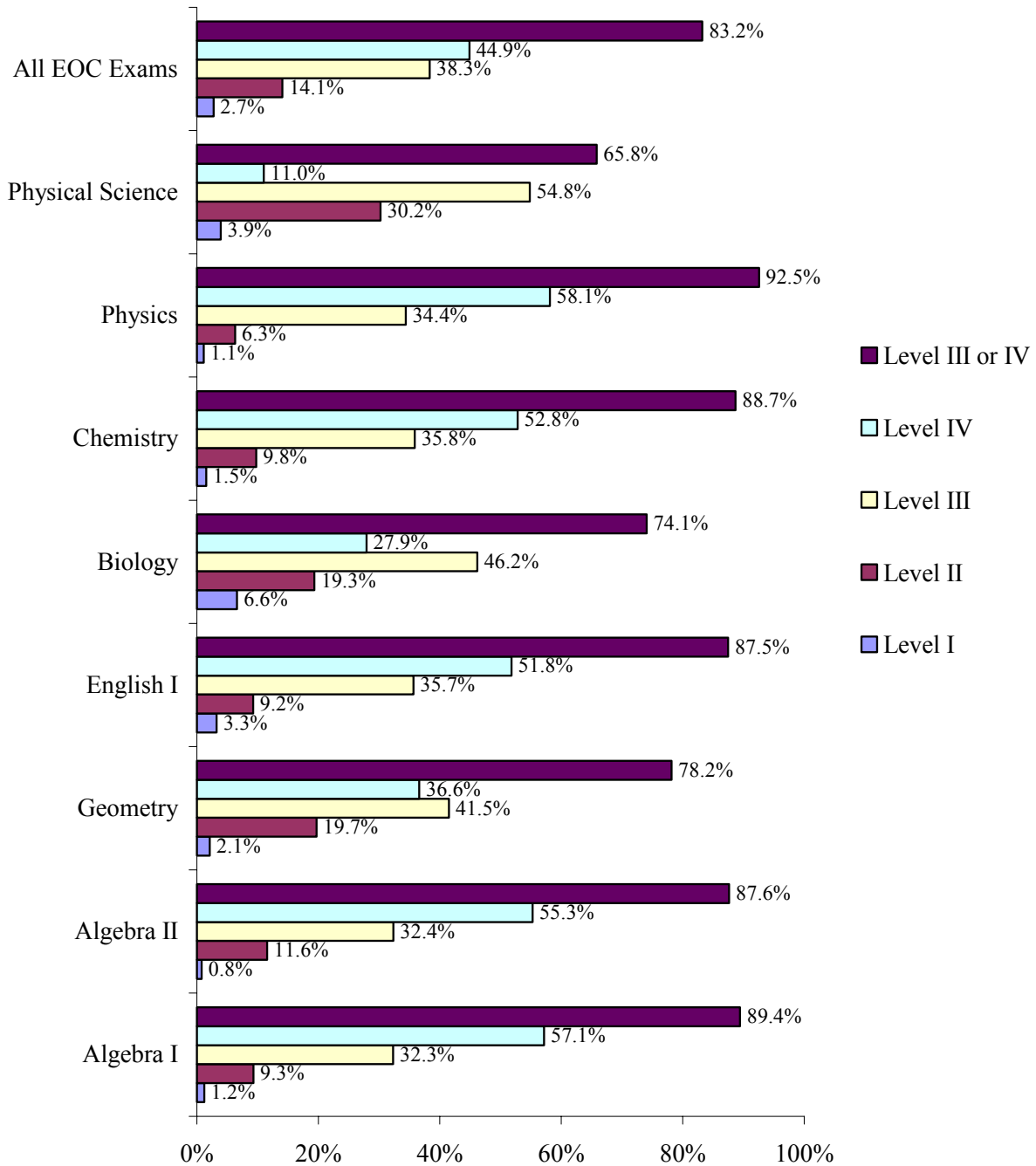
When compared to 2002-03 test results, the percentage of WCPSS students scoring at or above grade level in 2003-04 increased the most in physical science (from 61.5% to 65.8%), followed by physics (from 89.2% to 92.5%), and chemistry (from 85.5% to 88.7%). The largest decline was in geometry (from 82.1% to 78.2%).

Figure 3
Percentage of Students Scoring at Level III or IV over Six Years



Almost half of all EOC exam scores for WCPSS students in 2003-04 were at Level IV (44.9%); however, as shown in Figure 4, the percentage of scores at Level IV varied widely among subjects, ranging from a high of 58.1% in physics to a low of 11% in physical science.

Figure 4
Percentage of Exams by Achievement Level 2003-04

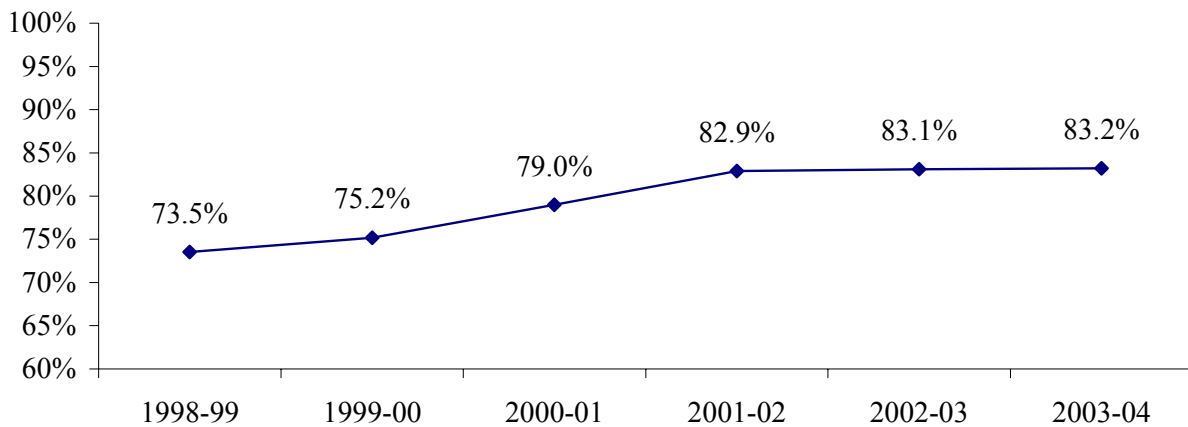


Composite Performance over Time

Figure 5 shows the trend over the past six years in a composite measure of student achievement. The composite represents the percentage of all EOC tests with scores at Levels III and IV. Since U.S. history and ELP were not given in 2003-04, the composite percentages for previous years were recalculated to exclude these two subjects.

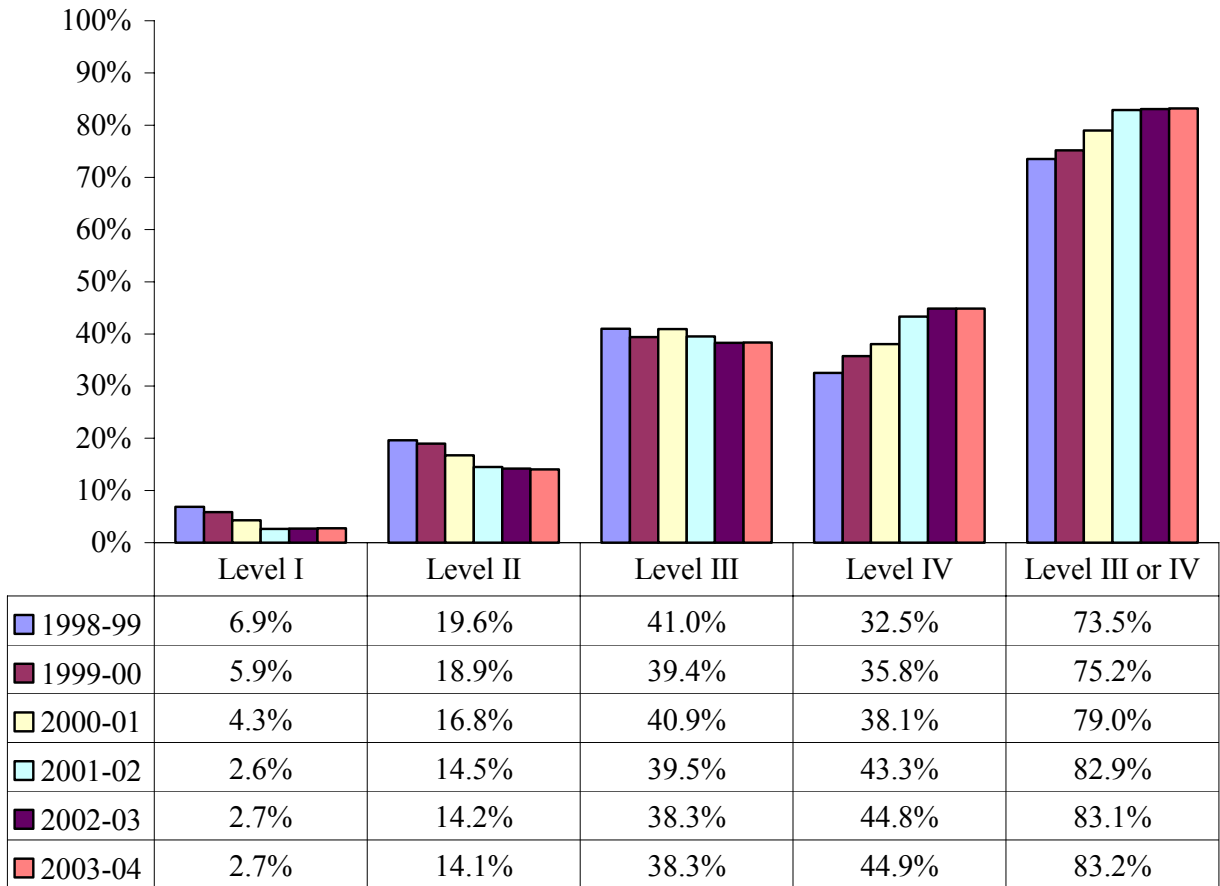
In 2003-04, the composite percentage rose one-tenth of a percent higher than the previous year. Of the 48,048 EOC tests taken by WCPSS students, 83.2% of them had scores at Level III or IV.

Figure 5
Composite Percentage of All EOC Exam Scores at Levels III and IV over Six Years



As shown in Figure 6, the percentage of scores at Levels I and II has steadily declined over the six-year period, while the percentage at Level IV has systematically increased. The overall percentage of test scores at Levels III and IV has risen 9.7 percentage points since 1998-99.

Figure 6
Composite Percentage of All EOC Test Scores
By Achievement Level over Six Years



DISAGGREGATED RESULTS FOR 2003-04

Figure 10 shows the percentage of students who scored at Level III or IV on each EOC exam in 2003-04 for 11 disaggregated groups. Figure 11 shows the mean scale scores on exams for these same groups. Summary data for previous years is presented in Figures 12-16.

Gender Differences

Male students performed better than female students in six out of eight EOC tests: Algebra II, geometry, biology, chemistry, physics, and physical science. The largest difference between the two groups occurred in physical science (70.5% of male students scored at Level III or IV, compared to 60.5% of female students). Female students outperformed male students in English I by a sizeable margin (90.0% scored at Level III or IV vs. 85.0% for male students).

Differences by Race and Ethnicity

Large differences among racial and ethnic groups are evident in both mean scale scores and the percentage of students scoring at Level III or IV on EOC tests. White students and Asian students had the highest proficiency percentages and mean scale scores. More than 90% of both groups scored at Level III or Level IV on five of eight exams. White students achieved their highest proficiency percentage on the English I exam (95.7%), while Asian students did their best on the Algebra I exam (93.9%).

Black students had the lowest proficiency percentages and mean scale scores among all racial and ethnic groups on seven of the eight tested subjects (they performed better than Hispanic/Latino students on English I). The achievement gap between Black students and White students (in terms of the percentage of students at Level III or Level IV) ranged from a low of 8.1 percentage points in physics to a high of 41.7 points in biology.

For longitudinal data on EOC achievement levels disaggregated by race, see Figures 7 through 9.

Students with Disabilities (SWD)

The percentage of students with disabilities (SWD) scoring at Level III or IV was highest in physics (84.0%), and surpassed 70% in three other subject areas: Algebra I (76.3%), Algebra II (77.5%), and chemistry (78.5%). The lowest proficiency percentage for this group was in biology (46.7%). It should be noted that only a few students with disabilities enrolled in physics.

The difference in the percentage proficient between students with disabilities and all other students was widest in biology (46.7% vs. 77.7%) and English I (62.8% vs. 91.4%). The gap between the two groups was less than 15 percentage points in five subject areas: Algebra I, Algebra II, geometry, chemistry, and physics.

Students with Limited English Proficiency (LEP)

The percentage of LEP students scoring at Level III or IV was highest in chemistry (87.0%) and physics (84.0%). The lowest proficiency percentages were in biology (39.1%), English I (40.7%), and physical science (43.3%). Again it should be noted that few LEP students enrolled in chemistry or physics.

The achievement gap between LEP students and all other students (as measured by the percentage scoring at Level III or IV) was widest in English I (a 48.7 percentage point difference) and biology (36.2 percentage points). The gap was less than 10 percentage points in Algebra II, chemistry, and physics.

Students Participating in the Free or Reduced-Price Lunch Program (FRL)

The percentage of FRL students scoring at Level III or IV surpassed 75% in four out of eight subjects: Algebra I (75.6%), Algebra II (76.9%), chemistry (75.2%), and physics (80.7%). The lowest proficiency percentages for this group were in biology (45.7%), physical science (47.8%), and geometry (55.6%).

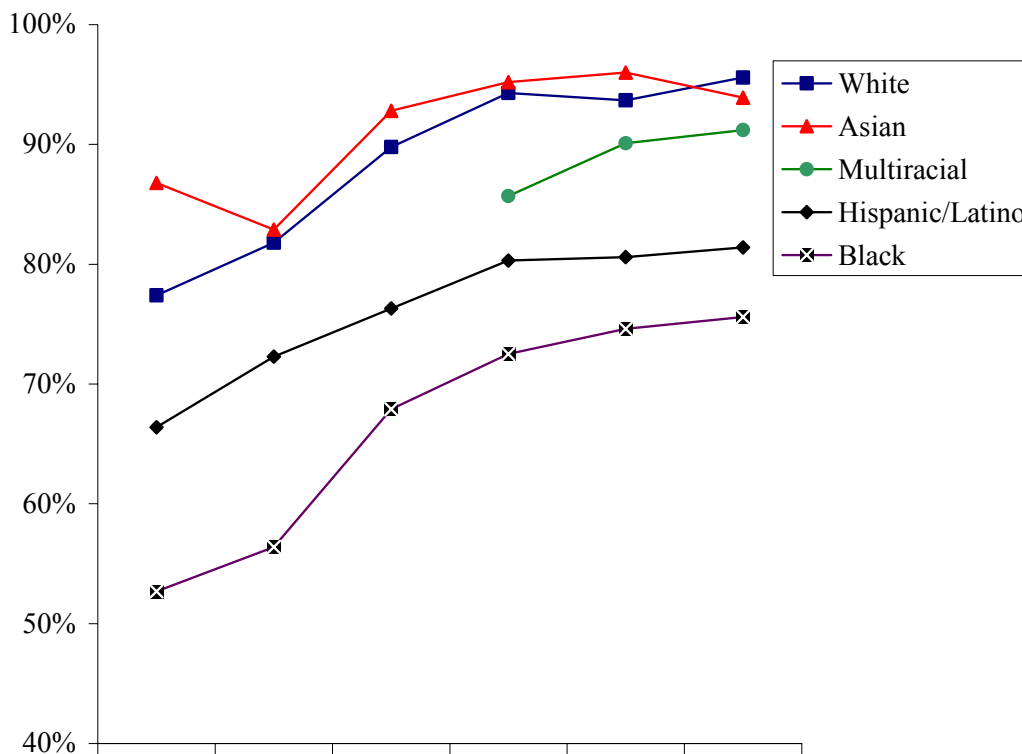
There was more than a 20-percentage point gap in proficiency between FRL students and all other students in four of eight subjects: biology, geometry, English I, and physical science. The difference between the two groups was less than 15 percentage points in Algebra II, chemistry, and physics. It should be noted that these three courses are electives and that fewer students from low-income families enrolled in these courses.

Achievement Levels on Five EOC Tests by Race and Ethnicity over Time

Figures 7-9 show the percentage of students in each racial and ethnic group who scored at Level III or IV on the three EOC courses required for graduation for the six-year period 1998-99 through 2003-04. The following patterns can be seen:

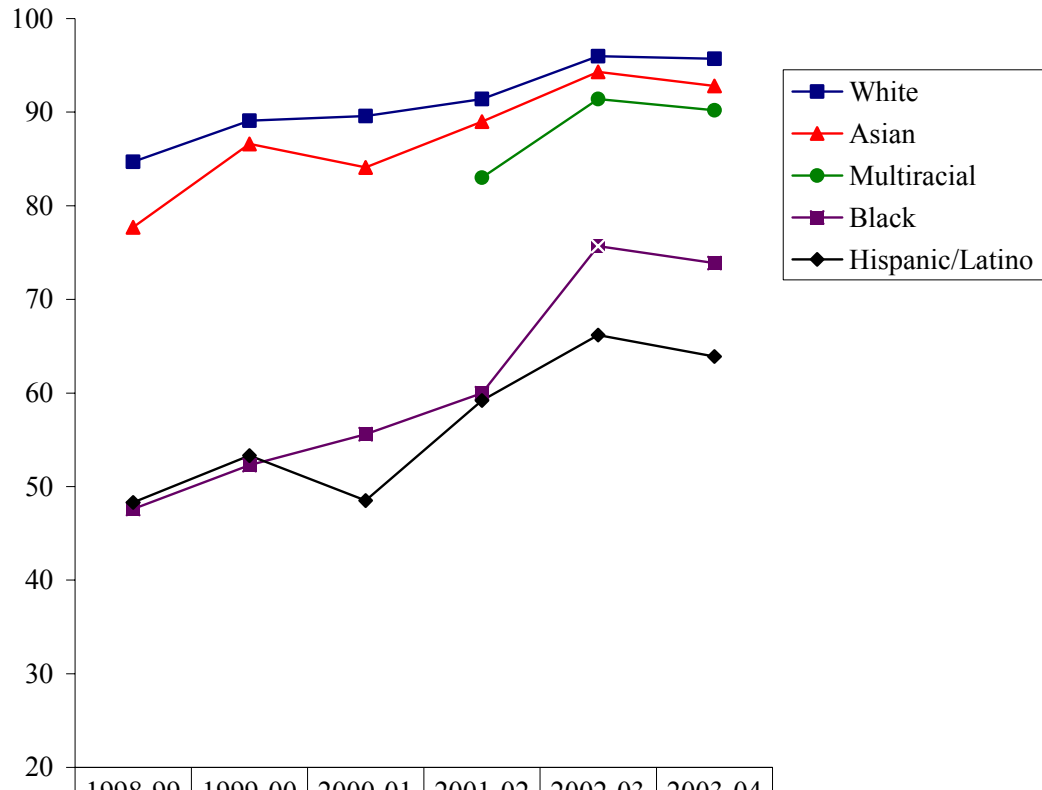
- **Algebra I** percentages show a steady pattern of improvement for all racial groups over the past six years, with the exception of Asian students, whose proficiency declined in 2003-04. Overall growth in achievement was highest for Black students (a 22.9 percentage point increase from 1998-99 to 2003-04), followed by White students (+18.2), Hispanic/Latino students (+15.0), and Asian students (+7.1). Data on students classified as “multiracial” was not available prior to 2001-02.
- **English I** percentages declined modestly for all racial and ethnic groups in 2003-04, after rising substantially the previous year. Notwithstanding this year’s test results, the trend over the past six years has generally been positive for most groups. The cumulative gain in the percentage of students scoring at Level III or IV since 1998-99 was largest for Black students (+26.3 percentage points), followed by Hispanic/Latino students (+15.6), Asian students (+15.1), and White students (+11.0).
- **Biology** proficiency percentages rose for Black students, Hispanic/Latino students, and Multiracial students, and fell for slightly for White and Asian students. In contrast to Algebra I and English I, the achievement gap between Black and Hispanic/Latino students on the one hand and White and Asian students on the other has not narrowed substantially over the past six years. Asian students have shown the largest gain in proficiency over this time (a 13.7 percentage point increase).

Figure 7
Percentage of Algebra 1 Exams at Levels III or IV by Race over Six Years



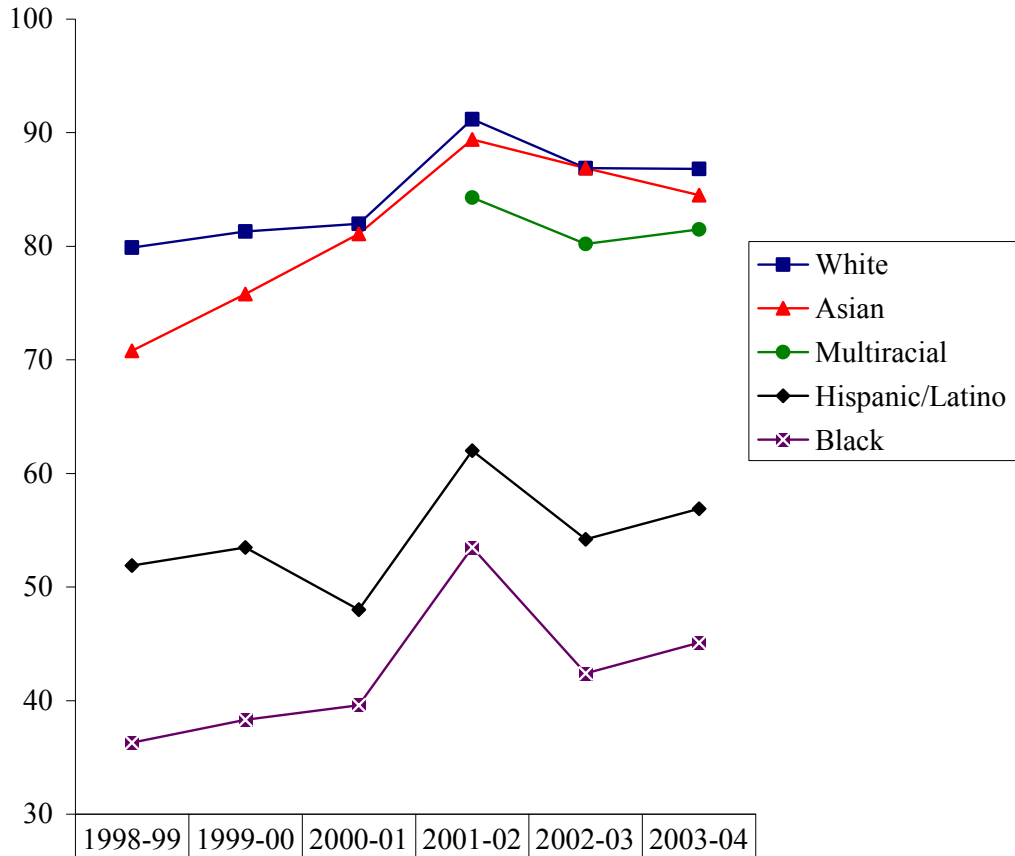
	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
White	77.4%	81.8%	89.8%	94.3%	93.7%	95.6%
Asian	86.8%	82.9%	92.8%	95.2%	96.0%	93.9%
Multiracial				85.7%	90.1%	91.2%
Hispanic/Latino	66.4%	72.3%	76.3%	80.3%	80.6%	81.4%
Black	52.7%	56.4%	67.9%	72.5%	74.6%	75.6%

Figure 8
Percentage of English I Exams at Levels III or IV by Race over Six Years



	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
White	84.7	89.1	89.6	91.4	96.0	95.7
Asian	77.7	86.6	84.1	89.0	94.3	92.8
Multiracial				83.0	91.4	90.2
Black	47.6	52.3	55.6	60.0	75.7	73.9
Hispanic/Latino	48.3	53.3	48.5	59.2	66.2	63.9

Figure 9
Percentage of Biology Exams at Levels III or IV by Race over Six Years



	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
White	79.9	81.3	82.0	91.2	86.9	86.8
Asian	70.8	75.8	81.1	89.4	86.9	84.5
Multiracial				84.3	80.2	81.5
Hispanic/Latino	51.9	53.5	48.0	62.0	54.2	56.9
Black	36.3	38.3	39.6	53.5	42.4	45.1

Figure 10
Percentage of Students at Level III or IV for Selected Subgroups, 2003-04

	Algebra I	Algebra II	Geometry	English 1	Biology	Chemistry	Physics	Physical Science
All Students	89.4%	87.7%	78.2%	87.5%	74.1%	88.7%	92.5%	65.8%
Male	89.1%	88.7%	81.2%	85.0%	75.5%	90.2%	94.8%	70.5%
Female	89.8%	86.7%	75.3%	90.0%	72.8%	87.3%	89.1%	60.5%
White	95.6%	91.5%	86.7%	95.7%	86.8%	91.4%	93.8%	83.5%
Black	75.6%	72.4%	51.3%	73.9%	45.1%	74.4%	85.7%	46.6%
Asian	93.9%	93.6%	91.5%	92.8%	84.5%	92.0%	89.9%	76.6%
Hispanic/ Latino	81.4%	80.1%	63.8%	63.9%	56.9%	78.4%	88.0%	52.9%
Multiracial	91.2%	88.1%	72.1%	90.2%	81.5%	86.4%	86.7%	69.4%
Am. Indian	91.4%	71.4%	80.0%	93.1%	77.8%	100.0%	100.0%	77.8%
SWD	76.3%	77.5%	65.3%	62.8%	46.7%	78.5%	84.0%	52.4%
Not SWD	91.2%	88.3%	79.3%	91.4%	77.7%	89.1%	92.7%	69.2%
AG	99.7%	98.9%	98.7%	100.0%	98.7%	98.1%	98.7%	98.6%
LEP	71.8%	78.0%	61.4%	40.7%	39.1%	87.0%	84.0%	43.3%
Not LEP	90.0%	87.9%	78.4%	89.4%	75.3%	88.7%	92.7%	66.7%
FRL	75.6%	76.9%	55.6%	67.8%	45.7%	75.2%	80.7%	47.8%
Not FRL	92.1%	88.6%	80.9%	92.2%	79.1%	89.6%	93.1%	70.9%

SWD = Students with Disabilities

AG = Academically Gifted

LEP = Limited English Proficient

FRL = Free or Reduced-Price Lunch

Figure 11
EOC Mean Scale Scores for Selected Student Subgroups, 2003-04

	Algebra I	Algebra II	Geometry	English 1	Biology	Chemistry	Physics	Physical Science
All Students	67.1	69.7	63.7	59.9	59.5	65.0	63.9	55.7
Male	67.4	70.4	64.5	59.0	59.9	65.9	65.0	56.6
Female	66.8	69.0	62.9	60.8	59.1	64.2	62.3	54.7
White	70.0	71.1	65.6	62.6	62.1	65.7	64.3	58.6
Black	60.3	63.1	56.9	55.1	53.6	60.2	58.3	52.7
Asian	73.2	75.3	69.3	62.4	63.3	68.3	65.7	56.2
Hispanic/ Latino	62.8	65.7	60.8	53.6	55.6	61.4	59.0	53.6
Multiracial	66.4	68.9	62.5	60.4	60.7	63.3	61.8	56.9
Am. Indian	66.1	59.7	61.3	61.9	59.1	67.0	68.3	56.3
SWD	61.2	65.3	59.7	53.2	54.1	62.6	62.0	53.6
Not SWD	67.9	69.9	64.0	61.0	60.2	65.1	63.9	56.3
AG	76.1	77.3	71.5	66.9	66.8	69.5	67.6	63.7
LEP	60.1	67.6	61.2	48.6	52.8	64.6	63.0	52.1
Not LEP	67.3	69.7	63.7	60.4	59.8	65.0	63.9	55.9
FRL	61.0	64.2	57.8	54.0	53.8	60.7	58.7	52.9
Not FRL	68.3	70.1	64.4	61.4	60.5	65.2	64.1	56.5

SWD = Students with Disabilities

AG = Academically Gifted

LEP = Limited English Proficient

FRL = Free or Reduced-Price Lunch

Figure 12
Percentage of Students at Level III or IV for Selected Subgroups, 2002-03

	Algebra I	Algebra II	Geometry	English 1	Biology	Chemistry	Physics	Physical Science
All Students	88.3	85.3	82.2	88.9	74.3	85.5	89.2	61.6
Male	88.1	84.7	84.1	86.5	76.1	86.4	90.8	67.0
Female	88.6	85.8	80.4	91.3	72.5	84.7	87	55.4
White	93.7	89.5	89.7	96.0	86.9	87.8	91.3	77.0
Black	74.6	66.5	56.0	75.7	42.4	70.7	67.6	43.5
Asian	96.0	91.0	90.8	94.3	86.9	89.6	93.3	71.2
Hispanic/ Latino	80.6	84.2	70.4	66.2	54.2	83.3	71.4	50.7
Multiracial	90.1	84.1	74.7	91.4	80.2	88.9	85.7	71.7
Am. Indian	86.4	93.8	70.0	94.4	64.7	92.3	100.0	50.0
SWD	73.5	74.3	68.9	60.0	47.0	72.2	80.6	49.3
Not SWD	90.1	85.9	83.1	93.5	77.7	86	89.5	64.2
LEP	81.2	79.5	70.5	39.2	34.4	75.0	94.1	49.5
Not LEP	88.5	85.4	82.4	90.1	75.1	85.6	89.1	62.0

SWD = Students with Disabilities LEP = Limited English Proficient

Figure 13
EOC Mean Scale Scores for Selected Student Subgroups, 2002-03

	Algebra 1	Algebra II	Geometry	English 1	Biology	Chemistry	Physics	Physical Science
All Students	66.2	69.1	64.7	60.4	59.6	64	62.7	55.2
Male	66.5	69.4	65.1	59.5	59.9	64.6	63.9	55.9
Female	64.9	68.9	64.3	61.2	59.3	63.6	61.1	54.3
White	67.2	70.6	66.5	62.8	62	64.6	63.4	57.7
Black	59.8	61.9	57.9	55.6	53.4	59.4	55	52.2
Asian	71.9	74.1	69.7	62.5	63.2	67.7	64.4	57.6
Hispanic/Latino	61.7	66.7	60.8	54.4	55.3	62.1	58.1	53.4
Multiracial	66.2	67.5	62.3	59.8	59.4	65.2	63.8	56.6
Am. Indian	63.5	68.6	60.3	61	58.9	61.4	61.3	51.2
SWD	60.3	63.8	60.4	53.2	53.9	60.4	60.1	52.6
Not SWD	65.8	69.4	65	61.5	60.3	64.2	62.8	55.7
LEP	61.5	65.4	62.3	48.7	52.2	63.6	61.8	53.2
Not LEP	66.3	69.2	64.8	60.7	59.7	64	62.7	55.2

SWD = Students with Disabilities LEP = Limited English Proficient

Figure 14
EOC Mean Scale Scores for Selected Student Subgroups, 2001-02

	Algebra 1	Algebra 2	Geometry	English 1	Biology	Chemistry	Physics	Physical Science
All Students	66.4	69.0	64.2	58.7	60.6	63.2	63.8	56.0
Male	66.5	69.5	64.8	57.7	60.9	64.2	64.8	56.6
Female	66.2	68.5	63.7	60.0	60.4	62.4	62.5	55.3
White	68.8	70.1	65.9	61.1	62.8	63.9	64.5	58.3
Black	59.6	62.6	57.2	53.4	54.7	58.6	56.5	52.8
Asian	71.7	73.6	68.8	61.7	63.8	66.2	64.2	56.3
Hispanic/Latino	62.4	65.6	62.1	53.3	56.2	60.2	61.0	55.1
Am. Indian	70.5	67.3	62.1	56.5	60.8	59.5	64.7	41.0
Multiracial	65.5	66.8	64.3	58.8	60.3	62.6	63.1	54.7
SWD	61.0	64.1	60.7	51.3	55.3	61.2	60.0	53.2
Not SWD	64.0	66.0	61.4	57.5	59.1	60.5	60.4	56.0
LEP	61.5	68.5	62.1	48.6	53.3	61.8	58.8	53.5
Not LEP	66.5	69.0	64.2	58.8	60.7	63.3	63.8	56.1

SWD = Students with Disabilities

LEP = Limited English Proficient

Figure 15
EOC Mean Scale Scores for Selected Student Subgroups, 2000-01

	Algebra 1	Algebra 2	Geometry	English 1	Biology	Chemistry	Physics	Physical Science
All Students	61.7	67.0	63.5	58.0	59.2	62.0	59.1	56.2
Male	62.1	67.8	63.9	57.4	59.5	62.7	60.3	57.1
Female	61.4	66.2	63.0	58.7	58.8	61.4	57.6	55.3
White	63.7	68.2	65.0	60.5	61.6	62.9	59.9	58.8
Black	57.3	59.9	56.8	52.3	52.7	56.4	51.9	51.8
Asian	63.6	72.3	65.8	60.4	61.2	65.1	61.6	58.7
Hispanic/ Latino	59.5	64.6	58.8	51.5	53.9	58.9	57.7	50.7

Figure 16
EOC Mean Scale Scores for Selected Student Subgroups, 1999-2000

	Algebra 1	Algebra 2	Geometry	English 1	Biology	Chemistry	Physics	Physical Science
All Students	60.1	65.0	62.6	58.0	59.0	61.3	59.1	55.4
Male	59.9	65.6	63.3	57.1	59.1	62.1	60.3	56.3
Female	60.3	64.5	62.0	59.0	58.8	60.6	57.5	54.3
White	61.9	66.4	64.2	60.4	61.2	62.1	59.8	58.3
Black	55.4	57.7	55.3	51.7	52.1	55.8	51.8	50.6
Asian	63.3	71.2	66.2	61.4	61.8	64.8	59.3	55.5
Hispanic/ Latino	58.2	63.1	61.1	53.3	53.5	60.6	57.5	52.0

Notes

- Figures 10-16 show disaggregated scores for high school students. However, Algebra I and geometry scores include results for middle school students.
- LEP shows proficiency percentages and average scores for students with Limited English Proficiency; Not LEP represents students who do not participate in LEP programs.
- SWD shows proficiency percentages and average scores for students with disabilities; Not SWD represents students who do not participate in special education programs.
- FRL shows proficiency percentages and average scores for students receiving free or reduced-price lunch; Not FRL represents students who do not receive free or reduced lunch. Data disaggregated by FRL status are not available prior to 2003-04.
- AG shows proficiency percentages and average scores for students who participate in the Academically Gifted program. Data disaggregated by AG status are not available prior to 2003-04.
- Disaggregated data prior to 2000-01 is limited to race and ethnicity, so Figures 15-16 do not include figures for SWD and LEP subgroups.

Attachment A
End-of-Course Mean Scale Scores for English I and Three Math Courses for 2002-2004

School	English I			Algebra I			Geometry			Algebra II		
	01-02	02-03	03-04	01-02	02-03	03-04	01-02	02-03	03-04	01-02	02-03	03-04
316 Apex High	59.7	62.6	62.0	65.4	65.8	68.3	67.1	67.0	66.4	72.1	71.5	71.4
318 Athens Drive High School	58.3	59.7	60.5	63.6	65.1	69.8	64.2	64.3	65.2	70.1	68.0	69.3
348 Needham Broughton High	59.7	61.6	60.8	59.8	57.9	60.5	64.1	65.1	62.6	65.7	64.5	64.3
368 Cary High	59.5	61.6	60.8	65.8	66.9	68.5	67.8	65.9	65.2	71.1	72.3	72.2
411 East Wake High	56.0	57.4	56.8	65.6	63.8	62.1	62.0	63.0	60.6	64.0	64.6	67.1
412 William G Enloe High	60.7	63.1	62.8	56.2	57.0	57.7	62.3	63.0	60.9	68.7	68.7	69.9
428 Fuquay-Varina High School	56.8	59.8	58.9	66.0	65.7	64.9	61.9	65.0	64.2	68.2	67.6	69.5
436 Garner Senior High School	54.9	55.7	55.2	59.7	58.1	59.8	60.1	59.5	57.3	65.9	65.0	62.9
441 Green Hope High	61.0	63.2	62.5	65.7	67.0	66.8	67.0	67.8	66.4	72.3	73.6	73.0
473 Leesville Road High	59.9	61.9	61.3	66.8	67.9	67.3	65.1	66.8	65.2	71.7	73.3	73.4
495 Middle Creek High School		59.6	60.2		62.0	63.8		65.7	61.6		75.1	69.8
500 Millbrook High School	57.6	58.6	57.9	60.2	61.4	62.5	62.3	61.1	61.8	67.7	68.4	67.1
552 Sanderson High	58.1	59.3	58.8	63.8	63.4	63.8	63.2	64.1	63.2	68.2	66.6	69.2
562 Southeast Raleigh High School	58.4	60.1	59.9	62.0	62.7	63.6	61.3	62.9	63.6	68.2	68.1	69.5
588 Wake Forest-Rolesville High	59.3	60.0	59.8	64.5	62.4	65.8	63.9	64.7	63.8	66.9	70.2	72.0
595 Wakefield High	59.7	60.9	60.3	64.8	65.6	65.7	64.2	64.7	64.0	70.9	71.7	71.0

Attachment B
End-of-Course Mean Scale Scores for Four Science Courses for 2002-2004

School	Biology			Chemistry			Physical Science			Physics		
	01-02	02-03	03-04	01-02	02-03	03-04	01-02	02-03	03-04	01-02	02-03	03-04
316 Apex High	60.0	59.7	59.6	64.2	61.6	63.9	56.3	57.7	57.9	65.1	64.0	59.8
318 Athens Drive High School	62.1	61.6	61.2	63.5	64.7	65.0	52.9	58.1	58.5	64.3	60.7	64.4
348 Needham Broughton High	59.1	62.0	60.5	60.0	63.9	62.7	55.1	56.3	55.8	62.4	64.3	61.7
368 Cary High	63.4	62.6	63.2	63.4	65.1	65.6	54.7	57.9	57.3	61.4	60.9	61.7
411 East Wake High	56.8	55.8	54.8	60.2	57.8	61.9	54.8	53.2	54.9	56.5	56.1	60.7
412 William G Enloe High	61.2	59.9	61.5	65.1	64.6	65.9	49.6	50.1	52.5	65.2	65.2	67.0
428 Fuquay-Varina High School	61.1	58.5	58.9	60.6	60.8	64.9	56.1	57.2	56.5	61.6	57.3	63.8
436 Garner Senior High School	59.2	58.0	56.3	62.1	62.8	61.8	53.4	53.1	53.2	56.8	58.8	59.2
441 Green Hope High	63.0	62.1	63.4	64.7	63.9	67.1	58.3	57.2	59.4	66.0	67.9	68.2
473 Leesville Road High	63.1	61.5	61.3	64.7	68.1	67.7	58.3	58.0	58.6	66.9	62.1	64.2
495 Middle Creek High School		61.2	60.2		70.4	66.5		55.0	55.9			70.2
500 Millbrook High School	61.3	59.4	58.2	64.0	67.3	66.6	56.9	56.3	55.6	64.9	64.2	66.8
552 Sanderson High	59.2	58.2	57.5	65.0	66.0	66.6	55.7	53.4	53.6	63.7	67.0	66.5
562 Southeast Raleigh High School	58.7	57.4	55.9	62.2	64.5	63.0	54.7	54.0	58.0	63.4	59.0	61.7
588 Wake Forest-Rolesville High	61.5	59.4	60.1	61.7	63.6	65.2	56.2	53.4	54.9	56.7	58.1	60.5
595 Wakefield High	63.0	60.4	60.2	64.5	62.8	63.8	59.0	53.7	55.6	65.7	62.1	62.1