Subgroup Achievement and Gap Trends — Massachusetts

K-12 enrollment — 968,661

The raw data used to develop these state profiles, including data for additional grade levels and years before 2002, can be found on the CEP Web site at www.cep-dc.org. Click on the link on the left for State Testing Data. Below the name of the report, click on the link for View State Profiles and Worksheets. Scroll down the page, and click on the Worksheet links for any state.

Subgroup Achievement Trends and Gap Trends — Key Findings

Summary

This year the Center on Education Policy analyzed data on the achievement of different groups of students in two distinct ways. First, we looked at grade 4 test results to determine whether the performance of various groups improved at three achievement levels—basic and above, proficient and above, and advanced. Second, we looked at gaps between these groups at the proficient level across three grades (grade 4, grade 8 in most cases, and a high school grade). These two types of analyses show whether elementary school achievement has generally gone up for different groups of students and whether achievement gaps at different grade levels have narrowed, widened, or stayed the same.

All major student groups showed a clear trend of gains at three achievement levels in grade 4 math, but trends in grade 4 reading were mixed. Achievement gaps narrowed more often than they widened, although gap trends in math were somewhat mixed.

Subgroup trends by achievement level at grade 4

- Mixed trends in reading, gains in math: Trends in grade 4 reading were mixed at the basic-and-above, proficient-and-above, and advanced levels of achievement, with several instances of declines or no change. In grade 4 math, subgroups made gains across the board.

Gap trends at three grade levels

- Some narrowing of gaps: Overall, Massachusetts showed some improvement in narrowing achievement gaps between the African American and Latino subgroups and the white subgroup, and between low-income and non-low-income students, at grades 4, 8 and 10. In reading, the majority of trend lines showed gaps narrowing. In math, there were more instances of gaps widening than in reading, particularly at the middle school level.

Data notes

- Limited data: Although Massachusetts has test data for students overall from 2002–2008, comparable data broken down by subgroups are not available until 2005 in most cases. Data on mean (average) scale scores were unavailable.

- Subgroups analyzed: Trends were analyzed for white, African American, Latino, Asian American and low-income students. The Native American subgroup is too small in Massachusetts to yield reliable trend data. Trends for students with disabilities, English language learners, and male and female students have not been summarized because they will be discussed in separate reports.

- Grades analyzed: Analyses of subgroup trends by three achievement levels are limited to one elementary grade because of the massive amounts of data involved and because this is the pilot year of a process that CEP hopes to extend to the middle and high school levels in future years. Analyses of achievement gap trends cover grades 4, 8, and 10.

Data Limitations

Years of comparable percentage proficient data	1999 through 2008: Grades 4, 8, and 10 math; grade 10 English language arts (ELA) 2001 through 2008: Grade 6 math; grades 3, 4, and 7 ELA 2006 through 2008: Grades 3, 5, and 7 math; grades 5, 6, and 8 ELA
Years of comparable mean scale score data	No mean scale scores or standard deviations available
Disaggregated data for all subgroups and comparison groups	Percentage proficient data available 2002 through 2008 for math at all grade levels and ELA at grades 4 and 10; available 2006 through 2008 for ELA at grade 8 Mean scale score data not available for student subgroups Massachusetts revised its definitions of racial/ethnic subgroups and advised that data can be considered comparable for racial/ethnic subgroup comparisons from 2005 through 2008 Percentage proficient data not available for low-income students until 2005, for students who are *not* low-income until 2006, or for English language learners (ELLs) until 2007 Percentage proficient data for students with disabilities and ELLs compared with all students in the state because data are not available until 2007 for the comparison group of students who are *not* disabled or for any year for students who are *not* ELLs
Numbers of test-takers by subgroup	Available for 2007 through 2008

Test Characteristics

The characteristics highlighted below are for the state reading and mathematics tests used for accountability under the No Child Left Behind Act (NCLB).

Test(s) used for NCLB accountability	Massachusetts Comprehensive Assessment System (MCAS) MCAS Alternate Assessment (MCAS-Alt)
Grades tested for NCLB accountability	3–8, 10 in ELA and math, as of 2007
State labels for achievement levels	MA uses four achievement levels: Warning/Failing, Needs Improvement, Proficient, and Advanced/Above Proficient. For our analyses we treated Needs Improvement as Basic, Proficient as Proficient, and Advanced/Above Proficient as Advanced.
High school NCLB test also used as an exit exam?	Yes
First year test used	1998: Grades 4, 8, 10 in math; grade 10 in ELA 2001: Grades 3, 4, 7 in reading/ELA; grade 6 in math 2006: Grades 3, 5, 7 in math; grades 5, 7, 8 in ELA
Time of test administration	Spring (opportunities for retests in fall, spring, and summer for students who did not pass the grade 10 test)
Major changes in testing system (2002–present)	2002: New scaling system adopted 2005–06: Reading/ELA and math tested in all of the grades 3–8 and 10. Prior to 2005-06, reading/ELA was tested in grades 3, 4, 7, and 10, and math was tested in grades 4, 6, 8, and 10. 2006: Absent students without documented medical reasons counted as non-participants in testing; prior to 2006, counted as failing/warning 2006: Test results reported on state Web site for both current and former limited-English-proficient (LEP) students; previously, only results for current LEP students were reported 2006: Reporting of the “regular education” subgroup discontinued
Comments	In CEP’s 2008 achievement report, trends in reading/ELA were shown for grade 7. This was because reading/ELA tests were not administered in grade 8, the default grade for CEP’s analyses, until 2006, which meant that only two years of grade 8 data were available. In this year’s tables and figures, trends in reading/ELA are shown for grade 8, the default grade, because three years of data are available, a long enough period to constitute a trend.

Achievement by Subgroup — Trends at the Elementary Level

Note: The tables in this profile of subgroup achievement and gap trends begin with table 7. Tables 1 through 6 can be found in the companion state profile of general achievement trends.

Table MA-7. Percentages of Grade 4 Students by Racial or Ethnic Subgroup Scoring at the Advanced, Proficient and Above, and Basic and Above Levels in Reading

Subgroup	Reporting Year							Average Yearly Percentage Point Gain[1]
	2002	2003	2004	2005	2006	2007	2008	
All tested students								
Advanced	8%	10%	11%	10%	8%	10%	8%	0.1
Proficient and Above	54%	56%	56%	50%	50%	56%	49%	-0.8
Basic and Above	90%	90%	91%	90%	89%	90%	88%	-0.4
White								
Advanced				11%	9%	12%	10%	-0.3
Proficient and Above				56%	56%	63%	56%	0.0
Basic and Above				93%	93%	93%	92%	-0.3
African American								
Advanced				3%	2%	3%	2%	-0.3
Proficient and Above				27%	27%	32%	25%	-0.7
Basic and Above				78%	76%	80%	75%	-1.0
Latino								
Advanced				2%	2%	2%	2%	0.0
Proficient and Above				22%	24%	28%	23%	0.3
Basic and Above				73%	72%	75%	71%	-0.7
Asian								
Advanced				17%	14%	17%	13%	-1.3
Proficient and Above				57%	57%	63%	56%	-0.3
Basic and Above				91%	90%	92%	90%	-0.3
Native American[2]								
Advanced				6%	4%	4%	2%	-1.3
Proficient and Above				36%	37%	42%	33%	-1.0
Basic and Above				92%	84%	85%	84%	-2.7

Table reads: The percentage of white 4th graders who scored at the advanced level on the state reading test decreased from 11% in 2005 to 10% in 2008. During this period, the average yearly loss in the percentage advanced in reading for white 4th graders was 0.3 percentage points per year.

[1]Averages are subject to rounding error.

[2]The number of students tested in this subgroup at this grade level was fewer than 500 in 2008 or the most recent year with available data, so changes for this subgroup should be interpreted with caution.

Table MA-8. Percentage of Grade 4 Students by Demographic Subgroup Scoring at the Advanced, Proficient and Above, and Basic and Above Levels in Reading

Subgroup	Reporting Year							Average Yearly Percentage Point Gain[1]
	2002	2003	2004	2005	2006	2007	2008	
All tested students								
Advanced	8%	10%	11%	10%	8%	10%	8%	0.1
Proficient and Above	54%	56%	56%	50%	50%	56%	49%	-0.8
Basic and Above	90%	90%	91%	90%	89%	90%	88%	-0.4
Low-income students								
Advanced				2%	2%	3%	2%	0.0
Proficient and Above				26%	27%	32%	26%	0.0
Basic and Above				79%	76%	80%	75%	-1.3
Students with disabilities[3]								
Advanced	1%	1%	2%	1%	1%	1%	1%	0.0
Proficient and Above	19%	23%	24%	18%	16%	19%	14%	-1.0
Basic and Above	69%	70%	72%	69%	64%	66%	58%	-3.0
English language learners[3]								
Advanced						3%	1%	NA
Proficient and Above						27%	12%	NA
Basic and Above						72%	59%	NA
Female								
Advanced	11%	14%	15%	13%	11%	14%	11%	0.0
Proficient and Above	60%	61%	62%	55%	57%	62%	55%	-0.8
Basic and Above	93%	92%	93%	91%	92%	92%	90%	-0.5
Male								
Advanced	5%	7%	7%	6%	5%	7%	5%	0.0
Proficient and Above	48%	51%	49%	40%	43%	50%	42%	-1.0
Basic and Above	88%	88%	88%	87%	86%	88%	84%	-0.7

Table reads: The percentage of low-income 4th graders who scored at the advanced level on the state reading was 2% in 2005 and in 2008. During this period, the average yearly gain in the percentage advanced in reading for low-income 4th graders was 0.0 percentage points per year.

[1]Averages are subject to rounding error.

[2]The number of students tested in this subgroup at this grade level was fewer than 500 in 2008 or the most recent year with available data, so changes for this subgroup should be interpreted with caution.

[3]Gap trends for students with disabilities and English language learners should be interpreted with caution because state and federal policy changes may have affected the year-to-year comparability of test results for these subgroups. Average yearly percentage point gains are based on 2006-2008 results.

Table MA-9. Percentages of Grade 4 Students by Racial or Ethnic Subgroup Scoring at the Advanced, Proficient and Above, and Basic and Above Levels in Mathematics

Subgroup	Reporting Year							Average Yearly Percentage Point Gain[1]
	2002	2003	2004	2005	2006	2007	2008	
All tested students								
Advanced	12%	12%	14%	14%	15%	19%	20%	1.3
Proficient and Above	39%	40%	42%	40%	40%	48%	49%	1.6
Basic and Above	81%	84%	86%	84%	85%	87%	87%	1.0
White								
Advanced				16%	17%	21%	23%	2.3
Proficient and Above				46%	45%	54%	56%	3.3
Basic and Above				89%	89%	91%	92%	1.0
African American								
Advanced				3%	4%	6%	7%	1.3
Proficient and Above				16%	18%	23%	26%	3.3
Basic and Above				66%	70%	73%	74%	2.7
Latino								
Advanced				3%	5%	6%	8%	1.7
Proficient and Above				16%	18%	24%	28%	4.0
Basic and Above				65%	67%	72%	73%	2.7
Asian								
Advanced				24%	28%	32%	38%	4.7
Proficient and Above				53%	57%	63%	66%	4.3
Basic and Above				90%	91%	93%	92%	0.7
Native American[2]								
Advanced				10%	9%	10%	11%	0.3
Proficient and Above				28%	31%	31%	38%	3.3
Basic and Above				82%	81%	81%	85%	1.0

Table reads: The percentage of white 4th graders who scored at the advanced level on the state math test increased from 16% in 2005 to 23% in 2008. During this period, the average yearly gain in the percentage advanced in math for white 4th graders was 2.3 percentage points per year.

[1]Averages are subject to rounding error.

[2]The number of students tested in this subgroup at this grade level was fewer than 500 in 2008 or the most recent year with available data, so changes for this subgroup should be interpreted with caution.

Table MA-10. Percentage of Grade 4 Students by Demographic Subgroup Scoring at the Advanced, Proficient and Above, and Basic and Above Levels in Mathematics

Subgroup	Reporting Year							Average Yearly Percentage Point Gain[1]
	2002	2003	2004	2005	2006	2007	2008	
All tested students								
Advanced	12%	12%	14%	14%	15%	19%	20%	1.3
Proficient and Above	39%	40%	42%	40%	40%	48%	49%	1.6
Basic and Above	81%	84%	86%	84%	85%	87%	87%	1.0
Low-income students								
Advanced				4%	6%	7%	8%	1.3
Proficient and Above				19%	21%	27%	29%	3.3
Basic and Above				70%	72%	75%	76%	2.0
Students with disabilities[3]								
Advanced	3%	2%	3%	3%	3%	4%	4%	0.5
Proficient and Above	16%	15%	17%	14%	15%	17%	18%	1.5
Basic and Above	58%	60%	66%	61%	61%	63%	62%	0.5
English language learners[3]								
Advanced						8%	5%	NA
Proficient and Above						26%	19%	NA
Basic and Above						71%	64%	NA
Female								
Advanced	12%	11%	15%	14%	15%	18%	21%	1.5
Proficient and Above	40%	39%	43%	40%	40%	47%	51%	1.8
Basic and Above	82%	84%	86%	85%	85%	87%	89%	1.2
Male								
Advanced	12%	13%	13%	14%	15%	19%	19%	1.2
Proficient and Above	39%	42%	42%	41%	40%	49%	48%	1.5
Basic and Above	80%	84%	86%	85%	85%	88%	86%	1.0

Table reads: The percentage of low-income 4th graders who scored at the advanced level on the state math test increased from 4% in 2005 to 8% in 2008. During this period, the average yearly gain in the percentage advanced in math for low-income 4th graders was 1.3 percentage points per year.

[1]Averages are subject to rounding error.

[2]The number of students tested in this subgroup at this grade level was fewer than 500 in 2008 or the most recent year with available data, so changes for this subgroup should be interpreted with caution.

[3]Gap trends for students with disabilities and English language learners should be interpreted with caution because state and federal policy changes may have affected the year-to-year comparability of test results for these subgroups. Average yearly percentage point gains are based on 2006-2008 results.

Achievement by Subgroup — Gap Trends (Percentages Proficient)

Table MA-11. Subgroup Achievement Trends in Reading by Percentages Proficient

NOTE: L = Larger gain than comparison group. S = Smaller gain than comparison group. E = Equal gain to comparison group.
If the average annual gain for the subgroup of interest, such as African American students, is larger than the average annual gain for the comparison group, such as white students, this indicates that the achievement gap has narrowed. If the average gain for the subgroup of interest is smaller, this means the gap has widened.

	Grade 4					Grade 8					Grade 10				
Subgroup	Year Span	Starting PP	Ending PP	Average Annual Gain[1]	Gain Larger or Smaller Than Comparison Group	Year Span	Starting PP	Ending PP	Average Annual Gain[1]	Gain Larger or Smaller Than Comparison Group	Year Span	Starting PP	Ending PP	Average Annual Gain[1]	Gain Larger or Smaller Than Comparison Group
All tested students	02-08	54%	49%	-0.8		06-08	74%	75%	0.5		02-08	60%	75%	2.6	
White	05-08	56%	56%	0.0		06-08	81%	81%	0.0		05-08	72%	80%	2.7	
African American	05-08	27%	25%	-0.7	S	06-08	53%	58%	2.5	L	05-08	37%	55%	6.0	L
Latino	05-08	22%	23%	0.3	L	06-08	44%	50%	3.0	L	05-08	31%	49%	6.0	L
Asian	05-08	57%	56%	-0.3	S	06-08	76%	81%	2.5	L	05-08	64%	77%	4.3	L
Native American	05-08	36%	33%	-1.0[2]	S	06-08	67%	63%	-2.0[2]	S	05-08	55%	69%	4.7[2]	L
Not low-income	06-08	59%	59%	0.0		06-08	84%	84%	0.0		06-08	77%	82%	2.5	
Low-income	06-08	27%	26%	-0.5	S	06-08	52%	54%	1.0	L	06-08	46%	53%	3.5	L
All tested students	06-08	50%	49%	-0.5		06-08	74%	75%	0.5		06-08	70%	75%	2.5	
Students with disabilities[3]	06-08	16%	14%	-1.0	S	06-08	35%	36%	0.5	E	06-08	29%	35%	3.0	L
All tested students	07-08	56%	49%	NA		07-08	75%	75%	NA		07-08	71%	75%	NA	
English language learners[3]	07-08	27%	12%	NA	NA	07-08	29%	19%	NA	NA	07-08	21%	17%	NA	NA
Female	02-08	60%	55%	-0.8		06-08	79%	80%	0.5		02-08	65%	79%	2.3	
Male	02-08	48%	42%	-1.0	S	06-08	70%	71%	0.5	E	02-08	54%	70%	2.7	L

Table reads: In 2005, 56% of white 4th graders and 27% of African American 4th graders scored at the proficient level on the state reading test. In 2008, 56% of

white 4th graders and 25% of African American 4th graders scored at the proficient level in reading. Between 2005 and 2008, the percentage proficient held steady for white students (an average change of 0.0 percentage points per year) but declined for African American students (an average decline of 0.7 percentage points per year); as a result, the achievement gap widened for African American 4th graders.

[1]Numbers in these columns are subject to rounding error.

[2]The number of students tested in this subgroup at this grade level was fewer than 500 in 2008 or the most recent year with available data, so changes for this subgroup should be interpreted with caution.

[3]Gap trends for students with disabilities and English language learners should be interpreted with caution because state and federal policy changes may have affected the year-to-year comparability of test results for these subgroups.

Table MA-12. Subgroup Achievement Trends in Mathematics by Percentages Proficient

NOTE: L = Larger gain than comparison group. S = Smaller gain than comparison group. E = Equal gain to comparison group.
If the average annual gain for the subgroup of interest, such as African American students, is larger than the average annual gain for the comparison group, such as white students, this indicates that the achievement gap has narrowed. If the average gain for the subgroup of interest is smaller, this means the gap has widened.

	Grade 4					Grade 8					Grade 10				
Subgroup	Year Span	Starting PP	Ending PP	Average Annual Gain[1]	Gain Larger or Smaller Than Comparison Group	Year Span	Starting PP	Ending PP	Average Annual Gain[1]	Gain Larger or Smaller Than Comparison Group	Year Span	Starting PP	Ending PP	Average Annual Gain[1]	Gain Larger or Smaller Than Comparison Group
All tested students	02-08	39%	49%	1.6		02-08	34%	49%	2.5		02-08	44%	72%	4.7	
White	05-08	46%	56%	3.3		05-08	45%	56%	3.7		05-08	68%	78%	3.3	
African American	05-08	16%	26%	3.3	E	05-08	14%	24%	3.3	S	05-08	29%	48%	6.3	L
Latino	05-08	16%	28%	4.0	L	05-08	13%	22%	3.0	S	05-08	29%	46%	5.7	L
Asian	05-08	53%	66%	4.3	L	05-08	57%	68%	3.7	E	05-08	74%	85%	3.7	L
Native American	05-08	28%	38%	3.3[2]	E	05-08	33%	36%	1.0[2]	S	05-08	47%	65%	6.0[2]	L
Not low-income	06-08	49%	58%	4.5		06-08	50%	60%	5.0		06-08	73%	78%	2.5	
Low-income	06-08	21%	29%	4.0	S	06-08	17%	25%	4.0	S	06-08	44%	51%	3.5	L
All tested students	06-08	40%	49%	4.5		06-08	40%	49%	4.5		06-08	67%	72%	2.5	
Students with disabilities[3]	06-08	15%	18%	1.5	S	06-08	8%	12%	2.0	S	06-08	30%	33%	1.5	S
All tested students	07-08	48%	49%	NA		07-08	45%	49%	NA		07-08	68%	72%	NA	
English language learners[3]	07-08	26%	19%	NA	NA	07-08	15%	10%	NA	NA	07-08	34%	31%	NA	NA
Female	02-08	40%	51%	1.8		02-08	33%	49%	2.7		02-08	43%	71%	4.7	
Male	02-08	39%	48%	1.5	S	02-08	34%	49%	2.5	S	02-08	44%	72%	4.7	E

Table reads: In 2005, 46% of white 4th graders and 16% of African American 4th graders scored at the proficient level on the state math test. In 2008, 56% of white 4th graders and 26% of African American 4th graders scored at the proficient level in math. Between 2005 and 2008, the percentage proficient improved at an average rate of 3.3 percentage point per year for white students and 3.3 percentage points per year for African American students, indicating an equal rate of gain

and no change in the achievement gap for African American 4th graders.

[1]Numbers in these columns are subject to rounding error.

[2]The number of students tested in this subgroup at this grade level was fewer than 500 in 2008 or the most recent year with available data, so changes for this subgroup should be interpreted with caution.

[3]Gap trends for students with disabilities and English language learners should be interpreted with caution because state and federal policy changes may have affected the year-to-year comparability of test results for these subgroups.

Table MA-13. Numbers of Test-Takers

Subgroup	Subject	Grade 4					Grade 8					Grade 10				
		Year Span	# of Test-Takers Start Year	# of Test-Takers End Year	Change in # of Test-Takers Over Time	% of Test-Takers in Subgroup in End Year	Year Span	# of Test-Takers Start Year	# of Test-Takers End Year	Change in # of Test-Takers Over Time	% of Test-Takers in Subgroup in End Year	Year Span	# of Test-Takers Start Year	# of Test-Takers End Year	Change in # of Test-Takers Over Time	% of Test-Takers in Subgroup in End Year
All tested students	Reading	07-08	70,517	71,159	0.9%	100.0%	07-08	74,433	73,267	-1.6%	100.0%	07-08	72,471	71,478	-1.4%	100.0%
	Math	07-08	70,645	71,454	1.1%	100.0%	07-08	74,319	73,367	-1.3%	100.0%	07-08	71,692	71,176	-0.7%	100.0%
White	Reading	07-08	50,748	50,666	-0.2%	71.2%	07-08	54,020	52,984	-1.9%	72.3%	07-08	53,322	52,298	-1.9%	73.2%
	Math	07-08	50,850	50,848	0.0%	71.2%	07-08	53,974	53,016	-1.8%	72.3%	07-08	52,941	52,123	-1.5%	73.2%
African American	Reading	07-08	5,427	5,582	2.9%	7.8%	07-08	6,412	6,023	-6.1%	8.2%	07-08	6,056	5,999	-0.9%	8.4%
	Math	07-08	5,434	5,608	3.2%	7.8%	07-08	6,399	6,028	-5.8%	8.2%	07-08	5,957	5,949	-0.1%	8.4%
Latino	Reading	07-08	9,217	9,717	5.4%	13.7%	07-08	9,408	9,462	0.6%	12.9%	07-08	8,511	8,462	-0.6%	11.8%
	Math	07-08	9,247	9,781	5.8%	13.7%	07-08	9,362	9,524	1.7%	13.0%	07-08	8,303	8,383	1.0%	11.8%
Asian	Reading	07-08	3,370	3,495	3.7%	4.9%	07-08	3,163	3,355	6.1%	4.6%	07-08	3,297	3,273	-0.7%	4.6%
	Math	07-08	3,391	3,507	3.4%	4.9%	07-08	3,164	3,357	6.1%	4.6%	07-08	3,261	3,281	0.6%	4.6%
Native American	Reading	07-08	232	**190**	-18.1%	0.3%	07-08	236	212	-10.2%	0.3%	07-08	187	**205**	9.6%	0.3%
	Math	07-08	229	**193**	-15.7%	0.3%	07-08	238	210	-11.8%	0.3%	07-08	184	204	10.9%	0.3%
Low-income	Reading	07-08	21,823	22,338	2.4%	31.4%	07-08	22,257	22,189	-0.3%	30.3%	07-08	18,294	18,676	2.1%	26.1%
	Math	07-08	21,841	22,447	2.8%	31.4%	07-08	22,173	22,243	0.3%	30.3%	07-08	17,910	18,468	3.1%	25.9%
Students w/ disabilities	Reading	07-08	12,827	13,134	2.4%	18.5%	07-08	13,179	13,027	-1.2%	17.8%	07-08	11,465	11,433	-0.3%	16.0%
	Math	07-08	12,858	13,214	2.8%	18.5%	07-08	13,120	13,047	-0.6%	17.8%	07-08	11,241	11,341	0.9%	15.9%
English language learners	Reading	07-08	6,127	6,269	2.3%	8.8%	07-08	3,824	3,840	0.4%	5.2%	07-08	3,502	3,325	-5.1%	4.7%
	Math	07-08	6,149	6,318	2.7%	8.8%	07-08	3,821	3,891	1.8%	5.3%	07-08	3,422	3,325	-2.8%	4.7%
Female	Reading	07-08	34,267	34,562	0.9%	48.6%	07-08	35,925	35,420	-1.4%	48.3%	07-08	35,610	35,288	-0.9%	49.4%
	Math	07-08	34,355	34,675	0.9%	48.5%	07-08	35,878	35,493	-1.1%	48.4%	07-08	35,304	35,097	-0.6%	49.3%
Male	Reading	07-08	36,210	36,576	1.0%	51.4%	07-08	38,449	37,806	-1.7%	51.6%	07-08	36,781	36,114	-1.8%	50.5%
	Math	07-08	36,280	36,749	1.3%	51.4%	07-08	38,397	37,833	-1.5%	51.6%	07-08	36,360	35,995	-1.0%	50.6%

Table reads: In 2007, 50,748 students in the white subgroup took the state 4th grade reading test. By 2008, the number of white test-takers had fallen to 50,666 students, a decrease of 0.2%. In 2008, the white subgroup made up 71.2% of the 71,159 4th graders taking the reading test that year.

Note: **Bold** type indicates that the number of students tested in this subgroup at this grade level was fewer than 500 in 2008 or the most recent year with available data.

Key Terms

Percentage proficient (and above) — The percentage of students in a group who score at and above the cut score for "proficient" performance on the state test used to determine progress under NCLB. The Act requires states to report student test performance in terms of at least three achievement levels: basic, proficient, and advanced. Adequate yearly progress determinations are based on the percentage of students scoring at the proficient level and above.

Percentage basic (and above) — The percentage of students in a group who score at and above the cut score for "basic" performance on the state test used to determine progress under NCLB.

Percentage advanced — The percentage of students in a group who reach or exceed the cut score for "advanced" performance on the state test used to determine progress under NCLB.

Moderate-to-large gain — For the percentage basic, proficient, or advanced, an average gain of 1 or more percentage points per year. For effect size, an average gain of 0.02 or greater per year.

Slight gain — For the percentage basic, proficient, or advanced, an average gain of less than 1 percentage point per year. For effect size, an average gain of less than 0.02 per year.

Moderate-to-large decline — For the percentage basic, proficient, or advanced, an average decline of 1 or more percentage points per year. For effect size, an average decline of 0.02 or greater per year.

Slight decline — For the percentage basic, proficient, or advanced, an average decline of less than 1 percentage points per year. For effect size, an average decline of less than 0.02 per year.

Effect size — A statistical tool that conveys the amount of difference between test results using a common unit of measurement which does not depend on the scoring scale for a particular test.

Accumulated annual effect size — The cumulative gain in effect size over a range of years.

Mean scale score — The arithmetical average of a group of test scores, expressed on a common scale for a particular state's test. The mean is calculated by adding the scores and dividing the sum by the number of scores.

Standard deviation — A measure of how much test scores tend to deviate from the mean—in other words, how spread out or bunched together test scores are. If students' scores are bunched together, with many scores close to the mean, then the standard deviation will be small. If scores are spread out, with many students scoring at the high or low ends of the scale, then the standard deviation will be large.

Cautions and Explanations

Different labels for achievement levels — For consistency, all of the state profiles developed for this report use a common set of labels (basic, proficient, and advanced) for the main achievement levels required by NCLB. In practice, however, some states may use different labels, such as "meets standard" instead of proficient, and some states have established additional achievement levels beyond those required by NCLB.

Different names for subgroups — For the sake of consistency and ease of data tabulation, all of the state profiles developed for this report use a common set of names for the major student subgroups. In practice, however, states use various names for subgroups that may differ from those used here (such as using "Hispanic" instead of "Latino," or "special education students" instead of "students with disabilities"). Moreover, a few states separately track the performance of subgroups not included in the analyses for this report.

Special caution for students with disabilities and English language learners — Trends for students with disabilities and English language learners should be interpreted with caution because changes in federal guidance and state accountability plans may have altered which students in these subgroups are tested for accountability purposes, how they are tested, and when their test scores are counted as proficient under NCLB. These factors could affect the year-to-year comparability of test results.

Inclusion of former English language learners — In many states, the subgroup of English language learners (also known as limited English proficient students) includes students who were formerly English language learners but who have achieved English language proficiency or fluency in the last two years. Federal NCLB regulations permit states to include these formerly ELL students (sometimes referred to as "redesignated fluent English proficient" students) in the ELL subgroup for up to two years for purposes of NCLB accountability.

Limitations of percentage proficient measure — The percentage proficient, the main gauge of student performance under NCLB, can be easily understood and gives a snapshot of how many students have met their state's performance expectations. But it also has several limitations as a measure of student achievement. Users of percentage proficient data should keep in mind these limitations, particularly the following:

* "Proficient" means different things across different states. States vary widely in curriculum, learning expectations, and tests, and state tests differ considerably in their difficulty and cut scores for proficient performance.
* Although this study has taken steps to avoid comparing test data where there have been "breaks" in comparability resulting from new tests, changes in content standards, revised cut scores, or other major changes in testing programs, the year-to-year comparability of test results in the same state may still be affected by less obvious policy and demographic changes.
* Changes in student performance may occur that are not reflected in percentage proficient data, such as an increase in the number of students reaching performance levels below and above proficient (such as the basic or advanced levels).
* The size of the achievement gaps between various subgroups depends in part on where a state sets its cut score for proficiency. For example, if a proficiency cut score is set so high that almost nobody reaches it or so low that almost everyone reaches it, there will be little apparent achievement gap. By contrast, if the cut score is closer to the mean test score, the gaps between subgroups will be more apparent.

Difficulty of attributing causes — Although the tables above show trends in test scores since the enactment of NCLB, one cannot assume that these trends have occurred *because* of NCLB. It is always difficult to determine a cause-and-effect relationship between test score trends and any specific education policy or program due to the many federal, state, and local reforms undertaken in recent years and due to the lack of an appropriate "control" group of students not affected by NCLB.