

## Subgroup Achievement and Gap Trends — Tennessee

*K-12 enrollment — 929,543*

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](http://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.

Student achievement trends in Tennessee have gone in an upward direction, and progress has been made in narrowing achievement gaps between groups of students.

#### **Subgroup trends by achievement level at grade 4**

- **Main trend:** All subgroups made gains in reading and math at two achievement levels—proficient-and-above and advanced. Specifically, all 10 of the trend lines analyzed across the two achievement levels in reading showed gains, as did all 10 of the trend lines in math.

#### **Gap trends at three grade levels**

- **Main trend:** In all instances, gaps in the percentages of students scoring at the proficient level narrowed between African American or Latino students and white students, and between low-income and non-low-income students, at grades 4 and 8 and at the high school grade tested. Specifically, all 9 of the trend lines analyzed in reading showed evidence of gaps narrowing, as did all 9 trend lines in math.

#### **Data notes**

- **Limited data:** Trends are limited to 2004–2008. None of Tennessee’s three achievement levels is equivalent to the basic level, so trends at this level could not be determined.

- Subgroups analyzed: Trends were analyzed for white, African American, Latino, Asian American, and low-income students. The Native American subgroup is too small in Tennessee 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 two 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 three grade levels: grade 4, grade 8, and the high school grade tested for NCLB.

## Data Limitations

Years of comparable percentage proficient data	2004 through 2008
Years of comparable mean scale score data	2004 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	Tennessee Comprehensive Assessment Program (TCAP): Achievement Test Writing Assessment TCAP Gateway Tests (high school end-of-course) TCAP-Alt (for students with disabilities) Writing Alt Assessment (for students with disabilities)
Grades tested for NCLB accountability	3–8 (reading and math), 9 (math), 10 (reading)
State labels for achievement levels	TN uses three achievement levels: Below Proficient, Proficient, and Advanced. For our analyses we treated Proficient as Proficient and Advanced as Advanced. No TN achievement level was treated as our Basic.
High school NCLB test also used as an exit exam?	Yes
First year test used	2003–04
Time of test administration	Spring (grades 3–8 and writing) Fall, spring, and summer (high school)

Major changes in testing system (2002–present)

2005–06: AYP calculations based on grades 3–8 reading and math  
(previously based only on grades 3, 5, and 8)

2004–05: The TCAP became strictly criterion-referenced  
(concordance study completed to ensure comparability with  
2003–04 data)

## 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 TN-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 <sup>1</sup>	
	2002	2003	2004	2005	2006	2007		2008
<b>All tested students</b>								
Advanced			31%	38%	40%	40%	45%	3.5
Proficient and Above			81%	91%	88%	88%	91%	2.7
Basic and Above			NA	NA	NA	NA	NA	NA
<b>White</b>								
Advanced			37%	41%	48%	48%	53%	3.9
Proficient and Above			86%	92%	92%	92%	94%	2.1
Basic and Above			NA	NA	NA	NA	NA	NA
<b>African American</b>								
Advanced			15%	16%	20%	2%	25%	2.6
Proficient and Above			68%	78%	79%	79%	85%	4.5
Basic and Above			NA	NA	NA	NA	NA	NA
<b>Latino</b>								
Advanced			20%	32%	25%	26%	31%	2.8
Proficient and Above			71%	90%	77%	78%	82%	2.9
Basic and Above			NA	NA	NA	NA	NA	NA
<b>Asian</b>								
Advanced			47%	58%	56%	58%	62%	3.8
Proficient and Above			89%	97%	95%	94%	94%	1.4
Basic and Above			NA	NA	NA	NA	NA	NA
<b>Native American<sup>2</sup></b>								
Advanced			28%	32%	38%	41%	44%	3.9
Proficient and Above			81%	92%	88%	91%	89%	1.9
Basic and Above			NA	NA	NA	NA	NA	NA

Table reads: The percentage of white 4<sup>th</sup> graders who scored at the advanced level on the state reading test increased from 37% in 2004 to 53% in 2008. During this period, the average yearly gain in the percentage advanced in reading for white 4<sup>th</sup> graders was 3.9 percentage points per year.

<sup>1</sup>Averages are subject to rounding error.

<sup>2</sup>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 TN-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 <sup>1</sup>
	2002	2003	2004	2005	2006	2007	2008	
<b>All tested students</b>								
Advanced			31%	38%	40%	40%	45%	3.5
Proficient and Above			81%	91%	88%	88%	91%	2.7
Basic and Above			NA	NA	NA	NA	NA	NA
<b>Low-income students</b>								
Advanced			17%	20%	24%	25%	30%	3.3
Proficient and Above			71%	81%	81%	81%	86%	3.9
Basic and Above			NA	NA	NA	NA	NA	NA
<b>Students with disabilities<sup>3</sup></b>								
Advanced			7%	10%	14%	11%	14%	0.4
Proficient and Above			48%	62%	67%	67%	74%	3.6
Basic and Above			NA	NA	NA	NA	NA	NA
<b>English language learners<sup>3</sup></b>								
Advanced			9%	13%	9%	5%	10%	0.8
Proficient and Above			57%	52%	56%	53%	67%	5.6
Basic and Above			NA	NA	NA	NA	NA	NA
<b>Female</b>								
Advanced			35%	38%	44%	44%	49%	3.7
Proficient and Above			85%	90%	91%	91%	93%	2.2
Basic and Above			NA	NA	NA	NA	NA	NA
<b>Male</b>								
Advanced			28%	31%	36%	36%	41%	3.3
Proficient and Above			77%	85%	85%	85%	89%	3.0
Basic and Above			NA	NA	NA	NA	NA	NA

Table reads: The percentage of low-income 4<sup>th</sup> graders who scored at the advanced level on the state reading test increased from 17% in 2004 to 30% in 2008. During this period, the average yearly gain in the percentage advanced in reading for low-income 4<sup>th</sup> graders was 3.3 percentage points per year.

<sup>1</sup>Averages are subject to rounding error.

<sup>2</sup>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.

<sup>3</sup>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 TN-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 <sup>1</sup>	
	2002	2003	2004	2005	2006	2007		2008
<b>All tested students</b>								
Advanced			28%	33%	39%	42%	40%	3.2
Proficient and Above			80%	87%	88%	89%	90%	2.6
Basic and Above			NA	NA	NA	NA	NA	NA
<b>White</b>								
Advanced			34%	40%	47%	49%	47%	3.4
Proficient and Above			86%	91%	92%	93%	93%	1.8
Basic and Above			NA	NA	NA	NA	NA	NA
<b>African American</b>								
Advanced			11%	15%	27%	22%	22%	2.8
Proficient and Above			65%	76%	77%	81%	83%	4.4
Basic and Above			NA	NA	NA	NA	NA	NA
<b>Latino</b>								
Advanced			17%	21%	25%	30%	29%	3.1
Proficient and Above			72%	80%	81%	87%	87%	3.9
Basic and Above			NA	NA	NA	NA	NA	NA
<b>Asian</b>								
Advanced			52%	58%	62%	64%	63%	2.7
Proficient and Above			92%	95%	96%	97%	96%	1.0
Basic and Above			NA	NA	NA	NA	NA	NA
<b>Native American<sup>2</sup></b>								
Advanced			26%	30%	44%	44%	45%	4.8
Proficient and Above			78%	89%	90%	92%	90%	3.2
Basic and Above			NA	NA	NA	NA	NA	NA

Table reads: The percentage of white 4<sup>th</sup> graders who scored at the advanced level on the state math test increased from 34% in 2004 to 47% in 2008. During this period, the average yearly gain in the percentage advanced in math for white 4<sup>th</sup> graders was 3.4 percentage points per year.

<sup>1</sup>Averages are subject to rounding error.

<sup>2</sup>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 TN-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 <sup>1</sup>
	2002	2003	2004	2005	2006	2007	2008	
<b>All tested students</b>								
Advanced			28%	33%	39%	42%	40%	3.2
Proficient and Above			80%	87%	88%	89%	90%	2.6
Basic and Above			NA	NA	NA	NA	NA	NA
<b>Low-income students</b>								
Advanced			15%	20%	25%	28%	27%	3.0
Proficient and Above			70%	80%	81%	84%	86%	3.9
Basic and Above			NA	NA	NA	NA	NA	NA
<b>Students with disabilities<sup>3</sup></b>								
Advanced			7%	11%	14%	12%	12%	-0.8
Proficient and Above			42%	55%	59%	62%	65%	3.0
Basic and Above			NA	NA	NA	NA	NA	NA
<b>English language learners<sup>3</sup></b>								
Advanced			12%	12%	13%	13%	16%	1.4
Proficient and Above			63%	69%	69%	75%	79%	5.3
Basic and Above			NA	NA	NA	NA	NA	NA
<b>Female</b>								
Advanced			28%	33%	39%	41%	41%	3.3
Proficient and Above			82%	88%	89%	91%	92%	2.6
Basic and Above			NA	NA	NA	NA	NA	NA
<b>Male</b>								
Advanced			28%	33%	39%	42%	40%	3.2
Proficient and Above			79%	86%	86%	88%	89%	2.5
Basic and Above			NA	NA	NA	NA	NA	NA

Table reads: The percentage of low-income 4<sup>th</sup> graders who scored at the advanced level on the state math test increased from 15% in 2004 to 27% in 2008. During this period, the average yearly gain in the percentage advanced in math for low-income 4<sup>th</sup> graders was 3.0 percentage points per year.

<sup>1</sup>Averages are subject to rounding error.

<sup>2</sup>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.

<sup>3</sup>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 TN-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.

Subgroup	Grade 4					Grade 8					Grade 10				
	Year Span	Starting PP	Ending PP	Average Annual Gain <sup>1</sup>	Gain Larger or Smaller Than Comparison Group	Year Span	Starting PP	Ending PP	Average Annual Gain <sup>1</sup>	Gain Larger or Smaller Than Comparison Group	Year Span	Starting PP	Ending PP	Average Annual Gain <sup>1</sup>	Gain Larger or Smaller Than Comparison Group
All tested students	04-08	81%	91%	2.7		04-08	81%	94%	3.4		04-08	92%	97%	1.3	
White	04-08	86%	94%	2.1		04-08	86%	96%	2.5		04-08	94%	98%	0.9	
African American	04-08	68%	85%	4.5	L	04-08	66%	90%	5.8	L	04-08	85%	94%	2.5	L
Latino	04-08	71%	82%	2.9	L	04-08	66%	88%	5.6	L	04-08	86%	95%	2.3	L
Asian	04-08	89%	94%	1.4	S	04-08	89%	97%	1.8	S	04-08	94%	98%	1.0	L
Native American	04-08	81%	89%	1.9 <sup>2</sup>	S	04-08	81%	96%	3.7 <sup>2</sup>	L	04-08	88%	98%	2.6 <sup>2</sup>	L
Not low-income	04-08	90%	96%	1.7		04-08	89%	98%	2.0		04-08	96%	99%	0.8	
Low-income	04-08	71%	86%	3.9	L	04-08	69%	91%	5.5	L	04-08	84%	95%	2.7	L
Not disabled	06-08	91%	93%	1.2		06-08	93%	96%	1.4		06-08	98%	98%	0.0	
Students with disabilities <sup>3</sup>	06-08	67%	74%	3.6	L	06-08	64%	77%	6.3	L	06-08	83%	85%	1.0	L
Not ELL	06-08	89%	92%	1.6		06-08	90%	95%	2.2		06-08	97%	97%	0.1	
English language learners <sup>3</sup>	06-08	56%	67%	5.6	L	06-08	58%	66%	4.2	L	06-08	75%	77%	1.3 <sup>2</sup>	L
Female	04-08	85%	93%	2.2		04-08	86%	96%	2.6		04-08	94%	98%	1.0	
Male	04-08	77%	89%	3.0	L	04-08	75%	92%	4.2	L	04-08	90%	96%	1.5	L

Table reads: In 2004, 86% of white 4<sup>th</sup> graders and 68% of African American 4<sup>th</sup> graders scored at the proficient level on the state reading test. In 2008, 94% of white 4<sup>th</sup> graders and 85% of African American 4<sup>th</sup> graders scored at the proficient level in reading. Between 2004 and 2008, the percentage proficient improved at an average rate of 2.1 percentage point per year for white students and 4.5 percentage points per year for African American students, indicating a larger rate of

gain and a narrowing of the achievement gap for African American 4<sup>th</sup> graders.

<sup>1</sup>Numbers in these columns are subject to rounding error.

<sup>2</sup>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.

<sup>3</sup>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 TN-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.

Subgroup	Grade 4					Grade 8					Grade 9				
	Year Span	Starting PP	Ending PP	Average Annual Gain <sup>1</sup>	Gain Larger or Smaller Than Comparison Group	Year Span	Starting PP	Ending PP	Average Annual Gain <sup>1</sup>	Gain Larger or Smaller Than Comparison Group	Year Span	Starting PP	Ending PP	Average Annual Gain <sup>1</sup>	Gain Larger or Smaller Than Comparison Group
All tested students	04-08	80%	90%	2.6		04-08	83%	90%	1.8		04-08	86%	87%	0.3	
White	04-08	86%	93%	1.8		04-08	88%	93%	1.1		04-08	94%	94%	0.1	
African American	04-08	65%	83%	4.4	L	04-08	68%	82%	3.6	L	04-08	66%	72%	1.5	L
Latino	04-08	72%	87%	3.9	L	04-08	75%	87%	3.0	L	04-08	76%	86%	2.4	L
Asian	04-08	92%	96%	1.0	S	04-08	92%	96%	1.1	E	04-08	93%	95%	0.7	L
Native American	04-08	78%	90%	3.2 <sup>2</sup>	L	04-08	81%	92%	2.8 <sup>2</sup>	L	04-08	94%	91%	-0.6 <sup>2</sup>	S
Not low-income	04-08	90%	96%	1.5		04-08	91%	95%	1.1		04-08	97%	94%	-0.9	
Low-income	04-08	70%	86%	3.9	L	04-08	73%	84%	2.9	L	04-08	73%	80%	1.7	L
Not disabled	06-08	92%	93%	0.9		06-08	91%	94%	1.6		06-08	89%	89%	0.0	
Students with disabilities <sup>3</sup>	06-08	59%	65%	3.0	L	06-08	47%	58%	5.5	L	06-08	58%	60%	1.2	L
Not ELL	06-08	88%	91%	1.3		06-08	85%	90%	2.4		06-08	88%	88%	0.0	
English language learners <sup>3</sup>	06-08	69%	79%	5.3	L	06-08	59%	71%	5.9	L	06-08	70%	74%	2.1 <sup>2</sup>	L
Female	04-08	82%	92%	2.6		04-08	85%	92%	1.9		04-08	87%	88%	0.4	
Male	04-08	79%	89%	2.5	S	04-08	81%	88%	1.6	S	04-08	85%	86%	0.3	S

Table reads: In 2004, 86% of white 4<sup>th</sup> graders and 65% of African American 4<sup>th</sup> graders scored at the proficient level on the state math test. In 2008, 93% of white 4<sup>th</sup> graders and 83% of African American 4<sup>th</sup> graders scored at the proficient level in math. Between 2005 and 2008, the percentage proficient improved at an average rate of 1.8 percentage point per year for white students and 4.4 percentage points per year for African American students, indicating a larger rate of gain and a narrowing of the achievement gap for African American 4<sup>th</sup> graders.

<sup>1</sup>Numbers in these columns are subject to rounding error.

<sup>2</sup>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.

<sup>3</sup>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.

## Achievement by Subgroup — Gap Trends (Mean Scale Scores)

**Table TN-13. Achievement Gap Trends in Reading by Mean Scale Scores**

NOTE: L = Larger gain than comparison group. S = Smaller gain than comparison group. E = Equal gain to comparison group.

If the average gain for the subgroup of interest, such as African American students, is larger than the average 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.

Subgroup	Statistic	Grade 4					Grade 8					Grade 10				
		Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score) <sup>1</sup>	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score) <sup>1</sup>	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score) <sup>1</sup>	Gain Larger or Smaller than Comparison Group
All tested students	Mean SS	04-08	491.2	503.3	3.0		04-08	528.0	549.1	5.3		04-08	519.6	536.7	4.3	
	SD	04-08	38.9	33.9			04-08	43.6	35.5			04-08	52.1	43.1		
White	Mean SS	04-08	497.7	509.1	2.8		04-08	536.1	555.6	4.9		04-08	528.7	543.5	3.7	
	SD	04-08	37.3	32.3			04-08	41.1	33.6			04-08	50.6	41.6		
African American	Mean SS	04-08	474.4	489.3	3.7	L	04-08	506.6	532.7	6.5	L	04-08	491.6	517.1	6.4	L
	SD	04-08	37.2	31.8			04-08	41.9	33.9			04-08	45.0	41.3		
Latino	Mean SS	04-08	477.5	489.3	3.0	L	04-08	509.7	537.1	6.8	L	04-08	506.9	526.7	5.0	L
	SD	04-08	42.4	38.5			04-08	49.2	38.2			04-08	54.1	42.4		
Asian	Mean SS	04-08	505.4	516.7	2.8	S	04-08	540.0	564.6	6.1	L	04-08	535.2	551.5	4.1	L
	SD	04-08	40.1	37.6			04-08	43.3	38.0			04-08	56.3	44.7		
Native American	Mean SS	04-08	490.1	501.8	2.9 <sup>2</sup>	L	04-08	524.7	549.7	6.3 <sup>2</sup>	L	04-08	512.5	534.9	5.6 <sup>2</sup>	L
	SD	04-08	33.9	32.5			04-08	43.3	35.9			04-08	59.5	34.7		
Not Low-income	Mean SS	04-08	504.5	515.6	2.8		04-08	541.6	561.0	4.8		04-08	532.0	547.9	4.0	
	SD	04-08	35.6	30.9			04-08	38.9	32.1			04-08	49.2	40.3		
Low-income	Mean SS	04-08	477.6	492.3	3.7	L	04-08	510.6	536.3	6.4	L	04-08	494.4	520.4	6.5	L
	SD	04-08	37.4	32.6			04-08	43.0	34.5			04-08	48.2	41.6		
Not disabled	Mean SS	06-08	502.7	506.5	1.9		06-08	545.5	553.4	3.9		06-08	537.7	541.2	1.7	
	SD	06-08	34.8	32.3			06-08	35.7	33.0			06-08	40.5	40.6		
Students with disabilities <sup>3</sup>	Mean SS	06-08	468.9	477.7	4.4	L	06-08	501.0	513.3	6.2	L	06-08	485.0	490.8	2.9	L
	SD	06-08	33.6	35.4			06-08	40.1	35.0			06-08	46.4	42.0		
Not ELLs	Mean SS	06-08	499.8	504.3	2.2		06-08	541.1	549.7	4.3		06-08	533.3	537.0	1.8	
	SD	06-08	35.5	33.1			06-08	38.4	35.0			06-08	43.4	43.0		
English language learners <sup>3</sup>	Mean SS	06-08	456.7	469.5	6.4	L	06-08	494.0	504.7	5.4	L	06-08	476.5	482.2	2.8 <sup>2</sup>	L
	SD	06-08	45.6	41.3			06-08	42.4	38.7			06-08	56.0	42.9		
Female	Mean SS	04-08	496.0	507.1	2.8		04-08	534.8	554.1	4.8		04-08	524.7	541.3	4.2	
	SD	04-08	36.6	32.3			04-08	39.9	33.4			04-08	50.0	41.3		

Subgroup	Statistic	Grade 4					Grade 8					Grade 10				
		Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score) <sup>1</sup>	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score) <sup>1</sup>	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score) <sup>1</sup>	Gain Larger or Smaller than Comparison Group
Male	Mean SS	04-08	486.7	499.6	3.2	L	04-08	521.4	544.4	5.8	L	04-08	514.6	532.2	4.4	L
	SD	04-08	40.5	35.0			04-08	45.9	36.8			04-08	53.6	44.4		

Table reads: In 2004, the mean scale score on the state 4<sup>th</sup> grade reading test was 497.7 for white students and 474.4 for African American students. In 2008, the mean scale score in 4<sup>th</sup> grade reading was 509.1 for white students and 489.3 for African American students. Between 2004 and 2008, the mean scale score improved at an average yearly rate of 2.8 points for white students and 3.7 points for African American students, indicating a narrowing of the achievement gap for African Americans.

Note: The TCAP is scored on a scale of 0-999.

<sup>1</sup>Numbers in these columns are subject to rounding error.

<sup>2</sup>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.

<sup>3</sup>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 TN-14. Subgroup Achievement Trends in Mathematics by Mean Scale Scores**

NOTE: L = Larger gain than comparison group. S = Smaller gain than comparison group. E = Equal gain to comparison group.

If the average gain for the subgroup of interest, such as African American students, is larger than the average 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.

Subgroup	Statistic	Grade 4					Grade 8					Grade 9				
		Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score) <sup>1</sup>	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score) <sup>1</sup>	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score) <sup>1</sup>	Gain Larger or Smaller than Comparison Group
All tested students	Mean SS	04-08	486.0	498.8	3.2		04-08	536.7	549.0	3.1		04-08	542.6	540.2	-0.6	
	SD	04-08	36.0	33.9			04-08	48.0	46.9			04-08	51.6	47.4		
White	Mean SS	04-08	492.5	504.2	2.9		04-08	546.1	556.9	2.7		04-08	556.1	551.9	-1.1	
	SD	04-08	34.7	32.9			04-08	45.5	44.8			04-08	45.2	42.2		
African American	Mean SS	04-08	468.7	484.4	3.9	L	04-08	510.4	527.8	4.4	L	04-08	508.2	513.2	1.3	L
	SD	04-08	33.2	31.9			04-08	43.7	44.7			04-08	50.2	47.3		
Latino	Mean SS	04-08	475.2	490.0	3.7	L	04-08	523.6	537.1	3.4	L	04-08	529.7	536.4	1.7	L
	SD	04-08	35.1	31.9			04-08	49.1	46.9			04-08	55.3	47.7		
Asian	Mean SS	04-08	507.5	518.5	2.8	S	04-08	566.5	580.3	3.5	L	04-08	559.7	561.6	0.5	L
	SD	04-08	36.3	38.5			04-08	56.4	52.1			04-08	52.2	46.4		
Native American	Mean SS	04-08	486.0	501.6	3.9 <sup>2</sup>	L	04-08	533.6	546.8	3.3 <sup>2</sup>	L	04-08	552.8	545.8	-1.8 <sup>2</sup>	S
	SD	04-08	34.7	31.7			04-08	47.4	46.1			04-08	44.5	40.8		
Not Low-income	Mean SS	04-08	498.5	510.6	3.0		04-08	551.9	564.3	3.1		04-08	553.3	551.3	-0.5	
	SD	04-08	33.2	32.1			04-08	44.2	42.9			04-08	46.6	42.9		
Low-income	Mean SS	04-08	473.4	488.4	3.8	L	04-08	517.4	532.5	3.8	L	04-08	520.7	525.9	1.3	L
	SD	04-08	34.3	32.0			04-08	45.6	45.4			04-08	53.9	48.8		
Not disabled	Mean SS	06-08	500.7	502.7	1.0		06-08	548.8	555.3	3.3		06-08	544.9	541.9	-1.5	
	SD	06-08	34.2	31.3			06-08	44.0	42.5			06-08	47.7	45.9		
Students with disabilities <sup>3</sup>	Mean SS	06-08	460.7	468.1	3.7	L	06-08	483.5	496.4	6.4	L	06-08	495.8	497.0	0.6	L
	SD	06-08	39.0	37.6			06-08	51.6	49.1			06-08	62.9	60.8		
Not ELLs	Mean SS	06-08	496.7	499.5	1.4		06-08	541.9	549.6	3.9		06-08	543.5	540.4	-1.6	
	SD	06-08	36.8	33.7			06-08	49.2	46.6			06-08	48.9	47.2		
English language learners <sup>3</sup>	Mean SS	06-08	470.4	478.3	4.0	L	06-08	501.0	511.4	5.2	L	06-08	517.3	522.6	2.6 <sup>2</sup>	L
	SD	06-08	35.4	33.7			06-08	53.7	51.2			06-08	61.1	61.6		
Female	Mean SS	04-08	487.0	499.7	3.2		04-08	537.3	551.7	3.6		04-08	543.4	540.6	-0.7	

Subgroup	Statistic	Grade 4					Grade 8					Grade 9				
		Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score) <sup>1</sup>	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score) <sup>1</sup>	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score) <sup>1</sup>	Gain Larger or Smaller than Comparison Group
	SD	04-08	34.3	31.9			04-08	45.0	42.6			04-08	49.9	45.3		
Male	Mean SS	04-08	485.1	498.0	3.2	E	04-08	536.2	546.5	2.6	S	04-08	541.7	539.8	-0.5	L
	SD	04-08	37.5	35.8			04-08	50.8	50.6			04-08	53.3	49.5		

Table reads: In 2004, the mean scale score on the state 4<sup>th</sup> grade math test was 492.5 for white students and 468.7 for African American students. In 2008, the mean scale score in 4<sup>th</sup> grade math was 504.2 for white students and 484.4 for African American students. Between 2004 and 2008, the mean scale score improved at an average yearly rate of 2.9 points for white students and 3.9 points for African American students, indicating a narrowing of the achievement gap for African Americans.

Note: The TCAP is scored on a scale of 0-999.

<sup>1</sup>Numbers in these columns are subject to rounding error.

<sup>2</sup>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.

<sup>3</sup>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 TN-15. Numbers of Test-Takers

Subgroup	Subject	Grade 4					Grade 8					Grade 10 Reading/Grade 9 Math				
		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	04-08	70,205	72,895	3.8%	100.0%	04-08	71,793	71,053	-1.0%	100.0%	04-08	61,002	66,948	9.7%	100.0%
	Math	04-08	70,363	73,006	3.8%	100.0%	04-08	71,779	71,164	-0.9%	100.0%	04-08	31,297	37,829	20.9%	100.0%
White	Reading	04-08	48,796	49,760	2.0%	68.3%	04-08	50,572	48,747	-3.6%	68.6%	04-08	44,354	47,534	7.2%	71.0%
	Math	04-08	48,799	49,758	2.0%	68.2%	04-08	50,526	48,760	-3.5%	68.5%	04-08	21,412	24,729	15.5%	65.4%
African American	Reading	04-08	18,058	17,931	-0.7%	24.6%	04-08	17,985	17,993	0.0%	25.3%	04-08	13,947	15,980	14.6%	23.9%
	Math	04-08	18,055	17,952	-0.6%	24.6%	04-08	17,925	17,996	0.4%	25.3%	04-08	8,390	10,892	29.8%	28.8%
Latino	Reading	04-08	2,167	3,764	73.7%	5.2%	04-08	1,852	2,993	61.6%	4.2%	04-08	1,178	2,028	72.2%	3.0%
	Math	04-08	2,300	3,820	66.1%	5.2%	04-08	1,932	3,062	58.5%	4.3%	04-08	676	1,459	115.8%	3.9%
Asian	Reading	04-08	931	1,180	26.7%	1.6%	04-08	943	1,069	13.4%	1.5%	04-08	874	1,037	18.6%	1.5%
	Math	04-08	956	1,215	27.1%	1.7%	04-08	956	1,095	14.5%	1.5%	04-08	490	541	10.4%	1.4%
Native American	Reading	04-08	106	<b>126</b>	18.9%	0.2%	04-08	225	<b>178</b>	-20.9%	0.3%	04-08	228	<b>228</b>	0.0%	0.3%
	Math	04-08	106	<b>126</b>	18.9%	0.2%	04-08	224	<b>177</b>	-21.0%	0.2%	04-08	113	<b>113</b>	0.0%	0.3%
Low-income	Reading	04-08	34,537	38,467	11.4%	52.8%	04-08	31,159	34,088	9.4%	48.0%	04-08	19,171	26,546	38.5%	39.7%
	Math	04-08	34,661	38,538	11.2%	52.8%	04-08	31,156	34,174	9.7%	48.0%	04-08	9,777	15,611	59.7%	41.3%
Students w/ disabilities	Reading	06-08	7,987	8,250	3.3%	11.3%	06-08	8,377	7,566	-9.7%	10.6%	06-08	5,719	5,926	3.6%	8.9%
	Math	06-08	7,988	8,245	3.2%	11.3%	06-08	8,354	7,569	-9.4%	10.6%	06-08	1,179	1,439	22.1%	3.8%
English language learners	Reading	06-08	1,564	2,059	31.6%	2.8%	06-08	1,078	1,015	-5.8%	1.4%	06-08	309	<b>316</b>	2.3%	0.5%
	Math	06-08	1,575	2,184	38.7%	3.0%	06-08	1,078	1,127	4.5%	1.6%	06-08	365	<b>409</b>	12.1%	1.1%
Female	Reading	04-08	33,995	35,728	5.1%	49.0%	04-08	35,286	34,650	-1.8%	48.8%	04-08	30,625	33,452	9.2%	50.0%
	Math	04-08	34,071	35,767	5.0%	49.0%	04-08	35,282	34,696	-1.7%	48.8%	04-08	16,497	19,470	18.0%	51.5%
Male	Reading	04-08	36,055	37,125	3.0%	50.9%	04-08	36,395	36,386	0.0%	51.2%	04-08	30,238	33,425	10.5%	49.9%
	Math	04-08	36,135	37,198	2.9%	51.0%	04-08	36,386	36,451	0.2%	51.2%	04-08	14,718	18,319	24.5%	48.4%

Table reads: In 2004, 48,796 students in the white subgroup took the state 4<sup>th</sup> grade reading test. By 2008, the number of white test-takers had risen to 49,760 students, an increase of 2.0%. In 2008, the white subgroup made up 68.3% of the 72,895 4<sup>th</sup> 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.