Subgroup Achievement and Gap Trends — Maryland

K-12 enrollment — 845,700

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 the student groups analyzed showed a clear trend of gains in grade 4 reading and math at two achievement levels—proficient-and-above and advanced. Achievement gaps between student groups also narrowed in the majority of cases in grades 4 and 8. (Sufficient data were not available to determine trends at high school or at the basic achievement level.)

Exceptions to general trends

- Narrowing gaps with one exception: In all instances for grades 4 and 8, gaps in the percentages of students scoring at the proficient level in reading narrowed between the African American and Latino subgroups and the white subgroup, and between low-income and non-low-income students. In math, gaps also narrowed, with the exception of the gap between the African American and white subgroups at the middle school level.

Data notes

- Limited data: Trends are limited to 2004–2008 for grade 4 and 2003-2008 for grade 8. Because of a change in the state testing system, trends could not be determined at the high school level. Data for student achievement at the basic level was not available for the elementary grade analyzed.

- Subgroups analyzed: Trends were analyzed for white, African American, Latino, Asian American, and low-income students. The Native American subgroup is too small 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 and 8.

Data Limitations

Years of comparable percentage proficient data	2003 through 2008 for grades 3, 5, and 8 2004 through 2008 for grades 4, 6, and 7 2005 through 2007 for high school English 2 2006 through 2007 for high school math (algebra/data analysis exam replaced geometry exam in 2006) High school assessments began a new trend line in 2008, when Maryland started reporting the highest scores of students who took high school tests multiple times, rather than scores from the first time students took the test.
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 2004 through 2008 for grade 4; 2003 through 2008 for grade 8; 2005 through 2007 for HS English 2; and 2006 through 2007 for HS math Mean scale score data not available for student subgroups
Numbers of test-takers by subgroup	Not available in 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	Maryland School Assessments (MSA) (grades 3–8 in reading and math) Maryland High School Assessments (HSA); HSA exams in English 2 and algebra/data analysis used for NCLB Alternate Maryland School Assessment (Alt-MSA) (alternate assessment for students with disabilities in all tested grades)
Grades tested for NCLB accountability	3–8

	The HSAs are not grade-specific, but are end-of-course exams that students take as they complete the appropriate courses. Most students take the English 2 HSA in 10th grade.
State labels for achievement levels	MD uses three achievement levels: Basic, Proficient, and Advanced. For our analyses we treated Proficient as Proficient and Advanced as Advanced. No MD achievement level was treated as our Basic.
High school NCLB test also used as an exit exam?	Yes
First year test used	2003: MSA grades 3, 5, 8 2005: MSA grades 4, 6, 7 2005: English 2 HSA 2006: Algebra/data analysis HSA (The trend lines for the High School Assessment were broken in 2008, when Maryland began reporting the highest scores of students who took the test multiple times instead of scores from the first time students took the test.)
Time of test administration	MSA: Spring Alt-MSA: Administered throughout the year HSA: Four times per year: October (began 07/08), January, May, Summer
Major changes in testing system (2002–present)	2004 through 2006: Made several changes in policies for determining AYP 2005: English 2 HSA exam replaced reading 10 exam 2006: Algebra/data analysis HSA replaced geometry exam for AYP reporting 2008: In 2008, Maryland changed its policy for reporting scores from high school exams. Instead of reporting only those scores from the first time students took the test, the state began reporting the highest scores of students who took the high school exams multiple times. June 2008: Maryland implemented modified high school assessments for students with disabilities, which will be administered for the first time in 2009.

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 MD-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			16%	18%	23%	25%	28%	3.0
Proficient and Above			75%	81%	82%	86%	89%	3.4
Basic and Above			NA	NA	NA	NA	NA	NA
White								
Advanced			24%	26%	34%	36%	39%	3.8
Proficient and Above			86%	90%	90%	93%	94%	2.0
Basic and Above			NA	NA	NA	NA	NA	NA
African American								
Advanced			5%	7%	10%	12%	14%	2.3
Proficient and Above			62%	70%	71%	77%	82%	4.9
Basic and Above			NA	NA	NA	NA	NA	NA
Latino								
Advanced			7%	8%	11%	12%	14%	1.8
Proficient and Above			64%	73%	75%	80%	84%	4.9
Basic and Above			NA	NA	NA	NA	NA	NA
Asian								
Advanced			29%	30%	38%	41%	48%	4.8
Proficient and Above			87%	91%	92%	95%	96%	2.1
Basic and Above			NA	NA	NA	NA	NA	NA
Native American[2]								
Advanced			10%	12%	23%	21%	29%	4.9
Proficient and Above			69%	81%	78%	87%	92%	5.8
Basic and Above			NA	NA	NA	NA	NA	NA

Table reads: The percentage of white 4th graders who scored at the advanced level on the state reading test increased from 24% in 2004 to 39% in 2008. During this period, the average yearly gain in the percentage advanced in reading for white 4th graders was 3.8 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 MD-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			16%	18%	23%	25%	28%	3.0
Proficient and Above			75%	81%	82%	86%	89%	3.4
Basic and Above			NA	NA	NA	NA	NA	NA
Low-income students								
Advanced			4%	6%	9%	10%	12%	1.9
Proficient and Above			60%	68%	69%	76%	80%	5.1
Basic and Above			NA	NA	NA	NA	NA	NA
Students with disabilities[3]								
Advanced			4%	5%	8%	8%	7%	-0.1
Proficient and Above			47%	56%	58%	66%	72%	6.6
Basic and Above			NA	NA	NA	NA	NA	NA
English language learners[3]								
Advanced			2%	3%	3%	6%	6%	1.5
Proficient and Above			39%	54%	55%	69%	76%	10.3
Basic and Above			NA	NA	NA	NA	NA	NA
Female								
Advanced			19%	21%	27%	29%	31%	3.0
Proficient and Above			79%	85%	85%	89%	91%	3.1
Basic and Above			NA	NA	NA	NA	NA	NA
Male								
Advanced			12%	14%	19%	21%	25%	3.1
Proficient and Above			72%	77%	79%	84%	86%	3.6
Basic and Above			NA	NA	NA	NA	NA	NA

Table reads: The percentage of low-income 4th graders who scored at the advanced level on the state reading test increased from 4% in 2004 to 12% in 2008. During this period, the average yearly gain in the percentage advanced in reading for low-income 4th graders was 1.9 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 MD-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			20%	27%	32%	38%	42%	5.6
Proficient and Above			70%	77%	82%	86%	89%	4.8
Basic and Above			NA	NA	NA	NA	NA	NA
White								
Advanced			29%	37%	44%	51%	55%	6.4
Proficient and Above			83%	87%	91%	93%	95%	2.8
Basic and Above			NA	NA	NA	NA	NA	NA
African American								
Advanced			7%	12%	16%	21%	26%	5.0
Proficient and Above			52%	62%	70%	77%	81%	7.3
Basic and Above			NA	NA	NA	NA	NA	NA
Latino								
Advanced			11%	17%	20%	25%	28%	4.3
Proficient and Above			59%	69%	76%	81%	84%	6.1
Basic and Above			NA	NA	NA	NA	NA	NA
Asian								
Advanced			46%	54%	58%	64%	68%	5.6
Proficient and Above			89%	92%	94%	96%	97%	2.1
Basic and Above			NA	NA	NA	NA	NA	NA
Native American[2]								
Advanced			15%	26%	25%	36%	42%	6.8
Proficient and Above			66%	74%	82%	87%	93%	6.9
Basic and Above			NA	NA	NA	NA	NA	NA

Table reads: The percentage of white 4th graders who scored at the advanced level on the state math test increased from 29% in 2004 to 55% in 2008. During this period, the average yearly gain in the percentage advanced in math for white 4th graders was 6.4 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 MD-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			20%	27%	32%	38%	42%	5.6
Proficient and Above			70%	77%	82%	86%	89%	4.8
Basic and Above			NA	NA	NA	NA	NA	NA
Low-income students								
Advanced			6%	11%	15%	20%	25%	4.7
Proficient and Above			51%	61%	69%	76%	81%	7.3
Basic and Above			NA	NA	NA	NA	NA	NA
Students with disabilities[3]								
Advanced			6%	9%	11%	13%	16%	2.2
Proficient and Above			39%	47%	54%	61%	66%	5.7
Basic and Above			NA	NA	NA	NA	NA	NA
English language learners[3]								
Advanced			6%	8%	10%	15%	19%	4.5
Proficient and Above			39%	52%	60%	69%	76%	7.7
Basic and Above			NA	NA	NA	NA	NA	NA
Female								
Advanced			20%	27%	32%	38%	43%	5.7
Proficient and Above			71%	78%	83%	87%	90%	4.7
Basic and Above			NA	NA	NA	NA	NA	NA
Male								
Advanced			20%	27%	33%	38%	42%	5.5
Proficient and Above			68%	75%	81%	85%	88%	4.8
Basic and Above			NA	NA	NA	NA	NA	NA

Table reads: The percentage of low-income 4th graders who scored at the advanced level on the state math test increased from 6% in 2004 to 25% in 2008. During this period, the average yearly gain in the percentage advanced in math for low-income 4th graders was 4.7 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 MD-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					English 2				
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	04-08	75%	89%	3.4		03-08	60%	73%	2.6		05-07	57%	71%	NA	
White	04-08	86%	94%	2.0		03-08	74%	85%	2.1		05-07	71%	83%	NA	
African American	04-08	62%	82%	4.9	L	03-08	40%	58%	3.6	L	05-07	39%	55%	NA	NA
Latino	04-08	64%	84%	4.9	L	03-08	45%	62%	3.4	L	05-07	46%	57%	NA	NA
Asian	04-08	87%	96%	2.1	L	03-08	74%	89%	3.0	L	05-07	75%	82%	NA	NA
Native American	04-08	69%	92%	5.8[2]	L	03-08	56%	78%	4.4[2]	L	05-07	52%	69%	NA	NA
Not low-income	04-08	84%	93%	2.4		03-08	70%	82%	2.3		05-07	63%	77%	NA	
Low-income	04-08	60%	80%	5.1	L	03-08	36%	54%	3.7	L	05-07	35%	51%	NA	NA
Not disabled	06-08	85%	91%	2.9		06-08	72%	78%	2.6		06-07	65%	75%	NA	
Students with disabilities[3]	06-08	58%	72%	6.6	L	06-08	27%	34%	3.8	L	06-07	16%	29%	NA	NA
Not ELL	06-08	83%	89%	3.3		06-08	68%	74%	3.1		06-07	61%	72%	NA	
English language learners[3]	06-08	55%	76%	10.3	L	06-08	24%	27%	1.6	S	06-07	20%	23%	NA	NA
Female	04-08	79%	91%	3.1		03-08	65%	78%	2.5		05-07	65%	76%	NA	
Male	04-08	72%	86%	3.6	L	03-08	55%	68%	2.7	L	05-07	50%	66%	NA	NA

Table reads: In 2004, 86% of white 4th graders and 62% of African American 4th graders scored at the proficient level on the state reading test. In 2008, 94% of white 4th graders and 82% of African American 4th graders scored at the proficient level in reading. Between 2004 and 2008, the percentage proficient improved at an average rate of 2.0 percentage point per year for white students and 4.9 percentage points per year for African American students, indicating a larger rate of

gain and a narrowing of 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 MD-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					Algebra				
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	04-08	70%	89%	4.8		03-08	40%	62%	4.4		06-07	67%	64%	NA	
White	04-08	83%	95%	2.8		03-08	54%	78%	4.8		06-07	81%	82%	NA	
African American	04-08	52%	81%	7.3	L	03-08	18%	41%	4.6	S	06-07	46%	43%	NA	NA
Latino	04-08	59%	84%	6.1	L	03-08	27%	51%	4.9	L	06-07	57%	61%	NA	NA
Asian	04-08	89%	97%	2.1	S	03-08	72%	89%	3.4	S	06-07	87%	85%	NA	NA
Native American	04-08	66%	93%	6.9[2]	L	03-08	30%	63%	6.5[2]	L	06-07	61%	61%	NA	NA
Not low-income	04-08	80%	93%	3.3		03-08	50%	73%	4.6		06-07	72%	70%	NA	
Low-income	04-08	51%	81%	7.3	L	03-08	16%	40%	4.7	L	06-07	49%	46%	NA	NA
Not disabled	06-08	86%	92%	2.9		06-08	60%	67%	3.3		06-07	71%	68%	NA	
Students with disabilities[3]	06-08	54%	66%	5.7	L	06-08	18%	24%	2.9	S	06-07	27%	29%	NA	NA
Not ELL	06-08	83%	89%	3.2		06-08	55%	62%	3.5		06-07	67%	64%	NA	
English language learners[3]	06-08	60%	76%	7.7	L	06-08	31%	34%	1.4	S	06-07	38%	47%	NA	NA
Female	04-08	71%	90%	4.7		03-08	41%	64%	4.6		06-07	69%	64%	NA	
Male	04-08	68%	88%	4.8	L	03-08	39%	60%	4.3	S	06-07	65%	63%	NA	NA

Table reads: In 2004, 83% of white 4th graders and 52% of African American 4th graders scored at the proficient level on the state math test. In 2008, 95% of white 4th graders and 81% of African American 4th graders scored at the proficient level in math. Between 2004 and 2008, the percentage proficient improved at an average rate of 2.8 percentage points per year for white students and 7.3 percentage points per year for African American students, indicating a larger rate of gain and a narrowing of 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 MD-15. Numbers of Test-Takers

Subgroup	Subject	Grade 4					Grade 8					High School				
		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	04-07	64,983	60,103	-7.5%	100.0%	03-07	68,705	65,075	-5.3%	100.0%	05-07	57,887	65,554	13.2%	100.0%
	Math	04-07	65,035	60,136	-7.5%	100.0%	03-07	68,647	65,085	-5.2%	100.0%	06-07	79,026	85,843	8.6%	100.0%
White	Reading	04-07	31,840	28,597	-10.2%	47.6%	03-07	36,194	31,276	-13.6%	48.1%	05-07	29,051	33,210	14.3%	50.7%
	Math	04-07	31,859	28,593	-10.3%	47.5%	03-07	36,174	31,289	-13.5%	48.1%	06-07	39,595	37,737	-4.7%	44.0%
African American	Reading	04-07	25,421	22,615	-11.0%	37.6%	03-07	25,530	25,610	0.3%	39.4%	05-07	22,073	24,230	9.8%	37.0%
	Math	04-07	25,417	22,610	-11.0%	37.6%	03-07	25,485	25,568	0.3%	39.3%	06-07	30,281	37,326	23.3%	43.5%
Latino	Reading	04-07	4,319	5,237	21.3%	8.7%	03-07	3,640	4,684	28.7%	7.2%	05-07	3,339	4,253	27.4%	6.5%
	Math	04-07	4,344	5,254	20.9%	8.7%	03-07	3,638	4,702	29.2%	7.2%	06-07	4,827	6,019	24.7%	7.0%
Asian	Reading	04-07	3,148	3,415	8.5%	5.7%	03-07	3,106	3,257	4.9%	5.0%	05-07	3,223	3,644	13.1%	5.6%
	Math	04-07	3,156	3,439	9.0%	5.7%	03-07	3,107	3,277	5.5%	5.0%	06-07	4,041	4,441	9.9%	5.2%
Native American	Reading	04-07	254	**239**	-5.9%	0.4%	03-07	231	**248**	7.4%	0.4%	05-07	201	**217**	8.0%	0.3%
	Math	04-07	254	**239**	-5.9%	0.4%	03-07	231	**249**	7.8%	0.4%	06-07	277	**317**	14.4%	0.4%
Low-income	Reading	04-07	24,021	21,961	-8.6%	36.5%	03-07	20,561	21,332	3.7%	32.8%	05-07	12,200	15,120	23.9%	23.1%
	Math	04-07	24,016	21,996	-8.4%	36.6%	03-07	20,555	21,323	3.7%	32.8%	06-08	19,302	23,864	23.6%	27.8%
Students w/ disabilities	Reading	06-07	7,552	7,325	-3.0%	12.2%	06-07	7,879	7,363	-6.5%	11.3%	06-07	6,399	6,257	-2.2%	9.5%
	Math	06-07	7,540	7,318	-2.9%	12.2%	06-07	7,898	7,340	-7.1%	11.3%	06-07	7,783	9,249	18.8%	10.8%
English language learners	Reading	06-07	1,712	2,244	31.1%	3.7%	06-07	973	1,150	18.2%	1.8%	06-07	931	971	4.3%	1.5%
	Math	06-07	1,760	2,314	31.5%	3.8%	06-07	1,009	1,211	20.0%	1.9%	06-07	1,954	2,227	14.0%	2.6%
Female	Reading	04-07	31,433	29,257	-6.9%	48.7%	03-07	33,458	31,835	-4.9%	48.9%	05-07	29,118	32,954	13.2%	50.3%
	Math	04-07	31,455	29,277	-6.9%	48.7%	03-07	33,440	31,842	-4.8%	48.9%	06-07	39,019	43,004	10.2%	50.1%
Male	Reading	04-07	33,548	30,846	-8.1%	51.3%	03-07	35,244	33,240	-5.7%	51.1%	05-07	28,769	32,600	13.3%	49.7%
	Math	04-07	33,574	30,858	-8.1%	51.3%	03-07	35,195	33,243	-5.5%	51.1%	06-07	40,004	42,836	7.1%	49.9%

Table reads: In 2004, 31,840 students in the white subgroup took the state 4th grade reading test. By 2007, the number of white test-takers had fallen to 28,597 students, a decrease of 10.2%. In 2007, the white subgroup made up 47.6% of the 60,103 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.