Subgroup Achievement and Gap Trends — Colorado

K-12 enrollment — 801,391

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 labeled State Testing Data. In the list of results that appears, look for the most recent report on student achievement since 2002. Below the name of the report, click on the link for State Profiles and Worksheets. Scroll down the page until you reach the list of states. Click on the Worksheet link for proficiency data or scale score data for a particular state.

Subgroup Achievement Trends and Gap Trends — Key Findings

Summary. In grade 8 (the only grade in which subgroup trends were analyzed by achievement level), Colorado students showed gains in reading at the proficient level for racial/ethnic subgroups, low income students, and boys and girls, There were slight declines or flat trends for almost all subgroups at the advanced level in reading. In math, gains were shown for all subgroups in grade 8. Comparable data were available from 2002 through 2009. Because of the way the state defines achievement levels, we could not calculate percentages of students at the basic achievement level. Progress has also been made in narrowing achievement gaps in both reading and math between racial/ethnic subgroups, and between low income and non-low income students, with some exceptions.

- ***Exceptions.*** In grade 4 reading, achievement gaps widened between Native American students and white students, and between low income and non-low income students. Reading gaps also widened between boys and girls (girls generally score higher than boys in reading) in grade 8. The gap between Native American students and white students widened in grade 4 math.

Data Limitations

Years of comparable percentage proficient data	2001–2009 in reading 2002–2009 in math, grades 5, 6, 7, 8 and 10 2005–2009 in math, grades 3 and 4
Years of comparable mean scale score data	2003–2009 in reading, all grades, and math, grades 8 and 10 2005–2009 in math, grade 4
Disaggregated data for all subgroups and comparison groups	Percent proficient data not available for low-income students or students who are not low-income until 2003 Mean scale score data not available until 2003 for reading, all grades, and math, grades 8 and 10 During data verification, the Colorado Department of Education noted that ELL data from early years included more “no score” records; consequently, percentages for achievement levels may sum to substantially less than 100%.“No score” records are students categorized as ELLs for whom the state does not have achievement data.

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	Colorado Student Assessment Program (CSAP) Colorado Student Assessment Program Alternate (CSAPA)
Grades tested for NCLB accountability	3-10
State labels for achievement levels	CO uses four achievement levels: Unsatisfactory, Partial Proficient, Proficient, and Advanced. For our analyses we treated Partial Proficient + Proficient as Proficient and Advanced as Advanced. No CO achievement level was treated as our Basic.
High school NCLB test also used as an exit exam?	No
First year test used	2001: Reading, grades 3–10 2002: Math, grades 5–10 2005: Math, grades 3–4
Time of test administration	Spring

Major changes in testing system (2002–present)	2004: Changed from reporting AYP by grade span to reporting by specific grades 2004: Introduced math assessments in grades 3–4 but scores not used for AYP until 2005 2004: Developed Title III assessment for limited-English-proficient students 2006: Included grades 5 and 10 in state science assessment
Comments	Because none of Colorado's four achievement levels is equivalent to the NCLB Basic, no Basic and Above analyses could be conducted using CO data.

Achievement by Subgroup — Trends at the Middle School 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 CO-7. Percentages of grade 8 students by racial or ethnic subgroup scoring at the advanced, proficient-and-above, and basic-and-above levels in reading

	Reporting year								Average yearly percentage point gain[1]
Subgroup	2002	2003	2004	2005	2006	2007	2008	2009	
All tested students									
Advanced	8%	10%	10%	9%	9%	8%	10%	7%	-0.1
Proficient-and-above	85%	86%	86%	86%	87%	87%	88%	88%	0.4
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
White									
Advanced	11%	13%	13%	13%	12%	11%	13%	10%	-0.2
Proficient-and-above	92%	93%	92%	93%	93%	93%	93%	93%	0.2
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
African American									
Advanced	2%	3%	3%	3%	2%	2%	3%	2%	0.0
Proficient-and-above	78%	81%	77%	79%	79%	77%	80%	80%	0.3
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
Latino									
Advanced	2%	2%	2%	2%	2%	2%	2%	2%	-0.1
Proficient-and-above	67%	71%	69%	70%	75%	74%	77%	78%	1.5
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
Asian									
Advanced	9%	14%	11%	13%	12%	11%	14%	13%	0.6
Proficient-and-above	87%	89%	90%	90%	91%	91%	92%	91%	0.6
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
Native American									
Advanced	4%	5%	4%	4%	4%	3%	6%	4%	0.0
Proficient-and-above	81%	81%	80%	79%	84%	82%	85%	83%	0.3
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table reads: The percentage of white 8th graders who scored at the advanced level on the state reading test decreased from 11% in 2002 to 10% in 2009. During this period, the average yearly change in the percentage advanced in reading for white 8th graders was -0.2 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 2009 or the most recent year with available data, so changes for this subgroup should be interpreted with caution.

Table CO-8. Percentage of grade 8 students by demographic subgroup scoring at the advanced, proficient-and-above, and basic-and-above levels in reading

	Reporting year								Average yearly percentage point gain[1]
Subgroup	2002	2003	2004	2005	2006	2007	2008	2009	
All tested students									
Advanced	8%	10%	10%	9%	9%	8%	10%	7%	-0.1
Proficient-and-above	85%	86%	86%	86%	87%	87%	88%	88%	0.4
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
Low-income students									
Advanced	NA	2%	2%	2%	2%	2%	2%	2%	-0.1
Proficient-and-above	NA	73%	72%	71%	76%	76%	77%	78%	0.8
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
Students with disabilities[3]									
Advanced	1%	1%	1%	1%	1%	1%	1%	1%	0.0
Proficient-and-above	46%	50%	48%	51%	51%	51%	51%	52%	0.6
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
English language learners[3]									
Advanced	0%	0%	0%	0%	0%	0%	0%	0%	0.0
Proficient-and-above	31%	40%	39%	37%	45%	45%	48%	46%	0.2
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
Female									
Advanced	10%	13%	12%	11%	11%	10%	12%	9%	-0.1
Proficient-and-above	89%	90%	90%	89%	90%	90%	91%	91%	0.3
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
Male									
Advanced	7%	8%	7%	7%	7%	6%	7%	5%	-0.3
Proficient-and-above	84%	84%	82%	83%	85%	84%	85%	86%	0.2
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table reads: The percentage of low-income 8th graders who scored at the advanced level on the state reading test remained the same at 2% from 2003 to 2009. During this period, the average yearly change in the percentage advanced in reading for low-income 8th graders was -0.1 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 2009 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 2006-2009 results.

Table CO-9. Percentages of grade 8 students by racial or ethnic subgroup scoring at the advanced, proficient-and-above, and basic-and-above levels in mathematics

	Reporting year								Average yearly percentage point gain[1]
Subgroup	2002	2003	2004	2005	2006	2007	2008	2009	
All tested students									
Advanced	13%	13%	16%	15%	18%	17%	20%	19%	0.9
Proficient-and-above	70%	68%	70%	75%	74%	77%	76%	81%	1.6
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
White									
Advanced	17%	17%	21%	20%	24%	23%	27%	24%	1.1
Proficient-and-above	80%	78%	81%	84%	84%	86%	86%	88%	1.1
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
African American									
Advanced	3%	2%	4%	4%	6%	4%	7%	6%	0.4
Proficient-and-above	46%	44%	44%	52%	53%	55%	57%	65%	2.7
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
Latino									
Advanced	3%	3%	4%	4%	5%	5%	7%	7%	0.5
Proficient-and-above	45%	42%	47%	54%	53%	59%	59%	67%	3.1
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
Asian									
Advanced	20%	22%	26%	25%	30%	29%	35%	35%	2.1
Proficient-and-above	79%	79%	81%	83%	85%	87%	88%	91%	1.7
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
Native American									
Advanced	5%	6%	6%	7%	9%	9%	11%	12%	1.0
Proficient-and-above	56%	54%	53%	63%	62%	66%	65%	70%	2.0
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table reads: The percentage of white 8th graders who scored at the advanced level on the state math test increased from 17% in 2002 to 24% in 2009. During this period, the average yearly gain in the percentage advanced in math for white 8th graders was 1.1 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 2009 or the most recent year with available data, so changes for this subgroup should be interpreted with caution.

Table CO-10. Percentage of grade 8 students by demographic subgroup scoring at the advanced, proficient-and-above, and basic-and-above levels in mathematics

	Reporting year								Average yearly percentage point gain[1]
Subgroup	2002	2003	2004	2005	2006	2007	2008	2009	
All tested students									
Advanced	13%	13%	16%	15%	18%	17%	20%	19%	0.9
Proficient-and-above	70%	68%	70%	75%	74%	77%	76%	81%	1.6
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
Low-income students									
Advanced	NA	3%	4%	4%	5%	5%	7%	6%	0.6
Proficient-and-above	NA	42%	48%	55%	54%	59%	59%	66%	4.1
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
Students with disabilities[3]									
Advanced	1%	1%	2%	2%	2%	1%	3%	3%	0.2
Proficient-and-above	25%	22%	26%	33%	30%	46%	33%	38%	2.7
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
English language learners[3]									
Advanced	1%	1%	1%	1%	2%	7%	2%	2%	-0.1
Proficient-and-above	22%	24%	25%	31%	32%	38%	34%	43%	3.8
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
Female									
Advanced	12%	11%	15%	14%	17%	15%	18%	17%	0.8
Proficient-and-above	71%	69%	71%	78%	75%	78%	76%	82%	1.5
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA
Male									
Advanced	14%	14%	17%	17%	20%	19%	22%	20%	0.9
Proficient-and-above	70%	65%	70%	74%	74%	77%	77%	80%	1.4
Basic-and-above	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table reads: The percentage of low-income 8th graders who scored at the advanced level on the state math test increased from 3% in 2003 to 6% in 2009. During this period, the average yearly gain in the percentage advanced in math for low-income 8th graders was 0.6 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 2009 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 2006-2009 results.

Achievement by Subgroup — Gap Trends (Percentages Proficient)

Table CO-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	02-09	85%	87%	0.3		02-09	85%	88%	0.4		02-09	86%	91%	0.7	
White	02-09	92%	93%	0.2		02-09	92%	93%	0.2		02-09	90%	94%	0.5	
African American	02-09	74%	77%	0.5	L	02-09	78%	80%	0.3	L	02-09	78%	82%	0.6	L
Latino	02-09	70%	76%	0.9	L	02-09	67%	78%	1.5	L	02-09	68%	83%	2.2	L
Asian	02-09	85%	90%	0.7	L	02-09	87%	91%	0.6	L	02-09	83%	91%	1.2	L
Native American	02-09	80%	79%	-0.2	S	02-09	81%	83%	0.3	L	02-09	77%	86%	1.3	L
Not low-income	03-09	92%	94%	0.3		03-09	92%	94%	0.3		03-09	90%	93%	0.5	
Low-income	03-09	76%	77%	0.1	S	03-09	73%	78%	0.8	L	03-09	74%	83%	1.5	L
Not disabled	06-09	94%	91%	-1.1		06-09	91%	92%	0.3		06-09	91%	93%	0.5	
Students with disabilities[3]	06-09	58%	52%	-1.9	S	06-09	51%	52%	0.6	L	06-09	53%	62%	2.9	L
Not ELLs	06-09	93%	91%	-0.6		06-09	90%	91%	0.3		06-09	90%	92%	0.6	
English language learners[3]	06-09	62%	60%	-0.7	S	06-09	45%	46%	0.2	S	06-09	43%	59%	5.3	L
Female	02-09	88%	89%	0.2		02-09	89%	91%	0.3		02-09	89%	93%	0.6	
Male	02-09	83%	85%	0.2	E	02-09	84%	86%	0.2	S	02-09	82%	87%	0.8	L

Table reads: In 2002, 92% of white 4th graders and 74% of African American 4th graders scored at the proficient level on the state reading test. In 2009, 93% of white 4th graders and 77% of African American 4th graders scored at the proficient level in reading. Between 2002 and 2009, the percentage proficient improved at an average rate of 0.2 percentage points per year for white students and 0.5 percentage points per year for African American students, indicating a larger rate of gain and a narrowing of the achievement gap for African American 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 2009 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 CO-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	05-09	90%	92%	0.5		02-09	70%	81%	1.6		02-09	64%	65%	0.1	
White	05-09	95%	95%	0.1		02-09	80%	88%	1.1		02-09	73%	76%	0.4	
African American	05-09	78%	79%	0.3	L	02-09	46%	65%	2.7	L	02-09	34%	43%	1.2	L
Latino	05-09	81%	84%	0.8	L	02-09	45%	67%	3.1	L	02-09	35%	43%	1.2	L
Asian	05-09	94%	94%	0.1	E	02-09	79%	91%	1.7	L	02-09	71%	78%	1.0	L
Native American	05-09	84%	84%	0.0	S	02-09	56%	70%	2.0	L	02-09	49%	52%	0.4	E
Not low-income	05-09	95%	96%	0.3		03-09	78%	89%	1.8		03-09	68%	74%	1.0	
Low-income	05-09	81%	84%	0.7	L	03-09	42%	66%	4.1	L	03-09	38%	44%	1.0	E
Not disabled	06-09	94%	94%	-0.1		06-09	78%	85%	2.3		06-09	71%	69%	-0.7	
Students with disabilities[3]	06-09	68%	66%	-0.7	S	06-09	30%	38%	2.7	L	06-09	20%	20%	0.1	L
Not ELLS	06-09	94%	93%	-0.2		06-09	77%	83%	2.2		06-09	69%	68%	-0.3	
English language learners[3]	06-09	73%	75%	0.8	L	06-09	32%	43%	3.8	L	06-09	18%	21%	1.1	L
Female	05-09	90%	92%	0.4		02-09	71%	82%	1.5		02-09	63%	65%	0.3	
Male	05-09	89%	90%	0.3	S	02-09	70%	80%	1.4	S	02-09	65%	65%	0.0	S

Table reads: In 2005, 95% of white 4th graders and 78% of African American 4th graders scored at the proficient level on the state math test. In 2009, 95% of white 4th graders and 79% of African American 4th graders scored at the proficient level in math. Between 2005 and 2009, the percentage proficient improved at an average rate of 0.1 percentage points per year for white students and 0.3 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 2009 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.

Achievement by Subgroup — Gap Trends (Mean Scale Scores)

Table CO-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. MSS = mean scale score. SD = standard deviation.
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.

		Grade 4					Grade 8					Grade 10				
Subgroup	Statistic	Year span	Start year	End year	Avg. gain MSS[1]	Gain larger or smaller than comp. group	Year span	Start year	End year	Avg. gain MSS[1]	Gain larger or smaller than comp. group	Year span	Start year	End year	Avg. gain MSS[1]	Gain larger or smaller than comp. group
All tested students	MSS	03-09	587.0	586.2	-0.1		03-09	653.0	647.1	-1.0		03-09	681.0	684.9	0.7	
	SD	03-09	64.4	68.2			03-09	63.7	59.4			03-09	62.0	55.0		
White	MSS	03-09	602.8	604.9	0.4		03-09	667.8	661.8	-1.0		03-09	692.1	697.9	1.0	
	SD	03-09	57.7	58.4			03-09	56.6	53.1			03-09	57.2	49.6		
African American	MSS	03-09	557.0	556.9	0.0	S	03-09	626.8	622.0	-0.8	L	03-09	654.0	660.3	1.1	L
	SD	03-09	64.7	77.8			03-09	60.4	61.9			03-09	64.9	58.0		
Latino	MSS	03-09	552.7	554.1	0.2	S	03-09	612.2	616.9	0.8	L	03-09	646.7	657.4	1.8	L
	SD	03-09	65.6	70.2			03-09	66.1	59.3			03-09	65.3	54.9		
Asian	MSS	03-09	592.4	598.6	1.0	L	03-09	661.7	661.2	-0.1	L	03-09	684.4	692.5	1.4	L
	SD	03-09	61.3	67.9			03-09	60.8	59.8			03-09	57.0	56.2		
Native American	MSS	03-09	562.3	560.6	-0.3	S	03-09	636.4	631.9	-0.8	L	03-09	665.4	668.4	0.5	S
	SD	03-09	64.8	68.6			03-09	61.5	62.3			03-09	57.7	52.7		
Not Low-income	MSS	03-09	602.8	607.5	0.8		03-09	666.9	663.6	-0.6		03-09	688.5	696.1	1.3	
	SD	03-09	57.9	57.0			03-09	56.8	52.0			03-09	58.2	50.2		
Low-income	MSS	03-09	554.7	555.7	0.2	S	03-09	614.9	616.9	0.3	L	03-09	647.2	657.0	1.6	L
	SD	03-09	65.1	71.4			03-09	65.8	60.2			03-09	68.0	56.4		
Not disabled	MSS	06-09	597.0	594.6	-0.8		06-09	657.4	654.1	-1.1		06-09	689.9	690.3	0.1	
	SD	06-09	53.2	59.5			06-09	57.7	53.4			06-09	56.8	50.5		
Students with disabilities[3]	MSS	06-09	520.7	510.0	-3.6	S	06-09	569.5	576.5	2.3	L	06-09	605.9	619.2	4.5	L
	SD	06-09	86.3	90.7			06-09	80.8	69.5			06-09	73.4	63.7		
Not ELLs	MSS	06-09	596.7	596.1	-0.2		06-09	655.2	652.9	-0.8		06-09	687.7	689.2	0.5	
	SD	06-09	56.2	61.8			06-09	60.2	55.1			06-09	58.8	51.7		
English language learners[3]	MSS	06-09	523.0	518.8	-1.4	S	06-09	558.8	566.2	2.5	L	06-09	592.7	611.8	6.4	L
	SD	06-09	70.2	72.1			06-09	73.5	58.1			06-09	66.9	57.3		
Female	MSS	03-09	594.0	593.4	-0.1		03-09	662.0	655.6	-1.1		03-09	692.0	694.5	0.4	
	SD	03-09	61.9	64.0			03-09	59.2	56.6			03-09	53.4	49.5		
Male	MSS	03-09	580.0	579.2	-0.1	E	03-09	644.0	639.1	-0.8	L	03-09	671.0	675.7	0.8	L
	SD	03-09	66.3	71.4			03-09	66.6	60.8			03-09	67.8	58.3		

Table reads: In 2003, the mean scale score on the state 4th grade reading test was 602.8 for white students and 557.0 for African American students. In 2009, the mean scale score in 4th grade reading was 604.9 for white students and 556.9 for African American students. Between 2003 and 2009, the mean scale score improved at an average yearly rate of 0.4 points for white students and 0.0 points for African American students, indicating a widening of the achievement gap for African Americans.

Note: The Colorado Student Assessment Program (CSAP) is scored on a scale of 150-999.

[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 2009 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 CO-14. Achievement gap 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. MSS = mean scale score. SD = standard deviation. 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.

		Grade 4					Grade 8					Grade 10				
Subgroup	Statistic	Year span	Start year	End year	Avg. gain MSS[1]	Gain larger or smaller than comp. group	Year span	Start year	End year	Avg. gain MSS[1]	Gain larger or smaller than comp. group	Year span	Start year	End year	Avg. gain MSS[1]	Gain larger or smaller than comp. group
All tested students	MSS	05-09	482.0	491.8	2.5		03-09	550.0	572.8	3.8		03-09	582.0	587.3	0.9	
	SD	05-09	74.5	80.4			03-09	73.8	62.6			03-09	72.2	73.2		
White	MSS	05-09	500.5	512.3	2.9		03-09	567.1	587.2	3.4		03-09	596.7	605.4	1.5	
	SD	05-09	68.3	74.0			03-09	66.9	57.7			03-09	66.1	66.5		
African American	MSS	05-09	441.6	450.6	2.2	S	03-09	506.2	539.6	5.6	L	03-09	530.1	544.4	2.4	L
	SD	05-09	76.5	85.5			03-09	70.9	64.6			03-09	71.8	71.8		
Latino	MSS	05-09	445.9	457.0	2.8	S	03-09	505.9	543.1	6.2	L	03-09	537.2	548.7	1.9	L
	SD	05-09	70.9	75.2			03-09	72.9	59.7			03-09	70.5	69.4		
Asian	MSS	05-09	507.2	522.7	3.9	L	03-09	577.8	600.3	3.8	L	03-09	600.6	616.0	2.6	L
	SD	05-09	72.6	83.2			03-09	65.9	60.4			03-09	70.7	74.9		
Native American	MSS	05-09	455.9	460.3	1.1	S	03-09	526.8	553.3	4.4	L	03-09	554.1	562.6	1.4	S
	SD	05-09	72.0	77.8			03-09	72.1	60.7			03-09	68.8	71.9		
Not Low-income	MSS	05-09	502.5	516.7	3.6		03-09	566.3	589.5	3.9		03-09	591.2	602.9	1.9	
	SD	05-09	68.4	73.6			03-09	67.0	57.0			03-09	68.5	68.4		
Low-income	MSS	05-09	446.8	456.5	2.4	S	03-09	506.7	542.3	5.9	L	03-09	538.8	548.6	1.6	S
	SD	05-09	71.3	76.3			03-09	73.9	60.7			03-09	73.9	70.1		
Not disabled	MSS	06-09	469.8	500.2	10.1		06-09	570.9	579.9	3.0		06-09	593.9	594.4	0.2	
	SD	06-09	71.2	75.4			06-09	68.5	57.1			06-09	67.6	68.3		
Students with disabilities[3]	MSS	06-09	420.0	416.5	-1.2	S	06-09	473.3	500.9	9.2	L	06-09	493.9	501.7	2.6	L
	SD	06-09	79.3	84.2			06-09	83.5	69.1			06-09	78.6	75.1		
Not ELLs	MSS	06-09	497.0	501.4	1.5		06-09	567.0	577.4	3.5		06-09	590.4	591.8	0.5	
	SD	06-09	72.5	77.2			06-09	73.2	60.3			06-09	70.9	70.9		
English language learners[3]	MSS	06-09	423.2	427.7	1.5	E	06-09	486.4	507.7	7.1	L	06-09	495.8	510.5	4.9	L
	SD	06-09	69.6	71.6			06-09	70.5	58.3			06-09	71.5	68.2		
Female	MSS	05-09	480.0	492.1	3.0		03-09	553.0	572.8	3.3		03-09	582.0	586.2	0.7	
	SD	05-09	73.2	78.4			03-09	68.3	59.2			03-09	67.6	69.3		
Male	MSS	05-09	483.0	491.5	2.1	S	03-09	548.0	572.7	4.1	L	03-09	583.0	588.3	0.9	L
	SD	05-09	75.7	82.2			03-09	78.8	65.6			03-09	76.5	76.6		

Table reads: In 2005, the mean scale score on the state 4th grade math test was 500.5 for white students and 441.6 for African American students. In 2009, the

mean scale score in 4th grade math was 512.3 for white students and 450.6 for African American students. Between 2005 and 2009, the mean scale score improved at an average yearly rate of 2.9 points for white students and 2.2 points for African American students, indicating a widening of the achievement gap for African Americans.

Note: The Colorado Student Assessment Program (CSAP) is scored on a scale of 150-950.

[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 2009 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 CO-15. 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	03-09	55,695	59,539	6.9%	100.0%	03-09	56,573	57,066	0.9%	100.0%	03-09	51,955	55,678	7.2%	100.0%
	Math	05-09	55,399	59,801	7.9%	100.0%	03-09	56,529	57,121	1.0%	100.0%	03-09	52,263	55,889	6.9%	100.0%
White	Reading	03-09	35,850	35,362	-1.4%	59.4%	03-09	38,297	35,727	-6.7%	62.6%	03-09	37,154	35,773	-3.7%	64.2%
	Math	05-09	34,351	35,410	3.1%	59.2%	03-09	38,286	35,756	-6.6%	62.6%	03-09	37,362	35,893	-3.9%	64.2%
African American	Reading	03-09	3,476	3,652	5.1%	6.1%	03-09	3,202	3,385	5.7%	5.9%	03-09	2,695	3,414	26.7%	6.1%
	Math	05-09	3,352	3,668	9.4%	6.1%	03-09	3,190	3,393	6.4%	5.9%	03-09	2,717	3,446	26.8%	6.2%
Latino	Reading	03-09	14,085	17,631	25.2%	29.6%	03-09	12,697	15,222	19.9%	26.7%	03-09	9,962	13,991	40.4%	25.1%
	Math	05-09	15,173	17,820	17.4%	29.8%	03-09	12,682	15,234	20.1%	26.7%	03-09	10,030	14,039	40.0%	25.1%
Asian	Reading	03-09	1,585	2,205	39.1%	3.7%	03-09	1,680	2,104	25.2%	3.7%	03-09	1,573	1,835	16.7%	3.3%
	Math	05-09	1,895	2,214	16.8%	3.7%	03-09	1,680	2,108	25.5%	3.7%	03-09	1,578	1,844	16.9%	3.3%
Native American	Reading	03-09	695	689	-0.9%	1.2%	03-09	695	627	-9.8%	1.1%	03-09	568	665	17.1%	1.2%
	Math	05-09	628	688	9.6%	1.2%	03-09	685	629	-8.2%	1.1%	03-09	574	665	15.9%	1.2%
Low-income	Reading	03-09	18,814	24,505	30.2%	41.2%	03-09	15,637	20,179	29.0%	35.4%	03-09	9,268	15,962	72.2%	28.7%
	Math	05-09	20,667	24,714	19.6%	41.3%	03-09	15,630	20,200	29.2%	35.4%	03-09	9,327	16,042	72.0%	28.7%
Students w/ disabilities	Reading	06-09	5,847	5,949	1.7%	10.0%	06-09	5,323	5,173	-2.8%	9.1%	06-09	4,470	4,248	-5.0%	7.6%
	Math	06-09	5,873	5,999	2.1%	10.0%	06-09	5,315	5,187	-2.4%	9.1%	06-09	4,472	4,284	-4.2%	7.7%
English language learners	Reading	06-09	5,712	7,633	33.6%	12.8%	06-09	3,428	3,814	11.3%	6.7%	06-09	2,431	3,109	27.9%	5.6%
	Math	06-09	6,224	7,829	25.8%	13.1%	06-09	3,474	3,830	10.2%	6.7%	06-09	2,459	3,139	27.7%	5.6%
Female	Reading	03-09	27,150	29,164	7.4%	49.0%	03-09	27,679	27,781	0.4%	48.7%	03-09	25,575	27,226	6.5%	48.9%
	Math	05-09	26,934	29,283	8.7%	49.0%	03-09	27,669	27,794	0.5%	48.7%	03-09	25,694	27,305	6.3%	48.9%
Male	Reading	03-09	28,540	30,372	6.4%	51.0%	03-09	28,890	29,283	1.4%	51.3%	03-09	26,378	28,451	7.9%	51.1%
	Math	05-09	28,465	30,516	7.2%	51.0%	03-09	28,852	29,322	1.6%	51.3%	03-09	26,564	28,573	7.6%	51.1%

Table reads: In 2003, 35,850 students in the white subgroup took the state 4th grade reading test. By 2009, the number of white test-takers had fallen to 35,362 students, a decrease of 1.4%. In 2009, the white subgroup made up 59.4% of the 59,539 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 2009 or the most recent year with available data.

Key Terms

Percentage proficient (and above) — The percentage of students in a group who score at or 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 or 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 point 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 end 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 in this profile 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.