Subgroup Achievement and Gap Trends — Missouri

K-12 enrollment — 894,609

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.

Trends for subgroups in grade 4 reading and math showed a mixed picture of gains and declines at three levels of achievement. Trends in achievement gaps were mixed—the two indicators of achievement used in this study showed contradictory gap trends.

Subgroup trends by achievement level at grade 4

- General: In reading, almost all subgroups showed gains in the percentage of students scoring at basic-and-above and proficient-and-above levels, but there were declines across the board at the advanced achievement level. There was a similar outcome in math: all subgroups showed gains at the basic and proficient level, and at the advanced level all subgroups except African American students showed slight decreases.

Gap trends at three grade levels

- General: According to the percentage of students scoring at the proficient level, the majority of trend lines showed gaps widening in both reading and math for the African American, Latino, and low-income subgroups. According to mean (average) test scores, the second achievement measure used for this study, the majority of trend lines showed gaps narrowing in both subjects.

Data notes

- Limited data: Trends are limited to 2006 to 2008.

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

Data Limitations

Years of comparable percentage proficient data	2006 through 2008
Years of comparable mean scale score data	2006 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	Missouri Assessment Program (MAP) Missouri Assessment Program–Alternate (MAP-A)
Grades tested for NCLB accountability	Reading: 3–8, 11 Math: 3–8, 10
State labels for achievement levels	MO uses four achievement levels: Below Basic, Basic, Proficient, and Advanced. For our analyses we treated Basic as Basic, Proficient as Proficient, and Advanced as Advanced.
High school NCLB test also used as an exit exam?	No
First year test used	2006
Time of test administration	Spring
Major changes in testing system (2002–present)	2005-06: Missouri began testing all the grades from 3–8 and high school. The state also changed assessments, changed the number of achievement levels from five to four, and changed the cut scores defining proficient performance.

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 MO-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 2002	2003	2004	2005	2006	2007	2008	Average Yearly Percentage Point Gain[1]
All tested students								
Advanced					15%	17%	12%	-1.7
Proficient and Above					45%	46%	46%	0.4
Basic and Above					90%	90%	92%	1.3
White								
Advanced					18%	20%	14%	-1.8
Proficient and Above					50%	51%	51%	0.4
Basic and Above					92%	92%	94%	1.2
African American								
Advanced					6%	8%	5%	-0.9
Proficient and Above					25%	26%	27%	0.9
Basic and Above					80%	79%	83%	1.6
Latino								
Advanced					8%	10%	6%	-1.1
Proficient and Above					32%	33%	31%	-0.2
Basic and Above					85%	84%	89%	2.0
Asian								
Advanced					23%	29%	20%	-1.7
Proficient and Above					52%	54%	55%	1.3
Basic and Above					92%	91%	95%	1.6
Native American[2]								
Advanced					11%	20%	9%	-1.1
Proficient and Above					39%	42%	38%	-0.9
Basic and Above					88%	88%	92%	2.1

Table reads: The percentage of white 4th graders who scored at the advanced level on the state reading test decreased from 18% in 2006 to 14% in 2008. During this period, the average yearly loss in the percentage advanced in reading for white 4th graders was 1.8 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 MO-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					15%	17%	12%	-1.7
Proficient and Above					45%	46%	46%	0.4
Basic and Above					90%	90%	92%	1.3
Low-income students								
Advanced					8%	9%	6%	-1.2
Proficient and Above					31%	33%	32%	0.2
Basic and Above					84%	84%	88%	1.9
Students with disabilities[3]								
Advanced					6%	8%	7%	0.3
Proficient and Above					22%	24%	24%	1.1
Basic and Above					66%	67%	73%	3.4
English language learners[3]								
Advanced					4%	5%	5%	0.2
Proficient and Above					20%	20%	25%	2.6
Basic and Above					75%	75%	84%	4.5
Female								
Advanced					19%	21%	15%	-1.9
Proficient and Above					51%	52%	52%	0.5
Basic and Above					93%	92%	94%	0.9
Male								
Advanced					12%	14%	9%	-1.4
Proficient and Above					39%	41%	40%	0.4
Basic and Above					86%	87%	90%	1.7

Table reads: The percentage of low-income 4th graders who scored at the advanced level on the state reading test decreased from 8% in 2006 to 6% in 2008. During this period, the average yearly loss in the percentage advanced in reading for low-income 4th graders was 1.2 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 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 MO-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 2002	2003	2004	2005	2006	2007	2008	Average Yearly Percentage Point Gain[1]
All tested students								
Advanced					9%	10%	9%	-0.4
Proficient and Above					44%	45%	45%	0.3
Basic and Above					92%	92%	92%	0.3
White								
Advanced					11%	11%	10%	-0.5
Proficient and Above					50%	51%	50%	0.4
Basic and Above					94%	95%	95%	0.4
African American								
Advanced					3%	3%	3%	0.1
Proficient and Above					22%	22%	22%	-0.1
Basic and Above					81%	80%	81%	0.0
Latino								
Advanced					5%	5%	5%	-0.1
Proficient and Above					33%	34%	33%	0.1
Basic and Above					89%	89%	90%	0.3
Asian								
Advanced					20%	21%	20%	-0.1
Proficient and Above					59%	62%	62%	1.2
Basic and Above					95%	95%	96%	0.2
Native American[2]								
Advanced					6%	8%	5%	-0.6
Proficient and Above					42%	41%	38%	-1.8
Basic and Above					91%	92%	92%	0.7

Table reads: The percentage of white 4th graders who scored at the advanced level on the state math test decreased from 11% in 2006 to 10% in 2008. During this period, the average yearly loss in the percentage advanced in math for white 4th graders was 0.5 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 MO-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 2002	2003	2004	2005	2006	2007	2008	Average Yearly Percentage Point Gain[1]
All tested students								
Advanced					9%	10%	9%	-0.4
Proficient and Above					44%	45%	45%	0.3
Basic and Above					92%	92%	92%	0.3
Low-income students								
Advanced					5%	5%	4%	-0.2
Proficient and Above					31%	31%	31%	0.3
Basic and Above					87%	87%	88%	0.5
Students with disabilities[3]								
Advanced					5%	7%	7%	0.9
Proficient and Above					25%	27%	28%	1.4
Basic and Above					75%	77%	79%	1.6
English language learners[3]								
Advanced					4%	4%	6%	0.9
Proficient and Above					25%	26%	31%	2.8
Basic and Above					82%	82%	86%	2.0
Female								
Advanced					9%	9%	8%	-0.3
Proficient and Above					44%	45%	44%	0.0
Basic and Above					92%	93%	93%	0.4
Male								
Advanced					10%	10%	9%	-0.4
Proficient and Above					45%	46%	46%	0.5
Basic and Above					91%	91%	92%	0.3

Table reads: The percentage of low-income 4th graders who scored at the advanced level on the state math test decreased from 5% in 2006 to 4% in 2008. During this period, the average yearly loss in the percentage advanced in math for low-income 4th 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 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 MO-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 11				
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	06-08	45%	46%	0.4		06-08	43%	48%	3.0		06-08	43%	39%	-1.8	
White	06-08	50%	51%	0.4		06-08	49%	55%	3.1		06-08	47%	44%	-1.8	
African American	06-08	25%	27%	0.9	L	06-08	18%	24%	2.8	S	06-08	18%	17%	-0.7	L
Latino	06-08	32%	31%	-0.2	S	06-08	28%	33%	2.2	S	06-08	28%	26%	-0.9	L
Asian	06-08	52%	55%	1.3	L	06-08	55%	60%	2.5	S	06-08	52%	48%	-2.0	S
Native American	06-08	39%	38%	-0.9[2]	S	06-08	36%	48%	5.7[2]	L	06-08	43%	34%	-4.5[2]	S
Not low-income	06-08	55%	57%	0.9		06-08	53%	60%	3.5		06-08	49%	46%	-1.4	
Low-income	06-08	31%	32%	0.2	S	06-08	27%	33%	2.9	S	06-08	26%	24%	-0.8	L
Not disabled	06-08	49%	50%	0.3		06-08	48%	54%	3.0		06-08	47%	44%	-1.8	
Students with disabilities[3]	06-08	22%	24%	1.1	L	06-08	11%	14%	1.7	S	06-08	10%	9%	-0.7	L
Not ELL	06-08	45%	46%	0.5		06-08	43%	49%	3.0		06-08	43%	40%	-1.7	
English language learners[3]	06-08	20%	25%	2.6	L	06-08	13%	25%	6.2	L	06-08	13%	24%	5.6	L
Female	06-08	51%	52%	0.5		06-08	49%	54%	2.3		06-08	48%	44%	-2.2	
Male	06-08	39%	40%	0.4	S	06-08	36%	43%	3.6	L	06-08	37%	35%	-1.4	L

Table reads: In 2006, 50% of white 4th graders and 25% of African American 4th graders scored at the proficient level on the state reading test. In 2008, 51% of white 4th graders and 27% of African American 4th graders scored at the proficient level in reading. Between 2006 and 2008, the percentage proficient improved at an average rate of 0.4 percentage point per year for white students and 0.9 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 MO-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	06-08	44%	45%	0.3		06-08	41%	44%	1.8		06-08	42%	46%	1.9	
White	06-08	50%	50%	0.4		06-08	47%	51%	2.0		06-08	49%	53%	2.0	
African American	06-08	22%	22%	-0.1	S	06-08	14%	17%	1.4	S	06-08	14%	18%	1.7	S
Latino	06-08	33%	33%	0.1	S	06-08	28%	32%	1.9	S	06-08	26%	32%	2.6	L
Asian	06-08	59%	62%	1.2	L	06-08	59%	62%	1.6	S	06-08	60%	64%	1.8	S
Native American	06-08	42%	38%	-1.8[2]	S	06-08	40%	38%	-1.4[2]	S	06-08	34%	38%	2.1[2]	L
Not low-income	06-08	54%	56%	0.8		06-08	51%	56%	2.3		06-08	50%	55%	2.5	
Low-income	06-08	31%	31%	0.3	S	06-08	24%	28%	1.9	S	06-08	25%	29%	2.1	S
Not disabled	06-08	48%	48%	0.0		06-08	45%	49%	1.7		06-08	47%	51%	1.8	
Students with disabilities[3]	06-08	25%	28%	1.4	L	06-08	13%	16%	1.6	S	06-08	10%	15%	2.2	L
Not ELL	06-08	45%	45%	0.3		06-08	41%	45%	1.9		06-08	43%	47%	1.9	
English language learners[3]	06-08	25%	31%	2.8	L	06-08	19%	29%	4.6	L	06-08	16%	31%	7.4	L
Female	06-08	44%	44%	0.0		06-08	40%	44%	1.7		06-08	42%	46%	2.1	
Male	06-08	45%	46%	0.5	L	06-08	41%	45%	1.9	L	06-08	43%	47%	1.7	S

Table reads: In 2006, 50% of white 4th graders and 22% of African American 4th graders scored at the proficient level on the state math test. In 2008, 50% of white 4th graders and 22% of African American 4th graders scored at the proficient level in math. Between 2006 and 2008, the percentage proficient improved at an average rate of 0.4 percentage points per year for white students and declined at an average rate of 0.1 percentage points per year for African American students, indicating a smaller rate of gain and a widening 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.

Achievement by Subgroup — Gap Trends (Mean Scale Scores)

Table MO-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.

		Grade 4					Grade 8					Grade 11				
Subgroup	Statistic	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score)[1]	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score)[1]	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score)[1]	Gain Larger or Smaller than Comparison Group
All tested students	Mean SS	06-08	654.6	655.6	0.5		06-08	686.9	691.1	2.1		06-08	716.7	713.6	-1.6	
	SD	06-08	38.6	33.6			06-08	37.9	33.6			06-08	31.4	35.9		
White	Mean SS	06-08	658.9	659.9	0.5		06-08	692.5	696.2	1.8		06-08	720.4	717.6	-1.4	
	SD	06-08	37.0	31.8			06-08	35.9	30.9			06-08	29.8	34.4		
African American	Mean SS	06-08	637.3	639.6	1.2	L	06-08	664.7	671.5	3.4	L	06-08	697.3	692.6	-2.4	S
	SD	06-08	39.4	36.0			06-08	36.1	35.3			06-08	31.8	36.0		
Latino	Mean SS	06-08	642.9	645.5	1.3	L	06-08	674.1	678.6	2.2	L	06-08	706.0	702.1	-2.0	S
	SD	06-08	38.7	32.3			06-08	38.0	35.7			06-08	31.0	35.6		
Asian	Mean SS	06-08	664.2	664.4	0.1	S	06-08	700.0	696.7	-1.7	S	06-08	725.1	721.4	-1.9	S
	SD	06-08	39.5	32.8			06-08	43.3	38.2			06-08	34.1	37.9		
Native American	Mean SS	06-08	650.7	650.6	0.0[2]	S	06-08	681.2	687.6	3.2[2]	L	06-08	713.9	708.4	-2.8[2]	S
	SD	06-08	40.6	33.6			06-08	39.7	32.8			06-08	33.7	32.8		
Not Low-income	Mean SS	06-08	663.6	664.5	0.5		06-08	695.8	699.5	1.8		06-08	721.3	718.8	-1.3	
	SD	06-08	35.9	30.6			06-08	35.8	30.3			06-08	29.8	34.8		
Low-income	Mean SS	06-08	642.8	645.2	1.2	L	06-08	672.9	679.0	3.1	L	06-08	703.6	700.3	-1.7	S
	SD	06-08	38.8	34.1			06-08	36.7	34.3			06-08	32.1	35.9		
Not disabled	Mean SS	06-08	660.7	660.4	-0.2		06-08	693.7	696.4	1.3		06-08	721.7	718.6	-1.6	
	SD	06-08	32.8	29.1			06-08	32.9	29.0			06-08	27.3	32.0		
Students with disabilities[3]	Mean SS	06-08	622.8	627.8	2.5	L	06-08	646.5	653.5	3.5	L	06-08	679.8	670.5	-4.7	S
	SD	06-08	48.8	43.5			06-08	40.1	39.3			06-08	35.1	38.4		
Not ELLs	Mean SS	06-08	655.1	656.2	0.5		06-08	687.3	691.6	2.1		06-08	717.0	713.5	-1.7	
	SD	06-08	38.3	33.4			06-08	37.6	33.2			06-08	31.3	36.0		
English language learners[3]	Mean SS	06-08	631.3	637.7	3.2	L	06-08	656.1	664.9	4.4	L	06-08	688.8	689.6	0.4	L
	SD	06-08	40.9	36.3			06-08	39.8	39.3			06-08	33.0	37.8		
Female	Mean SS	06-08	660.6	660.8	0.1		06-08	693.4	695.5	1.0		06-08	721.6	718.6	-1.5	
	SD	06-08	36.5	31.8			06-08	36.4	31.0			06-08	29.0	33.3		

		Grade 4					Grade 8					Grade 11				
Subgroup	Statistic	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score)[1]	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score)[1]	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score)[1]	Gain Larger or Smaller than Comparison Group
Male	Mean SS	06-08	648.9	650.8	0.9	L	06-08	680.9	686.5	2.8	L	06-08	711.9	708.6	-1.7	S
	SD	06-08	39.4	34.6			06-08	38.0	35.1			06-08	32.8	37.6		

Table reads: In 2006, the mean scale score on the state 4th grade reading test was 658.9 for white students and 637.3 for African American students. In 2008, the mean scale score in 4th grade reading was 659.9 for white students and 639.6 for African American students. Between 2006 and 2008, the mean scale score improved at an average yearly rate of 0.5 points for white students and 1.2 points for African American students, indicating a narrowing of the achievement gap for African Americans.

Note: The Missouri Assessment Program is scored on a scale of 450-910 with scores varying across grade level and content area.

[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 MO-14. Subgroup Achievement Trends in Mathematics by Mean Scale Score

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.

		Grade 4					Grade 8					Grade 10				
Subgroup	Statistic	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score)[1]	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score)[1]	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score)[1]	Gain Larger or Smaller than Comparison Group
All tested students	Mean SS	06-08	643.9	644.2	0.2		06-08	697.7	701.3	1.8		06-08	724.5	729.3	2.4	
	SD	06-08	37.1	34.1			06-08	40.4	39.4			06-08	51.2	49.6		
White	Mean SS	06-08	648.8	649.4	0.3		06-08	704.8	708.2	1.7		06-08	732.7	737.7	2.5	
	SD	06-08	35.1	31.9			06-08	37.2	35.8			06-08	47.3	45.6		
African American	Mean SS	06-08	623.3	623.3	0.0	S	06-08	668.7	673.3	2.3	L	06-08	686.2	691.4	2.6	L
	SD	06-08	37.6	35.2			06-08	39.5	40.1			06-08	50.4	48.4		
Latino	Mean SS	06-08	634.9	635.6	0.3	E	06-08	686.6	690.1	1.8	L	06-08	707.2	713.3	3.0	L
	SD	06-08	34.4	32.0			06-08	37.1	39.0			06-08	50.6	47.9		
Asian	Mean SS	06-08	658.4	658.5	0.1	S	06-08	716.8	214.3	-251.2	S	06-08	747.8	746.1	-0.9	S
	SD	06-08	41.1	32.8			06-08	44.0	46.8			06-08	53.6	54.0		
Native American	Mean SS	06-08	641.0	640.3	-0.4[2]	S	06-08	694.6	697.4	1.4[2]	S	06-08	718.5	720.0	0.8[2]	S
	SD	06-08	34.9	29.1			06-08	40.6	35.5			06-08	49.3	46.1		
Not Low-income	Mean SS	06-08	652.6	653.2	0.3		06-08	707.8	711.8	2.0		06-08	734.1	739.8	2.8	
	SD	06-08	35.0	31.8			06-08	37.6	36.1			06-08	48.3	46.7		
Low-income	Mean SS	06-08	632.4	633.6	0.6	L	06-08	682.0	686.3	2.2	L	06-08	702.8	709.4	3.3	L
	SD	06-08	36.5	33.9			06-08	39.6	39.0			06-08	50.8	48.7		
Not disabled	Mean SS	06-08	648.6	647.9	-0.4		06-08	704.4	706.7	1.2		06-08	732.9	736.7	1.9	
	SD	06-08	33.5	31.7			06-08	35.6	35.5			06-08	45.3	44.5		
Students with disabilities[3]	Mean SS	06-08	619.3	622.5	1.6	L	06-08	658.4	663.0	2.3	L	06-08	669.5	674.6	2.6	L
	SD	06-08	44.0	39.8			06-08	44.4	43.7			06-08	53.3	50.3		
Not ELLs	Mean SS	06-08	644.4	644.7	0.2		06-08	698.1	701.8	1.8		06-08	725.0	729.8	2.4	
	SD	06-08	36.9	34.0			06-08	40.2	39.2			06-08	50.9	49.3		
English language learners[3]	Mean SS	06-08	626.6	630.4	1.9	L	06-08	673.6	680.8	3.6	L	06-08	687.4	701.4	7.0	L
	SD	06-08	38.9	36.3			06-08	45.2	44.3			06-08	54.6	53.3		
Female	Mean SS	06-08	644.0	644.2	0.1		06-08	698.3	701.6	1.7		06-08	724.4	729.8	2.7	

		Grade 4					Grade 8					Grade 10				
Subgroup	Statistic	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score)[1]	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score)[1]	Gain Larger or Smaller than Comparison Group	Year Span	Starting Year	Ending Year	Average Gain (Mean Scale Score)[1]	Gain Larger or Smaller than Comparison Group
	SD	06-08	36.2	33.1			06-08	38.5	37.3			06-08	48.5	46.7		
Male	Mean SS	06-08	643.9	644.2	0.2	L	06-08	697.5	701.1	1.8	L	06-08	724.8	729.0	2.1	S
	SD	06-08	37.8	35.2			06-08	41.9	41.2			06-08	53.5	52.1		

Table reads: In 2006, the mean scale score on the state 4th grade math test was 648.8 for white students and 623.3 for African American students. In 2008, the mean scale score in 4th grade math was 649.4 for white students and 623.3 for African American students. Between 2006 and 2008, the mean scale score improved at an average yearly rate of 0.3 points for white students and showed no change for African American students, indicating a widening of the achievement gap for African Americans.

Note: The Missouri Assessment Program is scored on a scale of 450-910 with scores varying across grade level and content area.

[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 MO-15. Numbers of Test-Takers

Subgroup	Subject	Grade 4					Grade 8					Grade 11 Reading / Grade 10 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	06-08	65,179	67,591	3.7%	100.0%	06-08	72,483	67,915	-6.3%	100.0%	06-08	60,004	62,885	4.8%	100.0%
	Math	06-08	65,306	67,649	3.6%	100.0%	06-08	72,542	67,948	-6.3%	100.0%	06-08	68,083	69,423	2.0%	100.0%
White	Reading	06-08	49,918	50,497	1.2%	74.7%	06-08	55,668	51,293	-7.9%	75.5%	06-08	48,486	49,255	1.6%	78.3%
	Math	06-08	49,939	50,498	1.1%	74.6%	06-08	55,712	51,289	-7.9%	75.5%	06-08	53,665	53,731	0.1%	77.4%
African American	Reading	06-08	11,588	12,164	5.0%	18.0%	06-08	13,187	12,200	-7.5%	18.0%	06-08	8,842	8,810	-0.4%	14.0%
	Math	06-08	11,593	12,172	5.0%	18.0%	06-08	13,164	12,198	-7.3%	18.0%	06-08	11,193	11,329	1.2%	16.3%
Latino	Reading	06-08	2,162	2,659	23.0%	3.9%	06-08	2,050	2,149	4.8%	3.2%	06-08	1,336	1,420	6.3%	2.3%
	Math	06-08	2,216	2,697	21.7%	4.0%	06-08	2,081	2,175	4.5%	3.2%	06-08	1,734	1,950	12.5%	2.8%
Asian	Reading	06-08	1,097	1,187	8.2%	1.8%	06-08	994	1,125	13.2%	1.7%	06-08	959	1,117	16.5%	1.8%
	Math	06-08	1,139	1,211	6.3%	1.8%	06-08	1,011	1,070	17.9%	1.8%	06-08	1,038	1,223	17.8%	1.8%
Native American	Reading	06-08	275	**262**	-4.7%	0.4%	06-08	371	**330**	-11.1%	0.5%	06-08	244	**274**	12.3%	0.4%
	Math	06-08	270	**261**	-3.3%	0.4%	06-08	368	**331**	-10.1%	0.5%	06-08	307	**330**	7.5%	0.5%
Low-income	Reading	06-08	28,308	30,907	9.2%	45.7%	06-08	28,327	27,936	-1.4%	41.1%	06-08	15,691	19,089	21.7%	30.4%
	Math	06-08	28,317	30,775	8.7%	45.5%	06-08	28,298	27,798	-1.8%	40.9%	06-08	21,003	23,771	13.2%	34.2%
Students w/ disabilities	Reading	06-08	10,599	10,509	-0.8%	15.5%	06-08	10,503	9,043	-13.9%	13.3%	06-08	7,160	7,621	6.4%	12.1%
	Math	06-08	10,609	9,721	-8.4%	14.4%	06-08	10,513	8,360	-20.5%	12.3%	06-08	9,079	8,243	-9.2%	11.9%
English language learners	Reading	06-08	1,612	2,381	47.7%	3.5%	06-08	1,141	1,731	51.7%	2.5%	06-08	666	1,406	111.1%	2.2%
	Math	06-08	1,732	2,217	28.0%	3.3%	06-08	1,191	1,467	23.2%	2.2%	06-08	963	1,285	33.4%	1.9%
Female	Reading	06-08	31,905	32,476	1.8%	48.0%	06-08	35,063	32,766	-6.6%	48.2%	06-08	29,970	30,536	1.9%	48.6%
	Math	06-08	31,941	32,510	1.8%	48.1%	06-08	35,089	32,789	-6.6%	48.3%	06-08	33,483	33,900	1.2%	48.8%
Male	Reading	06-08	32,984	34,297	4.0%	50.7%	06-08	37,078	34,384	-7.3%	50.6%	06-08	29,719	30,370	2.2%	48.3%
	Math	06-08	33,038	34,333	3.9%	50.8%	06-08	37,087	34,398	-7.3%	50.6%	06-08	34,240	34,672	1.3%	49.9%

Table reads: In 2006, 49,918 students in the white subgroup took the state 4th grade reading test. By 2008, the number of white test-takers had risen to 50,497 students, an increase of 1.2%. In 2008, the white subgroup made up 74.7% of the 67,591 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.