Subgroup Achievement and Gap Trends — Arizona

K-12 enrollment — 1,148,448

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.

Overall, Arizona had clear upward trends in student achievement, and showed most achievement gaps tending to narrow by the percentage proficient measure, but not by the mean scale score measure.

Subgroup trends by achievement level at grade 4

- Main trend: Almost all subgroups showed improvement in both reading and math at three achievement levels—basic-and-above, proficient-and-above, and advanced.

- Notable exceptions: The Asian subgroup was the only one to show declines in test score trends; there was a decline at the basic level in math and at the advanced level in reading. It should be noted, however, that the performance of the Asian subgroup is roughly equivalent to that of the white subgroup in reading, and is far higher than the white subgroup in math, where roughly half of the Asian subgroup is at the advanced level.

Gap trends at three grade levels

- Contradicting trends using two different measures: In almost all instances, gaps in the percentages of students scoring at the proficient level in reading and math narrowed between the African American, Latino, and Native American subgroups and the white subgroup, and between low-income and non-low-income students, at grades 4 and 8 and at the high school grade tested. Specifically, 10 of the 12 trend lines analyzed in reading showed evidence of gaps narrowing, as did 12 of 12 trend lines in math. But according to the mean scale score

measure (the second achievement measure sued for this study), gaps in test scores narrowed in 5 of 12 trend lines in reading and math; the rest showed achievement gaps widening or staying the same.

Data notes

- Limited data: Trends are limited to 2005–2008.
- Subgroups analyzed: Trends were analyzed for white, African American, Latino, Asian American, Native American, and low-income students. 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	2005 through 2008
Years of comparable mean scale score data	2005 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	Arizona's Instrument to Measure Standards Dual Purpose Assessment (AIMS DPA), grades 3–8 Arizona's Instrument to Measure Standards High School (AIMS HS) Arizona's Instrument to Measure Standards–Alternate (AIMS-A)
Grades tested for NCLB accountability	Grades 3–8 and 10–12 (first administration of high school exam in grade 10, plus retake opportunities in grades 11 and 12)
State labels for achievement levels	AZ uses four achievement levels: Falls Far Below the Standard, Approaches the Standard, Meets the Standard, and Exceeds the Standard. For our analyses we treated Approaches the Standard as Basic, Meets the Standard as Proficient, and Exceeds the Standard as Advanced.

High school NCLB test also used as an exit exam?	Yes
First year test used	2005
Time of test administration	Spring (fall window also available for AIMS HS)
Major changes in testing system (2002–present)	2005–06: Grades 4, 6, and 7 included in achievement profiles 2005: Cut points reset 2005: Change in test contractors

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 AZ-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				10%	8%	10%	9%	-0.3
Proficient and Above				64%	65%	65%	70%	2.0
Basic and Above				89%	89%	89%	90%	0.3
White								
Advanced				16%	14%	16%	16%	0.0
Proficient and Above				81%	81%	80%	83%	0.7
Basic and Above				95%	96%	95%	95%	0.0
African American								
Advanced				5%	4%	5%	5%	0.0
Proficient and Above				55%	58%	55%	62%	2.3
Basic and Above				84%	85%	84%	87%	1.0
Latino								
Advanced				3%	3%	4%	4%	0.3
Proficient and Above				48%	51%	52%	58%	3.3
Basic and Above				81%	83%	84%	86%	1.7
Asian								
Advanced				17%	14%	17%	16%	-0.3
Proficient and Above				81%	82%	81%	82%	0.3
Basic and Above				95%	95%	95%	96%	0.3
Native American								
Advanced				2%	2%	2%	2%	0.0
Proficient and Above				44%	46%	47%	51%	2.3
Basic and Above				82%	84%	83%	84%	0.7

Table reads: The percentage of white 4th graders who scored at the advanced level on the state reading was 16% in 2005 and in 2008. During this period, the average yearly gain in the percentage advanced in reading for white 4th graders was 0.0 percentage points per year.

[1]Averages are subject to rounding error.

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

Table AZ-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				10%	8%	10%	9%	-0.3
Proficient and Above				64%	65%	65%	70%	2.0
Basic and Above				89%	89%	89%	90%	0.3
Low-income students								
Advanced				3%	3%	4%	4%	0.3
Proficient and Above				49%	51%	51%	57%	2.7
Basic and Above				82%	83%	83%	87%	1.7
Students with disabilities[3]								
Advanced				4%	3%	4%	3%	0.0
Proficient and Above				36%	34%	34%	35%	0.5
Basic and Above				67%	66%	64%	66%	0.0
English language learners[3]								
Advanced				0%	0%	0%	0%	0.0
Proficient and Above				25%	21%	21%	28%	3.5
Basic and Above				67%	66%	65%	73%	3.5
Female								
Advanced				11%	10%	11%	10%	-0.3
Proficient and Above				68%	69%	69%	74%	2.0
Basic and Above				91%	92%	91%	93%	0.7
Male								
Advanced				8%	7%	8%	8%	0.0
Proficient and Above				60%	62%	61%	66%	2.0
Basic and Above				85%	86%	86%	87%	0.7

Table reads: The percentage of low-income 4th graders who scored at the advanced level on the state reading test increased from 3% in 2005 to 4% in 2008. During this period, the average yearly gain in the percentage advanced in reading for low-income 4th graders was 0.3 percentage points per year.

[1]Averages are subject to rounding error.

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

[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 AZ-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				21%	24%	27%	25%	1.3
Proficient and Above				71%	73%	74%	74%	1.0
Basic and Above				88%	90%	89%	89%	0.3
White								
Advanced				31%	35%	40%	35%	1.3
Proficient and Above				84%	85%	86%	85%	0.3
Basic and Above				94%	95%	95%	94%	0.0
African American								
Advanced				11%	13%	17%	15%	1.3
Proficient and Above				58%	61%	62%	64%	2.0
Basic and Above				79%	84%	82%	82%	1.0
Latino								
Advanced				10%	14%	16%	16%	2.0
Proficient and Above				58%	63%	64%	66%	2.7
Basic and Above				81%	86%	85%	85%	1.3
Asian								
Advanced				40%	45%	50%	46%	2.0
Proficient and Above				87%	89%	89%	88%	0.3
Basic and Above				96%	96%	95%	95%	-0.3
Native American								
Advanced				7%	8%	11%	10%	1.0
Proficient and Above				52%	55%	56%	56%	1.3
Basic and Above				79%	81%	81%	80%	0.3

Table reads: The percentage of white 4th graders who scored at the advanced level on the state math test increased from 31% in 2005 to 35% in 2008. During this period, the average yearly gain in the percentage advanced in math for white 4th graders was 1.3 percentage points per year.

[1]Averages are subject to rounding error.

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

Table AZ-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				21%	24%	27%	25%	1.3
Proficient and Above				71%	73%	74%	74%	1.0
Basic and Above				88%	90%	89%	89%	0.3
Low-income students								
Advanced				10%	13%	16%	15%	1.7
Proficient and Above				58%	62%	63%	64%	2.0
Basic and Above				81%	85%	84%	85%	1.3
Students with disabilities[3]								
Advanced				8%	8%	11%	8%	0.0
Proficient and Above				41%	41%	43%	43%	1.0
Basic and Above				65%	67%	67%	66%	-0.5
English language learners[3]								
Advanced				4%	3%	4%	4%	0.5
Proficient and Above				40%	40%	39%	44%	2.0
Basic and Above				71%	73%	70%	73%	0.0
Female								
Advanced				21%	24%	26%	25%	1.3
Proficient and Above				71%	74%	74%	75%	1.3
Basic and Above				89%	91%	90%	91%	0.7
Male								
Advanced				21%	24%	28%	25%	1.3
Proficient and Above				70%	72%	73%	73%	1.0
Basic and Above				87%	89%	88%	89%	0.7

Table reads: The percentage of low-income 4th graders who scored at the advanced level on the state math test increased from 10% in 2005 to 15% in 2008. During this period, the average yearly gain in the percentage advanced in math for low-income 4th graders was 1.7 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 AZ-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	05-08	64%	70%	2.0		05-08	64%	67%	1.0		05-08	73%	74%	0.3	
White	05-08	81%	83%	0.7		05-08	79%	80%	0.3		05-08	86%	87%	0.3	
African American	05-08	55%	62%	2.3	L	05-08	57%	59%	0.7	L	05-08	66%	67%	0.3	E
Latino	05-08	48%	58%	3.3	L	05-08	48%	54%	2.0	L	05-08	56%	60%	1.3	L
Asian	05-08	81%	82%	0.3	S	05-08	81%	81%	0.0	S	05-08	84%	85%	0.3	E
Native American	05-08	44%	51%	2.3	L	05-08	44%	48%	1.3	L	05-08	52%	53%	0.3	E
Not low-income	05-08	79%	83%	1.3		05-08	76%	79%	1.0		05-08	81%	82%	0.3	
Low-income	05-08	49%	57%	2.7	L	05-08	48%	53%	1.7	L	05-08	55%	58%	1.0	L
Not disabled	06-08	70%	75%	2.5		06-08	68%	73%	2.5		06-08	77%	78%	0.5	
Students with disabilities[3]	06-08	34%	35%	0.5	S	06-08	23%	23%	0.0	S	06-08	30%	30%	0.0	S
Not ELL	06-08	74%	77%	1.5		06-08	70%	73%	1.5		06-08	77%	78%	0.5	
English language learners[3]	06-08	21%	28%	3.5	L	06-08	13%	14%	0.5	S	06-08	13%	15%	1.0	L
Female	05-08	68%	74%	2.0		05-08	68%	71%	1.0		05-08	76%	76%	0.0	
Male	05-08	60%	66%	2.0	E	05-08	60%	63%	1.0	E	05-08	70%	71%	0.3	L

Table reads: In 2005, 81% of white 4th graders and 55% of African American 4th graders scored at the proficient level on the state reading test. In 2008, 83% of white 4th graders and 62% of African American 4th graders scored at the proficient level in reading. Between 2005 and 2008, the percentage proficient improved at an average rate of 0.7 percentage point per year for white students and 2.3 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 AZ-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	05-08	71%	74%	1.0		05-08	61%	61%	0.0		05-08	68%	68%	0.0	
White	05-08	84%	85%	0.3		05-08	76%	75%	-0.3		05-08	81%	80%	-0.3	
African American	05-08	58%	64%	2.0	L	05-08	46%	48%	0.7	L	05-08	55%	56%	0.3	L
Latino	05-08	58%	66%	2.7	L	05-08	46%	49%	1.0	L	05-08	52%	56%	1.3	L
Asian	05-08	87%	88%	0.3	E	05-08	82%	81%	-0.3	E	05-08	85%	85%	0.0	L
Native American	05-08	52%	56%	1.3	L	05-08	41%	42%	0.3	L	05-08	46%	47%	0.3	L
Not low-income	05-08	83%	85%	0.7		05-08	73%	73%	0.0		05-08	76%	77%	0.3	
Low-income	05-08	58%	64%	2.0	L	05-08	46%	48%	0.7	L	05-08	50%	53%	1.0	L
Not disabled	06-08	77%	79%	1.0		06-08	64%	67%	1.5		06-08	70%	73%	1.5	
Students with disabilities[3]	06-08	41%	43%	1.0	E	06-08	22%	19%	-1.5	S	06-08	22%	22%	0.0	S
Not ELL	06-08	79%	80%	0.5		06-08	66%	66%	0.0		06-08	69%	72%	1.5	
English language learners[3]	06-08	40%	44%	2.0	L	06-08	20%	18%	-1.0	S	06-08	21%	22%	0.5	S
Female	05-08	71%	75%	1.3		05-08	61%	62%	0.3		05-08	69%	69%	0.0	
Male	05-08	70%	73%	1.0	S	05-08	61%	61%	0.0	S	05-08	67%	67%	0.0	E

Table reads: In 2005, 84% of white 4th graders and 58% of African American 4th graders scored at the proficient level on the state math test. In 2008, 85% of white 4th graders and 64% of African American 4th graders scored at the proficient level in math. Between 2005 and 2008, the percentage proficient improved at an average rate of 0.3 percentage point per year for white students and 2.0 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.

Achievement by Subgroup — Gap Trends (Mean Scale Scores)

Table AZ-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 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	05-08	469	470	0.3		05-08	517	518	0.3		05-08	699	697	-0.7	
	SD	05-08	53	67			05-08	52	76			05-08	55	81		
White	Mean SS	05-08	491	490	-0.3		05-08	535	538	1.0		05-08	718	717	-0.3	
	SD	05-08	51	65			05-08	50	74			05-08	49	77		
African American	Mean SS	05-08	456	458	0.7	L	05-08	505	503	-0.7	S	05-08	687	684	-1.0	S
	SD	05-08	49	64			05-08	48	76			05-08	50	89		
Latino	Mean SS	05-08	448	453	1.7	L	05-08	496	499	1.0	E	05-08	675	678	1.0	L
	SD	05-08	47	64			05-08	47	71			05-08	53	80		
Asian	Mean SS	05-08	492	489	-1.0	S	05-08	543	546	1.0	E	05-08	717	721	1.3	L
	SD	05-08	51	64			05-08	54	69			05-08	54	67		
Native American	Mean SS	05-08	444	443	-0.3	E	05-08	492	488	-1.3	S	05-08	666	670	1.3	L
	SD	05-08	43	68			05-08	44	81			05-08	54	80		
Not Low-income	Mean SS	05-08	489	490	0.3		05-08	532	537	1.7		05-08	711	712	0.3	
	SD	05-08	52	63			05-08	51	72			05-08	53	70		
Low-income	Mean SS	05-08	449	452	1.0	L	05-08	496	496	0.0	S	05-08	674	672	-0.7	S
	SD	05-08	47	66			05-08	47	74			05-08	52	93		
Not disabled	Mean SS	06-08	474	480	3.0		06-08	524	530	3.0		06-08	708	709	0.5	
	SD	06-08	47	48			06-08	51	54			06-08	46	46		
Students with disabilities[3]	Mean SS	06-08	406	403	-1.5	S	06-08	429	427	-1.0	S	06-08	591	597	3.0	L
	SD	06-08	112	116			06-08	134	134			06-08	196	187		
Not ELLs	Mean SS	06-08	475	479	2.0		06-08	522	525	1.5		06-08	701	702	0.5	
	SD	06-08	62	66			06-08	69	74			06-08	82	80		
English language learners[3]	Mean SS	06-08	418	424	3.0	L	06-08	456	453	-1.5	S	06-08	634	635	0.5	E
	SD	06-08	50	51			06-08	59	62			06-08	73	74		
Female	Mean SS	05-08	475	476	0.3		05-08	521	523	0.7		05-08	703	702	-0.3	
	SD	05-08	53	62			05-08	51	72			05-08	53	76		

		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
Male	Mean SS	05-08	464	464	0.0	S	05-08	512	512	0.0	S	05-08	695	693	-0.7	S
	SD	05-08	53	71			05-08	54	79			05-08	57	86		

Table reads: In 2005, the mean scale score on the state 4th grade reading test was 491 for white students and 456 for African American students. In 2008, the mean scale score in 4th grade reading was 490 for white students and 458 for African American students. Between 2005 and 2008, the mean scale score declined at an average yearly rate of 0.3 points for white students and improved at an average yearly rate of 0.7 points for African American students, indicating a narrowing of the achievement gap for African Americans.

Note: Arizona's Instrument to Measure Standards Dual Purpose Assessment for grades 3-8 is scored on a scale of 200-800. The AIMS High School assessment is scored on a scale of 500-900.

[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 AZ-14. Subgroup Achievement Trends in Mathematics by Mean Scale Scores

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

		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	05-08	477	480	1.0		05-08	553	552	-0.3		05-08	704	698	-2.0	
	SD	05-08	53	70			05-08	58	80			05-08	52	78		
White	Mean SS	05-08	496	498	0.7		05-08	573	572	-0.3		05-08	719	713	-2.0	
	SD	05-08	50	68			05-08	56	79			05-08	49	75		
African American	Mean SS	05-08	459	463	1.3	L	05-08	532	530	-0.7	S	05-08	688	682	-2.0	E
	SD	05-08	51	68			05-08	52	78			05-08	44	85		
Latino	Mean SS	05-08	459	466	2.3	L	05-08	532	534	0.7	L	05-08	684	683	-0.3	L
	SD	05-08	48	68			05-08	52	74			05-08	47	78		
Asian	Mean SS	05-08	507	510	1.0	L	05-08	592	593	0.3	L	05-08	735	732	-1.0	L
	SD	05-08	55	72			05-08	63	80			05-08	55	70		
Native American	Mean SS	05-08	451	452	0.3	S	05-08	526	521	-1.7	S	05-08	676	675	-0.3	L
	SD	05-08	45	72			05-08	49	85			05-08	51	78		
Not Low-income	Mean SS	05-08	495	499	1.3		05-08	570	571	0.3		05-08	713	710	-1.0	
	SD	05-08	51	66			05-08	58	77			05-08	51	67		
Low-income	Mean SS	05-08	459	463	1.3	E	05-08	532	531	-0.3	S	05-08	683	677	-2.0	S
	SD	05-08	48	70			05-08	52	79			05-08	47	91		
Not disabled	Mean SS	06-08	488	490	1.0		06-08	560	565	2.5		06-08	705	709	2.0	
	SD	06-08	52	52			06-08	57	57			06-08	41	41		
Students with disabilities[3]	Mean SS	06-08	418	414	-2.0	S	06-08	454	457	1.5	S	06-08	580	602	11.0	L
	SD	06-08	114	120			06-08	148	143			06-08	214	188		
Not ELLs	Mean SS	06-08	487	487	0.0		06-08	557	558	0.5		06-08	698	702	2.0	
	SD	06-08	67	70			06-08	77	79			06-08	80	78		
English language learners[3]	Mean SS	06-08	437	440	1.5	L	06-08	496	495	-0.5	S	06-08	654	656	1.0	S
	SD	06-08	55	57			06-08	66	69			06-08	75	76		
Female	Mean SS	05-08	478	482	1.3		05-08	553	553	0.0		05-08	705	700	-1.7	

		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	05-08	52	65			05-08	56	75			05-08	50	72		
Male	Mean SS	05-08	477	478	0.3	S	05-08	554	551	-1.0	S	05-08	703	696	-2.3	S
	SD	05-08	54	75			05-08	60	85			05-08	54	84		

Table reads: In 2005, the mean scale score on the state 4th grade math test was 496 for white students and 459 for African American students. In 2008, the mean scale score in 4th grade math was 498 for white students and 463 for African American students. Between 2005 and 2008, the mean scale score improved at an average yearly rate of 0.7 points for white students and 1.3 points for African American students, indicating a narrowing of the achievement gap for African Americans.

Note: Arizona's Instrument to Measure Standards Dual Purpose Assessment for grades 3-8 is scored on a scale of 200-800. The AIMS High School assessment is scored on a scale of 500-900.

[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 AZ-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	05-08	72,982	82,039	12.4%	100.0%	05-08	72,402	80,811	11.6%	100.0%	05-08	64,469	75,304	16.8%	100.0%
	Math	05-08	73,575	82,020	11.5%	100.0%	05-08	71,838	80,785	12.5%	100.0%	05-08	62,724	74,251	18.4%	100.0%
White	Reading	05-08	33,888	35,589	5.0%	43.4%	05-08	35,758	36,664	2.5%	45.4%	05-08	34,131	35,980	5.4%	47.8%
	Math	05-08	34,063	35,576	4.4%	43.4%	05-08	35,421	36,662	3.5%	45.4%	05-08	33,333	35,621	6.9%	48.0%
African American	Reading	05-08	3,657	4,753	30.0%	5.8%	05-08	3,693	4,610	24.8%	5.7%	05-08	3,146	4,320	37.3%	5.7%
	Math	05-08	3,689	4,751	28.8%	5.8%	05-08	3,616	4,606	27.4%	5.7%	05-08	3,067	4,274	39.4%	5.8%
Latino	Reading	05-08	29,906	35,116	17.4%	42.8%	05-08	26,882	32,834	22.1%	40.6%	05-08	21,404	28,622	33.7%	38.0%
	Math	05-08	30,257	35,113	16.0%	42.8%	05-08	26,765	32,821	22.6%	40.6%	05-08	20,730	28,074	35.4%	37.8%
Asian	Reading	05-08	1,914	2,400	25.4%	2.9%	05-08	1,718	2,263	31.7%	2.8%	05-08	1,679	2,039	21.4%	2.7%
	Math	05-08	1,914	2,402	25.5%	2.9%	05-08	1,712	2,263	32.2%	2.8%	05-08	1,666	2,036	22.2%	2.7%
Native American	Reading	05-08	3,617	4,181	15.6%	5.1%	05-08	4,352	4,440	2.0%	5.5%	05-08	4,109	4,343	5.7%	5.8%
	Math	05-08	3,652	4,178	14.4%	5.1%	05-08	4,325	4,433	2.5%	5.5%	05-08	3,928	4,246	8.1%	5.7%
Low-income	Reading	05-08	36,115	43,061	19.2%	52.5%	05-08	31,306	37,945	21.2%	47.0%	05-08	20,201	27,569	36.5%	36.6%
	Math	05-08	36,530	43,050	17.8%	52.5%	05-08	31,089	37,932	22.0%	47.0%	05-08	19,358	26,930	39.1%	36.3%
Students w/ disabilities	Reading	06-08	9,586	11,129	16.1%	13.6%	06-08	8,141	9,582	17.7%	11.9%	06-08	7,081	7,713	8.9%	10.2%
	Math	06-08	10,070	11,122	10.4%	13.6%	06-08	7,453	9,578	28.5%	11.9%	06-08	5,700	7,499	31.6%	10.1%
English language learners	Reading	06-08	12,715	12,994	2.2%	15.8%	06-08	9,123	7,969	-12.6%	9.9%	06-08	5,025	5,437	8.2%	7.2%
	Math	06-08	12,844	12,994	1.2%	15.8%	06-08	9,066	7,963	-12.2%	9.9%	06-08	4,768	5,296	11.1%	7.1%
Female	Reading	05-08	36,202	40,020	10.5%	48.8%	05-08	35,721	39,666	11.0%	49.1%	05-08	32,152	37,351	16.2%	49.6%
	Math	05-08	36,349	40,012	10.1%	48.8%	05-08	35,490	39,650	11.7%	49.1%	05-08	31,530	36,864	16.9%	49.6%
Male	Reading	05-08	36,780	42,019	14.2%	51.2%	05-08	36,681	41,145	12.2%	50.9%	05-08	32,317	37,953	17.4%	50.4%
	Math	05-08	37,226	42,008	12.8%	51.2%	05-08	36,348	41,135	13.2%	50.9%	05-08	31,194	37,387	19.9%	50.4%

Table reads: In 2005, 33,888 students in the white subgroup took the state 4th grade reading test. By 2008, the number of white test-takers had risen to 35,589 students, an increase of 5.0%. In 2008, the white subgroup made up 43.4% of the 82,039 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.