# Subgroup Achievement and Gap Trends — Montana

*K-12 enrollment — 143,405*

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.

The three major student groups in Montana (white, Native American, and low-income students) showed a clear trend of gains in grade 4 reading and math at all three achievement levels. A clear trend of achievement gaps narrowing was also evident in reading at all three grades analyzed, but gap trends in math showed a mixed picture.

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

- Rising achievement: The white, Native American, and low-income subgroups made gains across the board in grade 4 reading and math at the basic-and-above, proficient-and-above, and advanced levels. All of these gains were moderate-to-large, except for Native American students at the advanced level in reading, where the gains were slight.

- Notable progress: The rate of improvement was particularly large for Native American students at the basic-and-above level in reading and math and at the proficient-and-above level in reading. Gains were also notably large for low-income students at the basic-and-above level in reading and math, and at the proficient-and-above level in reading.

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

- Different trends for reading and math: In reading, gaps in the percentages of students scoring at the proficient level narrowed between Native American and white students, and between low-income and non-low-income students, at all three grades analyzed (4, 8, and 10).

In math, gaps for Native American and low-income students narrowed at grade 8 but widened at grade 4. At grade 10, the Native American-white gap narrowed while the gap for low-income students stayed the same.

***Data notes***

- Limited data: Montana changed its testing program in 2004, so comparable test data are limited to 2004–2008 for grades 4, 8, and 10. Recent data were not available to analyze achievement gaps using mean (average) scale scores, an alternative measure.

- Subgroups analyzed: Trends were analyzed for white, Native American, and low-income students. The African American, Latino, and Asian subgroups are too small in Montana 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 grade 10.

## Data Limitations

| | |
|---|---|
| Years of comparable percentage proficient data | 2004 through 2008 for grades 4, 8, and 10<br>2006 through 2008 for grades 3, 5, 6, and 7 |
| Years of comparable mean scale score data | Available only for 2004 and 2005 for grades 4, 8, and 10 |
| Disaggregated data for all subgroups and comparison groups | Percentage proficient data available 2004 through 2008<br>Mean scale score data available only for 2004 and 2005 |
| Numbers of test-takers by subgroup | Available only for 2004 and 2005 for grades 4, 8, and 10 |

## 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 | Montana Comprehensive Assessment System (MontCAS–Phase 2)<br>MontCAS Phase 2 Criterion-Referenced Test– Alternate Assessment (CRT–Alternate) |
| Grades tested for NCLB accountability | 3–8, 10 |
| State labels for achievement levels | MT uses four achievement levels: Novice, Nearing Proficient, |

| | |
|---|---|
| | Proficient, and Advanced. For our analyses we treated Nearing Proficient as Basic, Proficient as Proficient, and Advanced as Advanced. |
| High school NCLB test also used as an exit exam? | No |
| First year test used | 2004 |
| Time of test administration | Spring |
| Major changes in testing system (2002–present) | 2004: Changed from using a norm-referenced test (Iowa Test of Basic Skills) for NCLB purposes to administering criterion-referenced MontCAS tests in spring 2004<br>2004: Began testing grade 10 instead of grade 11<br>2006: Added grades 3, 5, 6, and 7 to testing |

## 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 MT-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 | | | 26% | 30% | 33% | 33% | 34% | 2.0 |
| Proficient and Above | | | 65% | 75% | 80% | 80% | 79% | 3.5 |
| Basic and Above | | | 83% | 89% | 93% | 95% | 95% | 3.0 |
| White | | | | | | | | |
| Advanced | | | 29% | 33% | 37% | 36% | 37% | 2.0 |
| Proficient and Above | | | 70% | 79% | 84% | 83% | 82% | 3.0 |
| Basic and Above | | | 86% | 91% | 95% | 96% | 95% | 2.3 |
| African American[2] | | | | | | | | |
| Advanced | | | 15% | 25% | 22% | 22% | 23% | 2.0 |
| Proficient and Above | | | 55% | 81% | 76% | 80% | 73% | 4.5 |
| Basic and Above | | | 77% | 91% | 92% | 95% | 97% | 5.0 |
| Latino[2] | | | | | | | | |
| Advanced | | | 18% | 27% | 23% | 22% | 24% | 1.5 |
| Proficient and Above | | | 56% | 64% | 75% | 71% | 70% | 3.5 |
| Basic and Above | | | 81% | 82% | 88% | 92% | 91% | 2.5 |
| Asian[2] | | | | | | | | |
| Advanced | | | 22% | 39% | 45% | 38% | 43% | 5.3 |
| Proficient and Above | | | 68% | 82% | 87% | 77% | 89% | 5.3 |
| Basic and Above | | | 87% | 95% | 93% | 96% | 99% | 3.0 |
| Native American | | | | | | | | |
| Advanced | | | 10% | 11% | 13% | 12% | 13% | 0.8 |
| Proficient and Above | | | 38% | 49% | 58% | 60% | 55% | 4.3 |
| Basic and Above | | | 64% | 73% | 81% | 88% | 87% | 5.8 |

Table reads: The percentage of white 4th graders who scored at the advanced level on the state reading test increased from 29% in 2004 to 37% in 2008. During this period, the average yearly gain in the percentage advanced in reading for white 4th graders was 2.0 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 MT-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 | | | 26% | 30% | 33% | 33% | 34% | 2.0 |
| Proficient and Above | | | 65% | 75% | 80% | 80% | 79% | 3.5 |
| Basic and Above | | | 83% | 89% | 93% | 95% | 95% | 3.0 |
| Low-income students | | | | | | | | |
| Advanced | | | 15% | 19% | 21% | 20% | 22% | 1.8 |
| Proficient and Above | | | 51% | 63% | 69% | 69% | 68% | 4.3 |
| Basic and Above | | | 74% | 82% | 87% | 91% | 91% | 4.3 |
| Students with disabilities[3] | | | | | | | | |
| Advanced | | | 8% | 8% | 11% | 11% | 14% | 1.5 |
| Proficient and Above | | | 31% | 39% | 46% | 48% | 45% | -0.5 |
| Basic and Above | | | 53% | 58% | 72% | 79% | 79% | 3.5 |
| English language learners[3] | | | | | | | | |
| Advanced | | | 4% | 3% | 6% | 4% | 6% | 0.0 |
| Proficient and Above | | | 21% | 28% | 38% | 38% | 33% | -2.5 |
| Basic and Above | | | 46% | 54% | 67% | 78% | 76% | 4.5 |
| Female | | | | | | | | |
| Advanced | | | 28% | 35% | 37% | 35% | 37% | 2.3 |
| Proficient and Above | | | 68% | 79% | 82% | 82% | 82% | 3.5 |
| Basic and Above | | | 86% | 91% | 93% | 96% | 97% | 2.8 |
| Male | | | | | | | | |
| Advanced | | | 25% | 26% | 30% | 31% | 32% | 1.8 |
| Proficient and Above | | | 64% | 71% | 78% | 78% | 77% | 3.3 |
| Basic and Above | | | 81% | 86% | 92% | 94% | 94% | 3.3 |

Table reads: The percentage of low-income 4th graders who scored at the advanced level on the state reading test increased from 15% in 2004 to 22% in 2008. During this period, the average yearly gain in the percentage advanced in reading for low-income 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.

[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 MT-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 | | | 14% | 18% | 26% | 26% | 27% | 3.3 |
| Proficient and Above | | | 45% | 56% | 64% | 68% | 67% | 5.5 |
| Basic and Above | | | 66% | 77% | 83% | 85% | 86% | 5.0 |
| White | | | | | | | | |
| Advanced | | | 16% | 20% | 28% | 28% | 29% | 3.3 |
| Proficient and Above | | | 49% | 60% | 68% | 71% | 70% | 5.3 |
| Basic and Above | | | 70% | 81% | 87% | 87% | 88% | 4.5 |
| African American[2] | | | | | | | | |
| Advanced | | | 9% | 8% | 17% | 18% | 13% | 1.0 |
| Proficient and Above | | | 32% | 45% | 42% | 55% | 61% | 7.3 |
| Basic and Above | | | 51% | 71% | 71% | 78% | 83% | 8.0 |
| Latino[2] | | | | | | | | |
| Advanced | | | 8% | 14% | 20% | 17% | 18% | 2.5 |
| Proficient and Above | | | 36% | 49% | 52% | 58% | 52% | 4.0 |
| Basic and Above | | | 56% | 68% | 76% | 78% | 81% | 6.3 |
| Asian[2] | | | | | | | | |
| Advanced | | | 22% | 28% | 41% | 37% | 40% | 4.5 |
| Proficient and Above | | | 55% | 68% | 79% | 77% | 88% | 8.3 |
| Basic and Above | | | 71% | 81% | 91% | 88% | 91% | 5.0 |
| Native American | | | | | | | | |
| Advanced | | | 5% | 6% | 12% | 10% | 11% | 1.5 |
| Proficient and Above | | | 22% | 31% | 40% | 44% | 42% | 5.0 |
| Basic and Above | | | 40% | 53% | 64% | 66% | 66% | 6.5 |

Table reads: The percentage of white 4th graders who scored at the advanced level on the state math test increased from 16% in 2004 to 29% in 2008. During this period, the average yearly gain in the percentage advanced in math for white 4th graders was 3.3 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 MT-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 | | | 14% | 18% | 26% | 26% | 27% | 3.3 |
| Proficient and Above | | | 45% | 56% | 64% | 68% | 67% | 5.5 |
| Basic and Above | | | 66% | 77% | 83% | 85% | 86% | 5.0 |
| **Low-income students** | | | | | | | | |
| Advanced | | | 8% | 11% | 16% | 15% | 17% | 2.3 |
| Proficient and Above | | | 33% | 44% | 51% | 54% | 54% | 5.3 |
| Basic and Above | | | 53% | 67% | 75% | 74% | 77% | 6.0 |
| **Students with disabilities[3]** | | | | | | | | |
| Advanced | | | 4% | 7% | 9% | 8% | 10% | 0.5 |
| Proficient and Above | | | 21% | 29% | 33% | 36% | 36% | 1.5 |
| Basic and Above | | | 34% | 50% | 55% | 56% | 58% | 1.5 |
| **English language learners[3]** | | | | | | | | |
| Advanced | | | 4% | 3% | 7% | 5% | 5% | -1.0 |
| Proficient and Above | | | 15% | 18% | 25% | 32% | 26% | 0.5 |
| Basic and Above | | | 27% | 31% | 47% | 53% | 50% | 1.5 |
| **Female** | | | | | | | | |
| Advanced | | | 13% | 16% | 26% | 25% | 26% | 3.3 |
| Proficient and Above | | | 44% | 55% | 64% | 67% | 66% | 5.5 |
| Basic and Above | | | 65% | 77% | 83% | 84% | 86% | 5.3 |
| **Male** | | | | | | | | |
| Advanced | | | 15% | 20% | 26% | 26% | 27% | 3.0 |
| Proficient and Above | | | 46% | 58% | 64% | 68% | 67% | 5.3 |
| Basic and Above | | | 66% | 78% | 84% | 85% | 85% | 4.8 |

Table reads: The percentage of low-income 4th graders who scored at the advanced level on the state math test increased from 8% in 2004 to 17% in 2008. During this period, the average yearly gain in the percentage advanced in math for low-income 4th graders was 2.3 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.

## *Achievement by Subgroup — Gap Trends (Percentages Proficient)*

### Table MT-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 | 04-08 | 65% | 79% | 3.5 | | 04-08 | 58% | 81% | 5.8 | | 04-08 | 63% | 77% | 3.5 | |
| White | 04-08 | 70% | 82% | 3.0 | | 04-08 | 63% | 84% | 5.3 | | 04-08 | 66% | 80% | 3.5 | |
| African American | 04-08 | 55% | 73% | 4.5[2] | L | 04-08 | 43% | 80% | 9.3[2] | L | 04-08 | 45% | 68% | 5.8[2] | L |
| Latino | 04-08 | 56% | 70% | 3.5[2] | L | 04-08 | 46% | 71% | 6.3[2] | L | 04-08 | 51% | 64% | 3.3[2] | S |
| Asian | 04-08 | 68% | 89% | 5.3[2] | L | 04-08 | 74% | 88% | 3.5[2] | S | 04-08 | 67% | 80% | 3.3[2] | S |
| Native American | 04-08 | 38% | 55% | 4.3 | L | 04-08 | 29% | 58% | 7.3 | L | 04-08 | 30% | 50% | 5.0 | L |
| Not low-income | 04-08 | 74% | 86% | 3.0 | | 04-08 | 66% | 87% | 5.3 | | 04-08 | 69% | 81% | 3.0 | |
| Low-income | 04-08 | 51% | 68% | 4.3 | L | 04-08 | 41% | 70% | 7.3 | L | 04-08 | 45% | 64% | 4.8 | L |
| Not disabled | 06-08 | 85% | 84% | -0.5 | | 06-08 | 82% | 88% | 3.0 | | 06-08 | 81% | 82% | 0.5 | |
| Students with disabilities[3] | 06-08 | 46% | 45% | -0.5 | E | 06-08 | 33% | 39% | 3.0 | E | 06-08 | 30% | 39% | 4.5 | L |
| Not ELL | 06-08 | 82% | 81% | -0.5 | | 06-08 | 78% | 83% | 2.5 | | 06-08 | 78% | 78% | 0.0 | |
| English language learners[3] | 06-08 | 38% | 33% | -2.5 | S | 06-08 | 31% | 38% | 3.5 | L | 06-08 | 28% | 26% | -1.0 | S |
| Female | 04-08 | 68% | 82% | 3.5 | | 04-08 | 64% | 85% | 5.3 | | 04-08 | 71% | 81% | 2.5 | |
| Male | 04-08 | 64% | 77% | 3.3 | S | 04-08 | 53% | 77% | 6.0 | L | 04-08 | 55% | 73% | 4.5 | L |

Table reads: In 2004, 70% of white 4th graders and 55% of African American 4th graders scored at the proficient level on the state reading test. In 2008, 82% of white 4th graders and 73% of African American 4th graders scored at the proficient level in reading. Between 2004 and 2008, the percentage proficient improved at an average rate of 3.0 percentage point per year for white students and 4.5 percentage points per year for African American students, indicating a larger rate of

gain and a narrowing of the achievement gap for African American 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]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 MT-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 | 04-08 | 45% | 67% | 5.5 | | 04-08 | 64% | 60% | -1.0 | | 04-08 | 60% | 52% | -2.0 | |
| White | 04-08 | 49% | 70% | 5.3 | | 04-08 | 69% | 63% | -1.5 | | 04-08 | 65% | 56% | -2.3 | |
| African American | 04-08 | 32% | 61% | 7.3[2] | L | 04-08 | 44% | 45% | 0.3[2] | L | 04-08 | 31% | 33% | 0.5[2] | L |
| Latino | 04-08 | 36% | 52% | 4.0[2] | S | 04-08 | 55% | 48% | -1.8[2] | S | 04-08 | 44% | 38% | -1.5[2] | L |
| Asian | 04-08 | 55% | 88% | 8.3[2] | L | 04-08 | 80% | 73% | -1.8[2] | S | 04-08 | 68% | 69% | 0.3[2] | L |
| Native American | 04-08 | 22% | 42% | 5.0 | S | 04-08 | 29% | 29% | 0.0 | L | 04-08 | 25% | 23% | -0.5 | L |
| Not low-income | 04-08 | 53% | 75% | 5.5 | | 04-08 | 72% | 68% | -1.0 | | 04-08 | 66% | 59% | -1.8 | |
| Low-income | 04-08 | 33% | 54% | 5.3 | S | 04-08 | 48% | 45% | -0.8 | L | 04-08 | 42% | 35% | -1.8 | E |
| Not disabled | 06-08 | 68% | 71% | 1.5 | | 06-08 | 63% | 66% | 1.5 | | 06-08 | 59% | 57% | -1.0 | |
| Students with disabilities[3] | 06-08 | 33% | 36% | 1.5 | E | 06-08 | 18% | 18% | 0.0 | S | 06-08 | 15% | 15% | 0.0 | L |
| Not ELL | 06-08 | 66% | 69% | 1.5 | | 06-08 | 60% | 61% | 0.5 | | 06-08 | 56% | 54% | -1.0 | |
| English language learners[3] | 06-08 | 25% | 26% | 0.5 | S | 06-08 | 16% | 15% | -0.5 | S | 06-08 | 12% | 8% | -2.0 | S |
| Female | 04-08 | 44% | 66% | 5.5 | | 04-08 | 64% | 60% | -1.0 | | 04-08 | 61% | 51% | -2.5 | |
| Male | 04-08 | 46% | 67% | 5.3 | S | 04-08 | 63% | 59% | -1.0 | E | 04-08 | 59% | 53% | -1.5 | L |

Table reads: In 2004, 49% of white 4th graders and 32% of African American 4th graders scored at the proficient level on the state math test. In 2008, 70% of white 4th graders and 61% of African American 4th graders scored at the proficient level in math. Between 2004 and 2008, the percentage proficient improved at an average rate of 5.3 percentage point per year for white students and 7.3 percentage points per year for African American students, indicating a larger rate of gain and a narrowing of the achievement gap for African American 4th graders.

[1]Numbers in these columns are subject to rounding error.

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

[3]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 MT-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 | 04-05 | 258.5 | 265.5 | NA | | 04-05 | 253.6 | 260.3 | NA | | 04-05 | 258.4 | 263.9 | NA | |
| | SD | 04-05 | 29.5 | 26.8 | | | 04-05 | 34.2 | 33.5 | | | 04-05 | 35.6 | 33.2 | | |
| | | | | | | | | | | | | | | | | |
| White | Mean SS | 04-05 | 261.4 | 268.0 | NA | | 04-05 | 257.0 | 263.5 | NA | | 04-05 | 261.6 | 266.8 | NA | |
| | SD | 04-05 | 28.4 | 25.6 | | | 04-05 | 33.3 | 32.2 | | | 04-05 | 34.4 | 32.0 | | |
| African American | Mean SS | 04-05 | 249.7 | 266.3 | NA | NA | 04-05 | 243.4 | 249.4 | NA | NA | 04-05 | 247.0 | 253.8 | NA | NA |
| | SD | 04-05 | 28.1 | 23.8 | | | 04-05 | 33.2 | 36.2 | | | 04-05 | 35.5 | 34.9 | | |
| Latino | Mean SS | 04-05 | 251.0 | 260.3 | NA | NA | 04-05 | 243.9 | 246.9 | NA | NA | 04-05 | 248.4 | 259.1 | NA | NA |
| | SD | 04-05 | 28.5 | 29.6 | | | 04-05 | 32.8 | 32.6 | | | 04-05 | 35.6 | 33.0 | | |
| Asian | Mean SS | 04-05 | 259.6 | 269.7 | NA | NA | 04-05 | 265.7 | 273.0 | NA | NA | 04-05 | 265.7 | 270.2 | NA | NA |
| | SD | 04-05 | 27.3 | 25.4 | | | 04-05 | 29.2 | 31.0 | | | 04-05 | 33.9 | 29.3 | | |
| Native American | Mean SS | 04-05 | 239.2 | 247.2 | NA | NA | 04-05 | 229.7 | 235.5 | NA | NA | 04-05 | 229.8 | 237.9 | NA | NA |
| | SD | 04-05 | 29.6 | 28.3 | | | 04-05 | 31.1 | 32.7 | | | 04-05 | 33.7 | 33.9 | | |
| | | | | | | | | | | | | | | | | |
| Not Low-income | Mean SS | 04-05 | 264.7 | 270.6 | NA | | 04-05 | 260.2 | 266.2 | NA | | 04-05 | 262.9 | 268.3 | NA | |
| | SD | 04-05 | 27.4 | 24.7 | | | 04-05 | 32.5 | 31.5 | | | 04-05 | 34.1 | 31.4 | | |
| Low-income | Mean SS | 04-05 | 248.0 | 257.3 | NA | NA | 04-05 | 239.9 | 248.0 | NA | NA | 04-05 | 243.4 | 249.8 | NA | NA |
| | SD | 04-05 | 29.8 | 28.1 | | | 04-05 | 33.6 | 34.1 | | | 04-05 | 36.3 | 35.1 | | |
| | | | | | | | | | | | | | | | | |
| Not disabled | Mean SS | NA | NA | NA | NA | | NA | NA | NA | NA | | NA | NA | NA | NA | |
| | SD | NA | NA | NA | | | NA | NA | NA | | | NA | NA | NA | | |
| Students with disabilities[3] | Mean SS | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | SD | NA | NA | NA | | | NA | NA | NA | | | NA | NA | NA | | |
| | | | | | | | | | | | | | | | | |
| Not ELLs | Mean SS | NA | NA | NA | NA | | NA | NA | NA | NA | | NA | NA | NA | NA | |
| | SD | NA | NA | NA | | | NA | NA | NA | | | NA | NA | NA | | |
| English language learners[3] | Mean SS | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | SD | NA | NA | NA | | | NA | NA | NA | | | NA | NA | NA | | |
| | | | | | | | | | | | | | | | | |
| Female | Mean SS | 04-05 | 260.5 | 268.6 | NA | | 04-05 | 258.5 | 265.9 | NA | | 04-05 | 266.3 | 270.9 | NA | |
| | SD | 04-05 | 28.7 | 25.7 | | | 04-05 | 32.9 | 31.9 | | | 04-05 | 33.4 | 30.5 | | |

| | | 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 | 04-05 | 256.6 | 262.6 | NA | NA | 04-05 | 248.9 | 254.8 | NA | NA | 04-05 | 251.2 | 257.3 | NA | NA |
| | SD | 04-05 | 30.0 | 27.6 | | | 04-05 | 34.8 | 34.1 | | | 04-05 | 36.0 | 34.3 | | |

Table reads: In 2004, the mean scale score on the state 4th grade reading test was 261.4 for white students and 249.7 for African American students. In 2005, the mean scale score in 4th grade reading was 268.0 for white students and 266.3 for African American students. The average annual gains were not calculated because there were fewer than three years of comparable data, too few years to constitute a trend.

Note: The MontCAS-Phase 2 is scored on a scale of 200-300.

[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.

## Table MT-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 | 04-05 | 243.1 | 253.6 | NA | | 04-05 | 260.9 | 260.3 | NA | | 04-05 | 258.1 | 257.9 | NA | |
| | SD | 04-05 | 32.8 | 31.7 | | | 04-05 | 27.6 | 25.4 | | | 04-05 | 25.8 | 28.2 | | |
| | | | | | | | | | | | | | | | | |
| White | Mean SS | 04-05 | 245.9 | 256.4 | NA | | 04-05 | 263.9 | 262.7 | NA | | 04-05 | 260.5 | 260.5 | NA | |
| | SD | 04-05 | 32.5 | 30.8 | | | 04-05 | 26.7 | 24.8 | | | 04-05 | 25.2 | 27.5 | | |
| African American | Mean SS | 04-05 | 232.6 | 246.3 | NA | NA | 04-05 | 247.5 | 249.2 | NA | NA | 04-05 | 245.2 | 244.1 | NA | NA |
| | SD | 04-05 | 31.3 | 30.3 | | | 04-05 | 23.2 | 26.3 | | | 04-05 | 21.9 | 27.8 | | |
| Latino | Mean SS | 04-05 | 234.4 | 247.6 | NA | NA | 04-05 | 253.6 | 252.1 | NA | NA | 04-05 | 249.3 | 250.1 | NA | NA |
| | SD | 04-05 | 29.8 | 31.7 | | | 04-05 | 26.2 | 24.5 | | | 04-05 | 24.2 | 28.9 | | |
| Asian | Mean SS | 04-05 | 250.1 | 262.1 | NA | NA | 04-05 | 274.0 | 268.1 | NA | NA | 04-05 | 262.7 | 263.4 | NA | NA |
| | SD | 04-05 | 34.3 | 32.6 | | | 04-05 | 24.5 | 28.3 | | | 04-05 | 25.0 | 29.9 | | |
| Native American | Mean SS | 04-05 | 224.3 | 233.4 | NA | NA | 04-05 | 238.8 | 242.2 | NA | NA | 04-05 | 237.1 | 234.6 | NA | NA |
| | SD | 04-05 | 28.6 | 30.7 | | | 04-05 | 24.6 | 22.0 | | | 04-05 | 21.5 | 23.2 | | |
| | | | | | | | | | | | | | | | | |
| Not Low-income | Mean SS | 04-05 | 249.2 | 259.5 | NA | | 04-05 | 266.5 | 264.8 | NA | | 04-05 | 261.5 | 261.7 | NA | |
| | SD | 04-05 | 32.3 | 30.3 | | | 04-05 | 26.1 | 24.7 | | | 04-05 | 25.2 | 27.4 | | |
| Low-income | Mean SS | 04-05 | 232.7 | 244.1 | NA | NA | 04-05 | 249.2 | 250.9 | NA | NA | 04-05 | 246.7 | 245.3 | NA | NA |
| | SD | 04-05 | 31.1 | 31.5 | | | 04-05 | 27.0 | 24.2 | | | 04-05 | 24.6 | 27.0 | | |
| | | | | | | | | | | | | | | | | |
| Not disabled | Mean SS | NA | NA | NA | NA | | NA | NA | NA | NA | | NA | NA | NA | NA | |
| | SD | NA | NA | NA | | | NA | NA | NA | | | NA | NA | NA | | |
| Students with disabilities[3] | Mean SS | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | SD | NA | NA | NA | | | NA | NA | NA | | | NA | NA | NA | | |
| | | | | | | | | | | | | | | | | |
| Not ELLs | Mean SS | NA | NA | NA | NA | | NA | NA | NA | NA | | NA | NA | NA | NA | |
| | SD | NA | NA | NA | | | NA | NA | NA | | | NA | NA | NA | | |
| English language learners[3] | Mean SS | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | SD | NA | NA | NA | | | NA | NA | NA | | | NA | NA | NA | | |
| | | | | | | | | | | | | | | | | |
| Female | Mean SS | 04-05 | 242.3 | 251.7 | NA | | 04-05 | 260.9 | 259.3 | NA | | 04-05 | 258.4 | 258.4 | NA | |

| | | 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 | 04-05 | 32.5 | 31.3 | | | 04-05 | 27.0 | 25.1 | | | 04-05 | 24.7 | 27.7 | | |
| Male | Mean SS | 04-05 | 243.8 | 255.3 | NA | NA | 04-05 | 260.9 | 261.3 | NA | NA | 04-05 | 257.8 | 257.3 | NA | NA |
| | SD | 04-05 | 33.1 | 31.9 | | | 04-05 | 28.2 | 25.7 | | | 04-05 | 26.8 | 28.6 | | |

Table reads: In 2004, the mean scale score on the state 4th grade math test was 245.9 for white students and 232.6 for African American students. In 2005, the mean scale score in 4th grade math was 256.4 for white students and 246.3 for African American students. The average annual gains were not calculated because there were fewer than three years of comparable data, too few years to constitute a trend.

Note: The MontCAS-Phase 2 is scored on a scale of 200-300.

[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.

## Table MT-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 | 04-05 | 10,614 | 10,302 | -2.9% | 100.0% | 04-05 | 12,077 | 11,667 | -3.4% | 100.0% | 04-05 | 11,425 | 11,262 | -1.4% | 100.0% |
| | Math | 04-05 | 10,614 | 10,302 | -2.9% | 100.0% | 04-05 | 12,077 | 11,667 | -3.4% | 100.0% | 04-05 | 11,425 | 11,262 | -1.4% | 100.0% |
| White | Reading | 04-05 | 8,914 | 8,709 | -2.3% | 84.5% | 04-05 | 10,301 | 10,037 | -2.6% | 86.0% | 04-05 | 10,013 | 9,835 | -1.8% | 87.3% |
| | Math | 04-05 | 8,914 | 8,709 | -2.3% | 84.5% | 04-05 | 10,301 | 10,037 | -2.6% | 86.0% | 04-05 | 10,013 | 9,835 | -1.8% | 87.3% |
| African American | Reading | 04-05 | 103 | **106** | 2.9% | 1.0% | 04-05 | 76 | **85** | 11.8% | 0.7% | 04-05 | 53 | **67** | 26.4% | 0.6% |
| | Math | 04-05 | 103 | **106** | 2.9% | 1.0% | 04-05 | 76 | **85** | 11.8% | 0.7% | 04-05 | 53 | **67** | 26.4% | 0.6% |
| Latino | Reading | 04-05 | 240 | **224** | -6.7% | 2.2% | 04-05 | 240 | **203** | -15.4% | 1.7% | 04-05 | 191 | **204** | 6.8% | 1.8% |
| | Math | 04-05 | 240 | **224** | -6.7% | 2.2% | 04-05 | 240 | **203** | -15.4% | 1.7% | 04-05 | 191 | **204** | 6.8% | 1.8% |
| Asian | Reading | 04-05 | 105 | **87** | -17.1% | 0.8% | 04-05 | 100 | **88** | -12.0% | 0.8% | 04-05 | 105 | **107** | 1.9% | 1.0% |
| | Math | 04-05 | 105 | **87** | -17.1% | 0.8% | 04-05 | 100 | **88** | -12.0% | 0.8% | 04-05 | 105 | **107** | 1.9% | 1.0% |
| Native American | Reading | 04-05 | 1,228 | 1,158 | -5.7% | 11.2% | 04-05 | 1,349 | 1,236 | -8.4% | 10.6% | 04-05 | 1,046 | 1,038 | -0.8% | 9.2% |
| | Math | 04-05 | 1,228 | 1,158 | -5.7% | 11.2% | 04-05 | 1,349 | 1,236 | -8.4% | 10.6% | 04-05 | 1,046 | 1,038 | -0.8% | 9.2% |
| Low-income | Reading | 04-05 | 3,945 | 3,955 | 0.3% | 38.4% | 04-05 | 3,911 | 3,815 | -2.5% | 32.7% | 04-05 | 2,656 | 2,643 | -0.5% | 23.5% |
| | Math | 04-05 | 3,945 | 3,955 | 0.3% | 38.4% | 04-05 | 3,911 | 3,815 | -2.5% | 32.7% | 04-05 | 2,656 | 2,643 | -0.5% | 23.5% |
| Students w/ disabilities | Reading | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | Math | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| English language learners | Reading | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | Math | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Female | Reading | 04-05 | 5,160 | 5,032 | -2.5% | 48.8% | 04-05 | 5,924 | 5,720 | -3.4% | 49.0% | 04-05 | 5,468 | 5,498 | 0.5% | 48.8% |
| | Math | 04-05 | 5,160 | 5,032 | -2.5% | 48.8% | 04-05 | 5,924 | 5,720 | -3.4% | 49.0% | 04-05 | 5,468 | 5,498 | 0.5% | 48.8% |
| Male | Reading | 04-05 | 5,454 | 5,270 | -3.4% | 51.2% | 04-05 | 6,153 | 5,947 | -3.3% | 51.0% | 04-05 | 5,957 | 5,764 | -3.2% | 51.2% |
| | Math | 04-05 | 5,454 | 5,270 | -3.4% | 51.2% | 04-05 | 6,153 | 5,947 | -3.3% | 51.0% | 04-05 | 5,957 | 5,764 | -3.2% | 51.2% |

Table reads: In 2004, 8,914 students in the white subgroup took the state 4th grade reading test. By 2005, the number of white test-takers had fallen to 8,709 students, a decrease of 2.3%. In 2005, the white subgroup made up 84.5% of the 10,302 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.