



Math Scores Add Up for Hispanic Students

States and School Districts Notable for Recent Gains
by Hispanic Students in Mathematics

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Today's challenge is economic—no Pearl Harbor, Sputnik, or 9/11 will stir quick action. It is time to shore up the basics, the building blocks without which our leadership will surely decline.

—National Academy of Sciences and others in their 2005 report, *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future*

Math is important. Everyone needs a basic level of competence in math and financial literacy.¹ Math achievement is a gatekeeper,² determining when and if doors open to college and more-lucrative jobs.³ Poor academic achievement is also one of the strongest predictors of dropping out of high school,⁴ and math achievement specifically is a strong predictor of students' college attendance, particularly for African American and Latino students. Math may also be a cornerstone to our ability to innovate as a country, which is why Congress passed the America COMPETES Act of 2007, reauthorized in 2010, to support innovation, and included funding to improve education across the science, technology, engineering, and mathematics (STEM) fields. In November 2009, the President launched the "Educate to Innovate" initiative to move American students from the middle to the head of the pack in science and math achievement over the following decade. To date, this nationwide effort has garnered over \$700 million in public-private partnerships, with goals to prepare 100,000 new STEM teachers and inspire a more diverse STEM talent pool.⁵



Yet American students currently underperform in math. Only 42 percent of our fourth-graders are Proficient on the National Assessment of Educational Progress (NAEP) (also known as the *Nation's Report Card*TM); by eighth grade, the percentage dips

to 35, and by twelfth grade, it drops to 26.⁶ For Hispanic students, the percentages are 26, 21, and 12, and for black students, 18, 14, and seven percent in grades four, eight, and 12, respectively. Internationally, the U.S. ranks 11th and ninth in mathematics assessments in fourth and eighth grades, respectively, scoring significantly below countries and jurisdictions including Singapore, Japan, Russian Federation, and Northern Ireland.

At the same time, the demographics of our country are changing.¹⁰ Hispanics are nearly one in four of U.S. children—17.7 million were Hispanic, as of 2013. In California and New Mexico, more than 50 percent of children are Hispanic, and several other states are soon to follow. By 2050, the share of children who are Hispanic is projected to match the proportion who are white—each accounting for about one-third of the total child population.

In short, the math achievement of Hispanic students today foreshadows our national performance tomorrow. This report explores the math achievement of students who are Hispanic, plotting both current performance and short- and long-term trends, and highlighting striking variation within and across the nation, states, and cities.

¹See, for example, the first large-scale international study of financial literacy by the Programme for International Student Assessment (PISA) 2012.

²See also algebra and other coursetaking effects, e.g., Smith, J. (1996). Does an extra year make any difference? The impact of early access to algebra on long-term gains in mathematics achievement. *Educational Evaluation and Policy Analysis*, 18, 141-153.

³Math and engineering majors are the top-earning majors for graduates, nearly doubling the earnings of psychology, education, and arts majors. See: Carnelvale, Strohl, & Malton (2011). What's it worth? The economic value of college majors. See: <http://cew.georgetown.edu/whatsitworth>

⁴See, e.g., Battin-Pearson, S., Newcomb, M. D., Abbott, R. D., Hill, K. G., Catalano, R. F., & Hawkins, J. D. (2000). Predictors of early high school dropout: A test of five theories. *Journal of Educational Psychology*, 92(3), 568-582 or Bowers, A. J. (2010). Grades and graduation: A longitudinal risk perspective to identify student dropouts. *Journal of Educational Research*, 103(3), 191-207.

⁵<http://www.whitehouse.gov/issues/education/k-12/educate-innovate>, accessed October 2014

⁶Students performing at or above the Proficient level on NAEP assessments demonstrate solid academic performance and competency over challenging subject matter. Fourth-grade students performing at the Proficient level should consistently apply integrated procedural knowledge and conceptual understanding to problem solving in the five NAEP content areas (cut score of 249). Eighth-grade students performing at the Proficient level should apply mathematical concepts and procedures consistently to complex problems in the five NAEP content areas (cut score of 299). See NAEP 2013 report: <http://nces.ed.gov/nationsreportcard/subject/publications/main2013/pdf/2014451.pdf>

⁷TIMSS 2011 data, see https://nces.ed.gov/TIMSS/results11_math11.asp

⁸Statistically significantly below only in grade 8, numerically lower in both grades.

⁹Grade 4 only; no data for grade 8.

¹⁰See Child Trend's Hispanic Institute report *America's Hispanic Children: Gaining Ground, Looking Forward* <http://www.childtrends.org/?publications=americas-hispanic-children-gaining-ground-looking-forward>

¹¹The common core assessments, if given the same content and in the same way across states, will provide comparable data.

This report

Using the National Assessment of Educational Progress (NAEP), also known as the Nation's Report Card,[™] Child Trends examined Hispanic students' scores on the grade four and grade eight mathematics assessments, nationally, by state, for large cities, and for select school districts. NAEP was selected because it is the largest nationally-representative and continuing assessment of what America's students know and can do in various subject areas, including math. NAEP provides our only common achievement metric across time and across states. States also have their own assessments, but their results are not comparable across states.¹¹

This report differs from previous work, in that it:

- focuses exclusively on scores of Hispanic students, including Hispanic subgroups;
- does not examine achievement gaps, such as Hispanic-white gaps;
- presents city-level data, in addition to national and state data;
- examines long-term (10-year) and short-term (4-year) trends; and
- uses only data and analyses that are available to and replicable by the general public.



We present only Hispanic students' scores, to deepen understanding of their performance without the often one-dimensional comparisons associated with gap analyses. Hispanic-white gaps are pervasive, ranging from six points in Mississippi to 39 points in Connecticut,¹² and have been effectively addressed elsewhere.¹³

It is worth noting, however, that in a number of cases Hispanic students are significantly outpacing their peers. For example, nationally in grade eight, Hispanics' score increases in the past decade were double¹⁴ those of their white counterparts. In grade four, Hispanics also outpaced their white peers in gains over the decade.¹⁵ And in every state in the nation in 2013, grade eight scores for Hispanic students were either higher than or

not statistically significantly different from those of black students.¹⁶ These comparisons, however, distract from a thorough within-group examination of Hispanic scores, which is the subject of this report.

Unlike many other studies, this report examines city as well as state and national data. Hispanics are 42 percent of students in the large cities assessed by NAEP, and therefore city-level data are an important part of the story of Hispanic students' scores. Further, NAEP data allow us to compare recent progress for Hispanic students across a number of cities.

The report begins with a nationwide overview of the current (2013) scores for Hispanic students, 10- and four-year trends, and a look at the Hispanic subpopulations. Next, we look at the corresponding state-level scores and trends. Again, the data are presented in the sequence of current performance, long-term (10-year) trends, and short-term (four-year) trends. We identify states that are particularly notable on one or more of these measures. Finally, we present data on the performance of Hispanic students in selected urban districts, and again highlight those districts with particularly notable performance.

Source of the data: All of the data presented are from the U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), Mathematics Assessments from 2003 through 2013 and are available on the U.S. Department of Education's National Center for Education Statistics (NCES) NAEP Data Explorer: <http://nces.ed.gov/nationsreportcard/naepdata/>. Users are able to replicate all of the analyses appearing in this report on that site. The NAEP Mathematics Assessment scale ranges from zero to 500. Graphs in this report do not reflect that entire potential range. Detail may not sum to totals because of rounding. Some apparent differences between estimates may not be statistically significant. Statistically significant changes are noted as such. For all analyses, Hispanic includes Latino. Race/ethnicity is school-reported and used to report NAEP trends, but Hispanic origin (e.g., Cuban, Puerto Rican) is student reported. NAEP permits assessments in Spanish. See "Data Limitations" and "About NAEP" sections for more information.

¹²Grade 8, 2013 NAEP Mathematics

¹³See Hemphill, F. C., and Vanneman, A. (2010). Achievement Gaps: How Hispanic and White Students in Public Schools Perform in Mathematics and Reading on the National Assessment of Educational Progress (NCES 2011-459). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/nationsreportcard/pubs/studies/2011459.asp>

¹⁴Hispanics increased by 13 points, whites by 6, which was a statistically significant difference

¹⁵Hispanic scores in grade 4 increased by 9 points, whites by 7 from 2003-2013, a statistically significant increase.

¹⁶Hispanic students scored higher than black students in 68 percent of the states with data (41).

¹⁷See note under "Finding 1" for an explanation of grade-level estimates using NAEP scores.

Key findings

The findings from this research provide federal, state, and local policymakers, school administrators, local community leaders, and the education community with important information about how Hispanic students are doing in math.

- **Overall. Math scores for Hispanic students across cities, states, and nationwide have increased significantly over the past ten years, and this increase reflects a steady trend.** Depending on the location, these gains are equivalent to a range of one grade level to two or more.¹⁷ Given that Hispanic students comprise about one-quarter of the national data, and 40 percent of the large city data, this progress suggests some optimism about future trends.
- **State results. Since 2003 (through 2013), in two out of every three states, Hispanic students in both grades four and eight demonstrated statistically significant increases in NAEP math scores, with many of these gains the rough equivalent of two grade levels.** Ten states also made significant short-term (four-year) gains. The top-scoring states in 2013, including Indiana and Florida, scoring nearly two grade levels higher than bottom-tier states, such as Connecticut and California. Child Trends calls out New Jersey, Indiana, Hawaii, Arizona, and the Department of Defense Education Administration as notable for their combination of recent improvement and current math scores among Hispanic students.
- **Large-city school districts. Hispanic fourth- and eighth-graders in many large U.S. cities also have made significant gains—the equivalent of roughly one grade level—in math over the last ten years.** Large cities, despite rates of poverty or low-income among Hispanic students ranging from 75 to 100 percent, had greater score increases for many Hispanic subgroups, particularly at grade four, than did the nation as a whole. Top districts like Dallas and Miami-Dade score more than two grade levels higher than bottom-tier districts such as Detroit and Fresno (2013). From 2003 to 2013, districts including Boston and Los Angeles have seen remarkable score increases—roughly equivalent to two grade levels—for Hispanic students. Child Trends recognizes school districts in Charlotte, Boston, and Houston as notable for their scores and gains for Hispanic students in grade four mathematics, with honorable mentions for Austin, Chicago, Los Angeles and the District of Columbia.



While scores are on the rise across the United States, location matters, both for current performance levels, and for the degree and even direction of change. In some cases, jurisdictions are the equivalent of three grade levels apart on their average scores.

Please note that there are many possible reasons for why these changes occurred, a topic not addressed in this report. Demographic changes, such as decreases in recent immigration, increases in proportions of highly-educated families, or, yes, school reform efforts may be responsible for the changes in scores. In other words, although the named districts and states are notable for their score increases, this does not mean

that school authorities in these districts and states are *necessarily responsible* for those increases. Please read the “Limitations of the Data” section for more information. This report **does not offer an explanation for this progress**, but we hope to shine a spotlight on the changes to begin to ask why—and why not.

¹⁷The comparability of a 10-point increase on the NAEP scale to an advance of one grade level is imperfect, and not endorsed by the National Center for Education Statistics (NCES) or the National Assessment Governing Board (Governing Board). However, some commentators (see for example, Lubienski & Lubienski, 2006 and Sarah Spark’s EdWeek piece on NAEP NIES July 3, 2012) have used it to provide a sense of the practical significance of a change of this magnitude. For those who would like more precision, from 2003-2013 on the NAEP mathematics assessments, the standard deviations for the mean scores for Hispanics in national public schools were consistent at about 28 in grade 4 and 34 in grade 8. Ten points is roughly one-third of a standard deviation, 20 points is about two-thirds, and 30 points is a full standard deviation. We are reasonably assuming that the Educational Testing Service, largely responsible for the item design and analyses of NAEP, together with NCES, and the Governing Board, do a good job maintaining the test at about the same level of difficulty over the years.

¹⁸The entirety of these gains falls within the NAEP “basic” level. For comparison, in 2013, the proficient level was set at 249, which was 35 points higher than the basic level. The advanced level was 33 points higher than the proficient level.

National-level findings

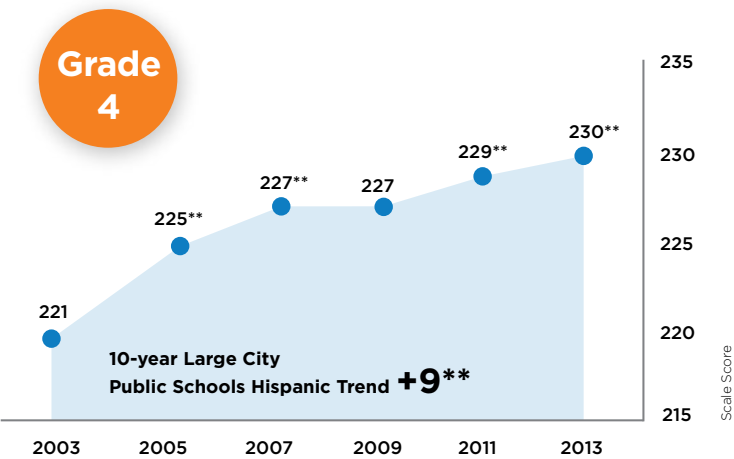
National finding 1. Across the nation, Hispanic fourth- and eighth-graders showed significant gains in mathematics—the equivalent of roughly one grade level—over the last decade (2003-2013).

In the past ten years, the average math NAEP scores for Hispanic students in U.S. public schools rose nine points in grade four and 13 points in grade eight, gains roughly equivalent to one grade level.¹⁸ Both increases are statistically significant.¹⁹

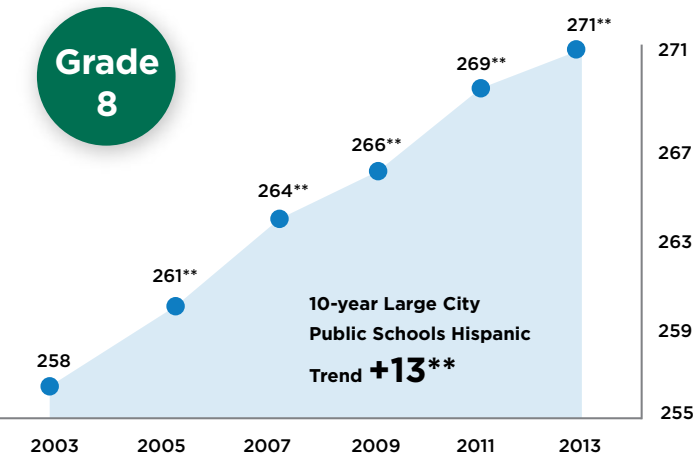
The increases reflect steady year-to-year gains. In eighth grade, each successive assessment, administered every other calendar year (2003, 2005, etc.), showed a statistically significant gain (as shown by **). In fourth grade, all but one assessment demonstrated a significant assessment-to- assessment score increase.

At the same time as these gains were occurring, the percentages of Hispanic students taking the NAEP assessments were also steadily increasing. In the grade four assessment, Hispanic students were 19 percent of the national public school sample in 2003, and increased their share to 25 percent just ten years later, in 2013. In eighth grade, Hispanic students were only 15 percent of the sample in 2003, but increased eight percentage points to 23 percent by 2013.

NAEP Grade 4 National Public Schools Mathematics Scores for Hispanic Students, 2003-2013



NAEP Grade 8 National Public Schools Mathematics Scores for Hispanic Students, 2003-2013



Statistically significant. For 2003-2013 trend line, asterisks () mark a significant increase from the previous assessment.

Hispanic Students Participating in NAEP Grade 4 and 8 Mathematics in U.S. Public Schools: Percentages of all Participating Students, 2003-2013

	2003	2005	2007	2009	2011	2013	Difference 2003-2013
Grade 4	19	20	21	22	24	25	+6**
Grade 8	15	17	19	21	23	23	+8**

**Statistically significant

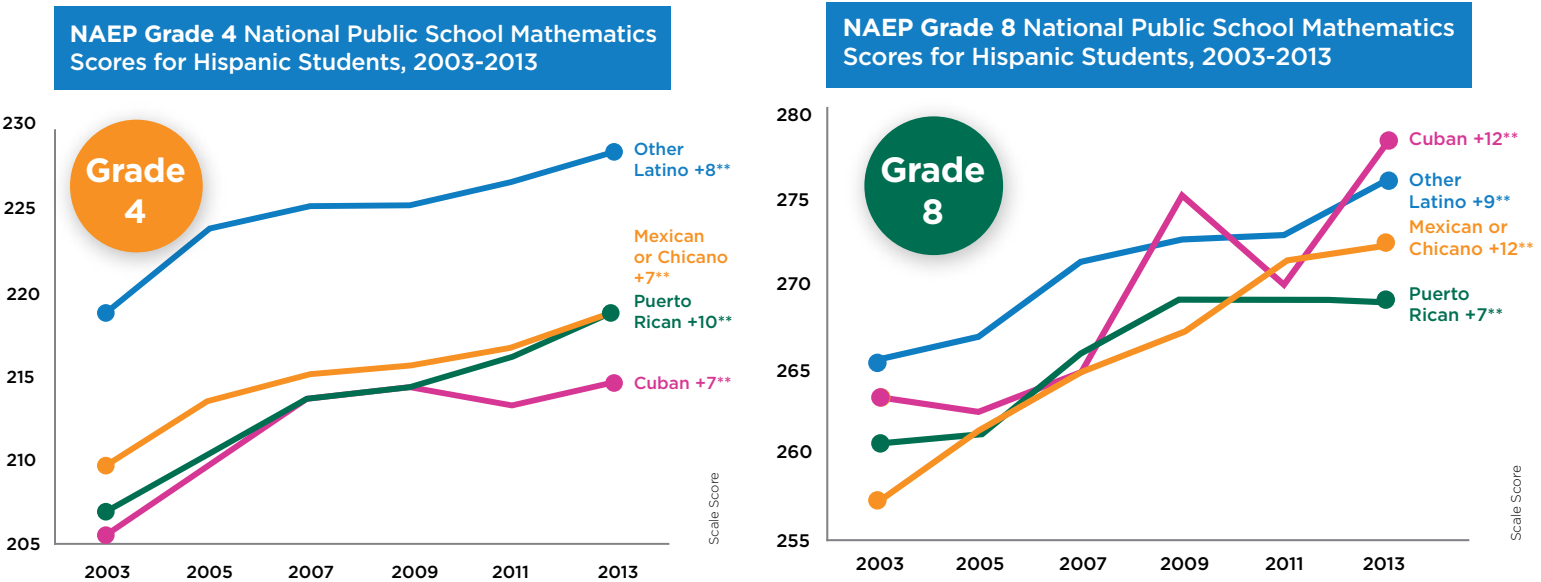
National finding 2. All measured subgroups of Hispanic students demonstrated significant score increases.

Since 2003, all subgroups of Hispanic fourth-graders named in NAEP, including Cubans, Puerto Ricans, Mexicans and Chicanos, and other Hispanics or Latinos,²⁰ have shown statistically significant and substantial increases in math scores at both grades four and eight. These designations refer to student-reported “background” and do not necessarily indicate recent immigration. In fact, since 93 percent of Hispanic children were born in the U.S.,²¹ it is likely that these selections reflect previous generations’ immigration.

In grade four, the scores for three of the subpopulations tracked by NAEP—Mexican American or Chicano, Puerto Rican, and Cuban—cluster together and show a similar increase over the period (see graph). The subgroup classified as other Hispanic or Latino shows a similar slope of increase, but begins and ends between seven and eight points higher than the other groups.

In grade eight, scores for all four Hispanic subpopulations tracked again cluster together. However, gains range from a low of seven points, for Puerto Rican and Puerto Rican American students, to a high of twelve, for Mexican, Mexican American or Chicano, and Cuban or Cuban American students.

These increases were sustained, even as Mexican, Mexican American or Chicano, or other Latino or Hispanic students comprised significantly greater percentages of students taking the assessment. These changes in the percent of student taking the assessment are shown in the table below for grade four; grade eight showed similar trends.



Percentages of Hispanic Students Participating in Grade 4 NAEP Mathematics, 2013

	% National Public Sample		Change 2003-2013
	2003	2013	
Cuban or Cuban American	2	2	0
Mexican, Mexican American, or Chicano	15	18	2** +
Other Hispanic or Latino	8	9	1**
Puerto Rican	4	3	0 +
Total Hispanic (see note)	19	25	

**Statistically significant
+ Score differences do not add up due to rounding.
NOTE: All 2003-2013 score changes were statistically significant for all subgroups. Percentages of subgroups sum to more than the total Hispanic percentage because students were permitted to choose multiple answers. The percentage of fourth-grade students taking the assessment who were either Mexican, Mexican American or Chicano, or other Latino or Hispanic also increased significantly. The changes from 2003-2013 in the percentages of Cuban or Cuban Americans and Puerto Rican or Puerto Rican Americans were not significant. Differences in changes (e.g., the apparent total change of 18 -15 = 3, does not equal the actual change of 2) are due to rounding.

State-level findings

In this section, we present the findings from the state NAEP assessment. The assessment includes all of the states, the District of Columbia (including charter schools),²² and the Department of Defense Education Activity (DoDEA) schools, which is why the word “jurisdictions” is sometimes used to describe the participating entities.

State finding 1. The top-tier states for 2013 Hispanic student scores were Indiana, Hawaii, North Carolina, Florida, New Jersey, Texas, and Maryland.

The Hispanic students in the “top-tier” jurisdictions (those with scores significantly higher than the median state’s) scored statistically significantly higher than their peers in other jurisdictions.²³ In fourth grade, Indiana, Hawaii, North Carolina, and Florida lead the pack, and in eighth grade, New Jersey, Texas, and Maryland stand above the rest. No state appeared on both lists, but the Department of Defense schools (DoDEA) did.

Jurisdictions with the Highest Average Scale Scores for Hispanic Students, NAEP 2013

Grade 4		Grade 8	
Indiana	242	DoDEA	283
Hawaii	241	New Jersey	283
DoDEA	240	Texas	281
North Carolina	239	Maryland	280
Florida	238		

NOTE: Although Montana had a score (282) higher than both Texas and Maryland at grade eight, it was not statistically significantly different than the mid-tier states. Colorado, as a mid-scoring state, was used as a comparison jurisdiction for the purposes of significance testing. This method takes into account the error associated with each state’s estimate. For a discussion of why this method is preferred, see Burt Stoneberg’s 2005 “Please Don’t Use NAEP Scores to Rank Order the 50 States” available online at <http://pareonline.net/pdf/v10n9.pdf>. The top-scoring jurisdictions scored significantly higher than Colorado and the lowest performing scored significantly below Colorado.

State finding 2. Bottom-tier states posted average 2013 scores for Hispanics nearly two grade levels below their top-tier peers.

Average 2013 math scores for Hispanic students varied significantly by state, the equivalent of two to two-and-a-half grade levels, depending on the grade assessed. In grade four, the difference between the top state, Indiana, and bottom state, Utah, was 20 points, or about two grade levels. In grade eight, the difference between the top jurisdictions, DoDEA and New Jersey, and bottom, Alabama, was 26 points, or two-and-a-half grade levels.

Hispanic students’ scores in top-scoring states in grade four ranged from an average of 242 in Indiana, to 238 in Florida. The jurisdictions showing the lowest scores for Hispanic students were Utah (221), California (224), Connecticut (224), Oregon (224), Idaho (225), Rhode Island (226), and Nebraska (227).

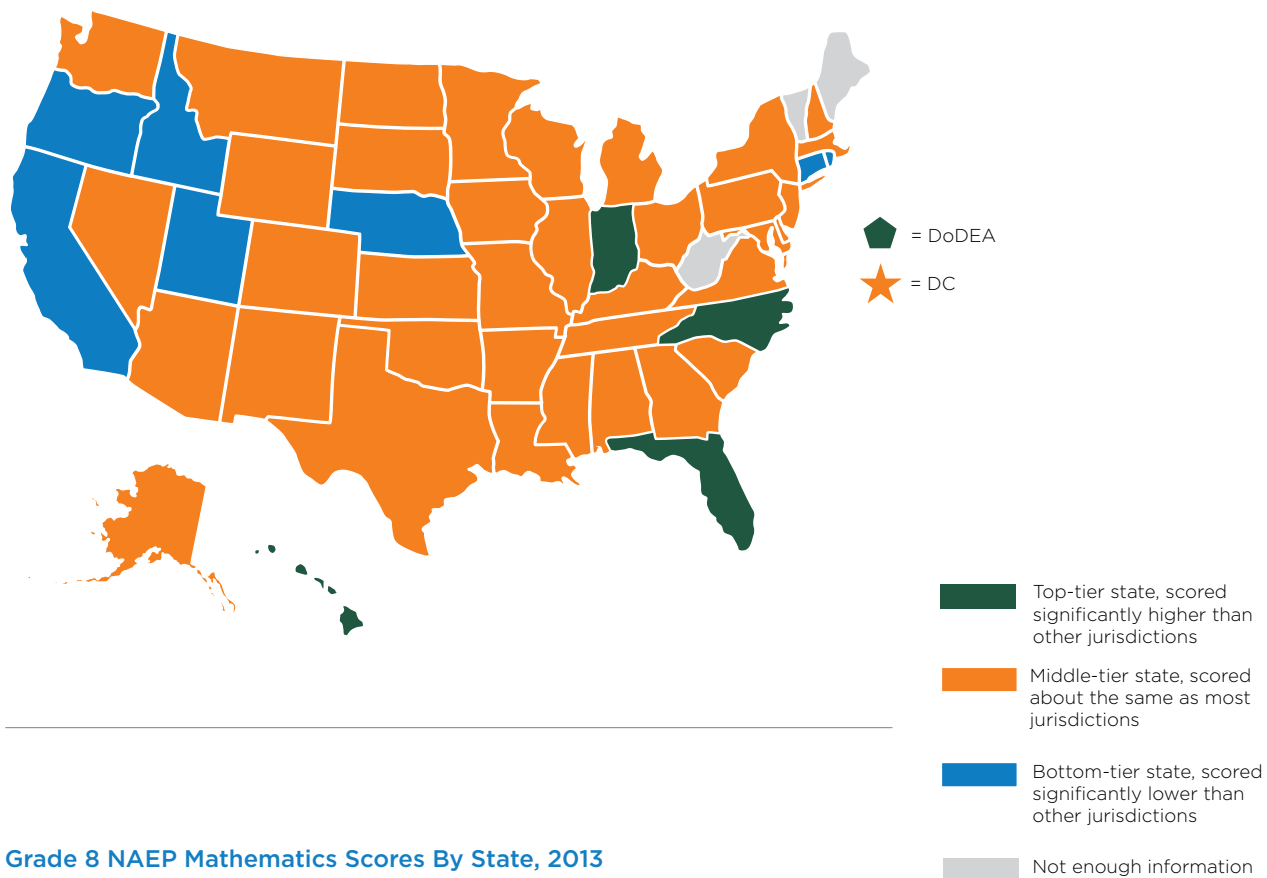
In grade eight math, the top-scoring jurisdictions are DoDEA (283), New Jersey (283), Texas (281), and Maryland (280). At the other end, California (263), Connecticut (258), Utah (258), Rhode Island (263), Nebraska (267), and Oregon (266) again appear in the list of lowest-scoring states in 2013 for Hispanics in grade eight. Other jurisdictions in the lowest tier are New Mexico (268), New York (265), District of Columbia (265), Pennsylvania (264), Michigan (261), and Alabama (257).

California, Connecticut, Utah, and Rhode Island are the only states that made both bottom-tier lists: the average scores of Hispanic students in both fourth and eighth grades in these states are significantly lower than their peers in other states.

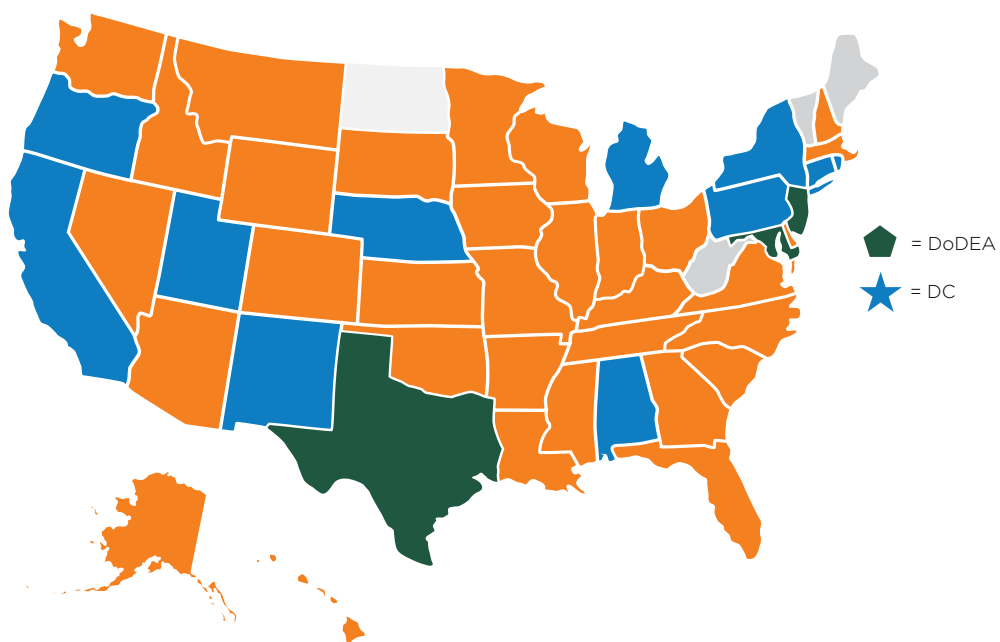
Four states did not have enough Hispanic students to meet the NAEP reporting requirement. West Virginia, Vermont, and Maine did not meet minimums in either grade four or eight. North Dakota did not meet the requirement in grade eight.

²²In NAEP, the District of Columbia scores at the state level include charter schools. At the district level, for the NAEP Trial Urban District Assessment (reviewed later in the report), they do not.
²³A significance test was performed using a mid-performing state—in this case, Colorado, which ranked 25th in both grades—as a reference point. The states in the top tier scored significantly above Colorado and the states in the bottom tier scored significantly below.

Grade 4 NAEP Mathematics Scores By State, 2013



Grade 8 NAEP Mathematics Scores By State, 2013



NOTE: Colorado, as a mid-scoring state, was used as a comparison (focal) jurisdiction for the purposes of significance testing. See earlier note on why this method was chosen.

State finding 3. Over the last decade, two out of every three states saw significant increases in average scores for Hispanic students.



In fourth grade, 35 states or jurisdictions showed statistically significant 10-year gains, eight did not meet minimum reporting (e.g., sample-size) requirements, and only nine showed no significant change. In eighth grade, 31 states showed significant increases, seven had no significant change, and fourteen had too few Hispanic students to meet the reporting requirements. No state had significant reductions in scores.

Of the states that showed significant gains in grade four achievement over the 10 years from 2003-2013, Hispanic students in the District of Columbia²⁴ and Hawaii topped the list, each with increases of 22 scale score points—roughly more than two grade levels.

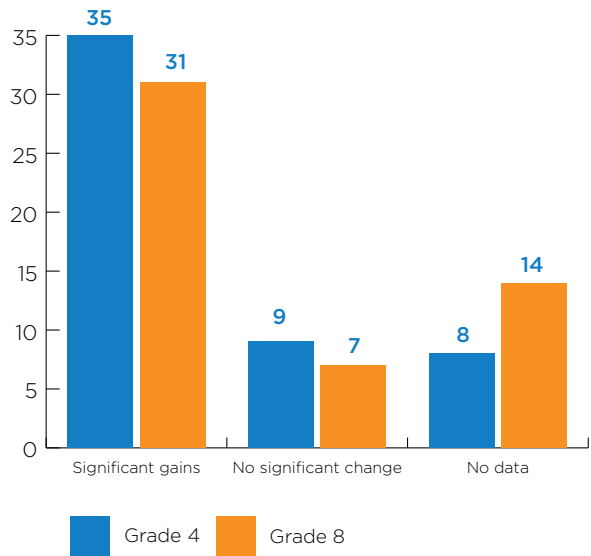
In grade eight, Hispanic students in Arkansas (+25), Massachusetts (+22), and New Jersey (+21) had the top gains—in each case, more than two grade levels.

Hispanic students in the District of Columbia and Hawaii also again made significant gains in eighth grade: 19 and 16 points, respectively. Students in Rhode Island, Indiana, and Nevada also had some of the highest increases in both grades.

In just two states—Connecticut and Michigan—there was no significant increase in Hispanic students’ scores in either grade. Note that small sample sizes and/or high variability of Hispanic students’ scores in some of these states, such as Tennessee in grade four, may explain why gains as high as 11 points over the decade were not significant.

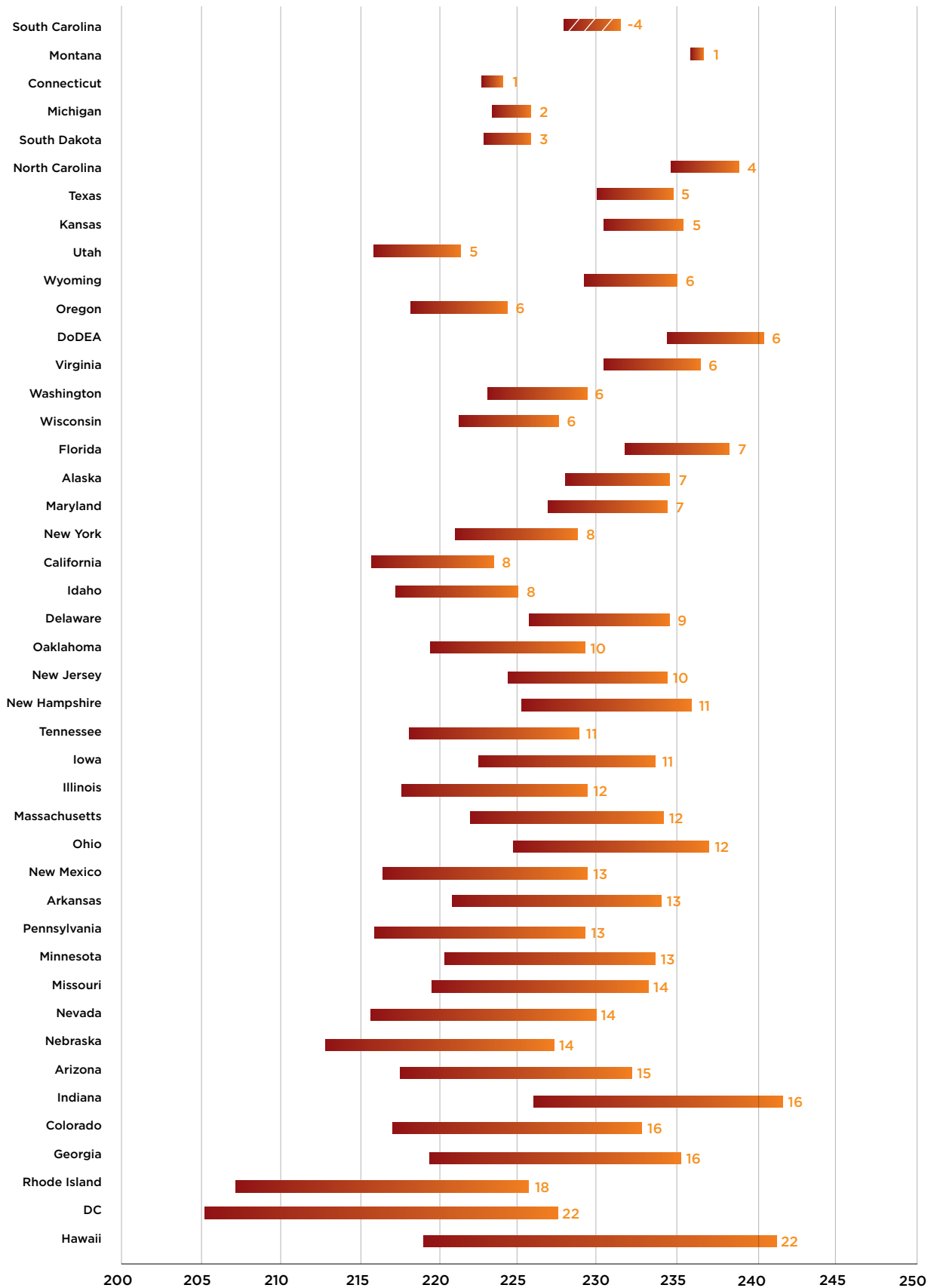
In eight states at grade four, and in 14 states at grade eight, there were too few Hispanic students in 2003 to meet NAEP reporting standards, which explains why no estimate is provided and no gain could be computed. By 2013, only four states did not meet the reporting standard: Maine, Vermont, West Virginia, and North Dakota (grade eight only).

Number of Jurisdictions by Significance of 10-Year Change in Average NAEP Math Scores

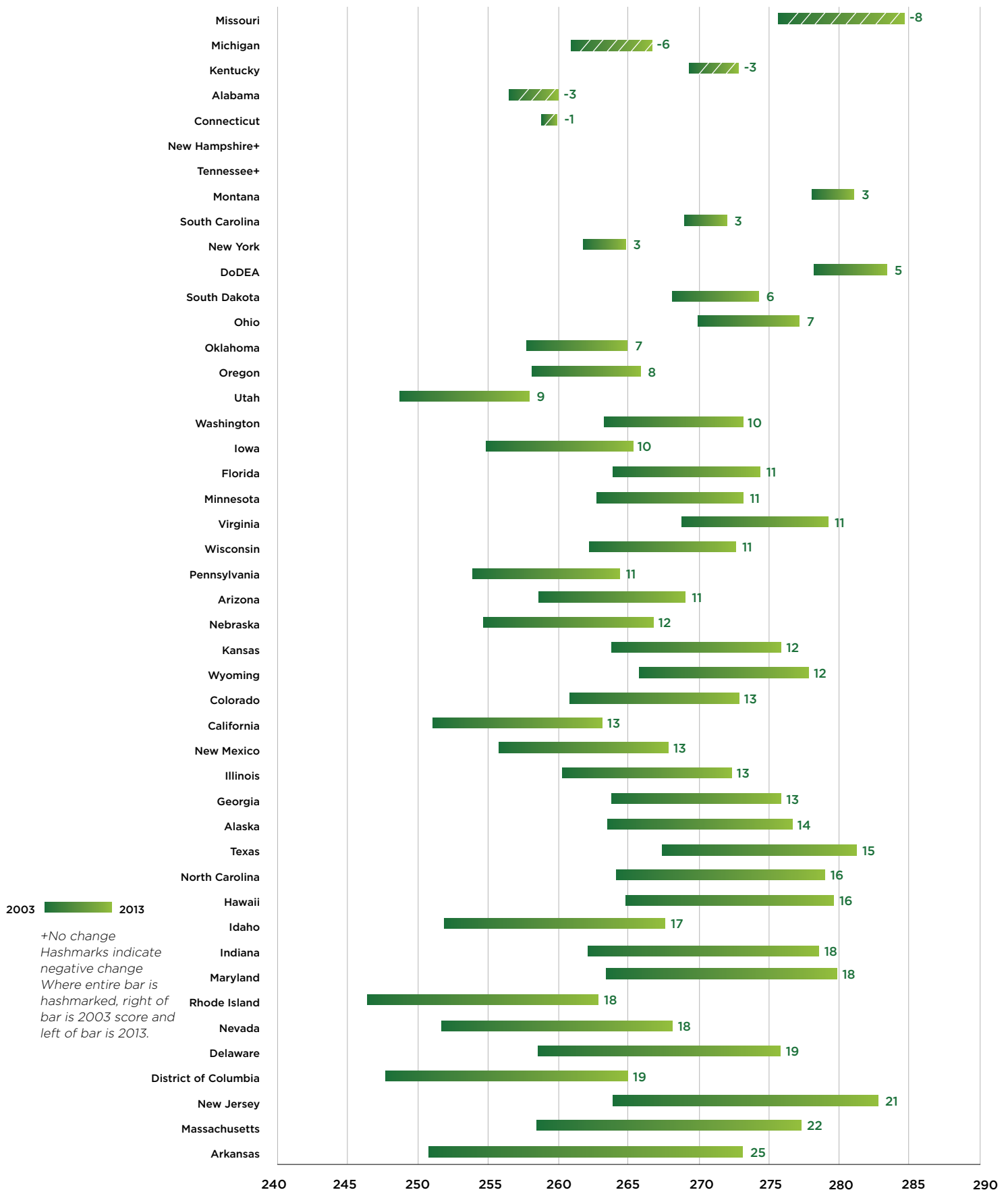


²⁴In NAEP, the District of Columbia scores at the state level include charter schools. At the district level, for the NAEP Trial Urban District Assessment (reviewed later in the report), they do not.

Change in Grade 4 Average NAEP Math Scores for Hispanic Students by State, 2003-2013



Change in Grade 8 Average NAEP Math Scores for Hispanic Students, by State, 2003-2013



State finding 4. In 20 percent of states, including Arizona and Rhode Island, Hispanic students have also made significant recent-year gains.

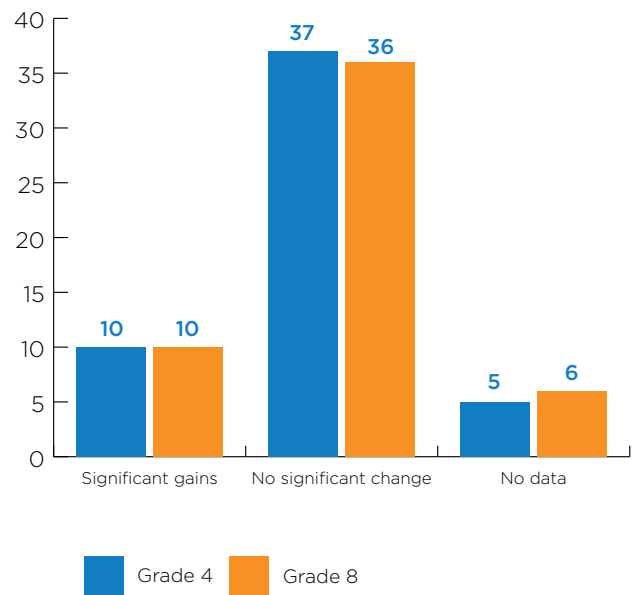
Short-term (four-year) gains, those from 2009 to 2013, were evident in far fewer states than were the longer-term (10-year) gains. Yet in about 20 percent of jurisdictions, students showed statistically significant gains between 2009 and 2013 in grades four and eight.

In fourth grade, students in Arizona (+12), Hawaii (+11), Indiana (+11), Iowa (+10), and Rhode Island (+7) had the top gains. In all of these states, there were also significant 10-year gains.

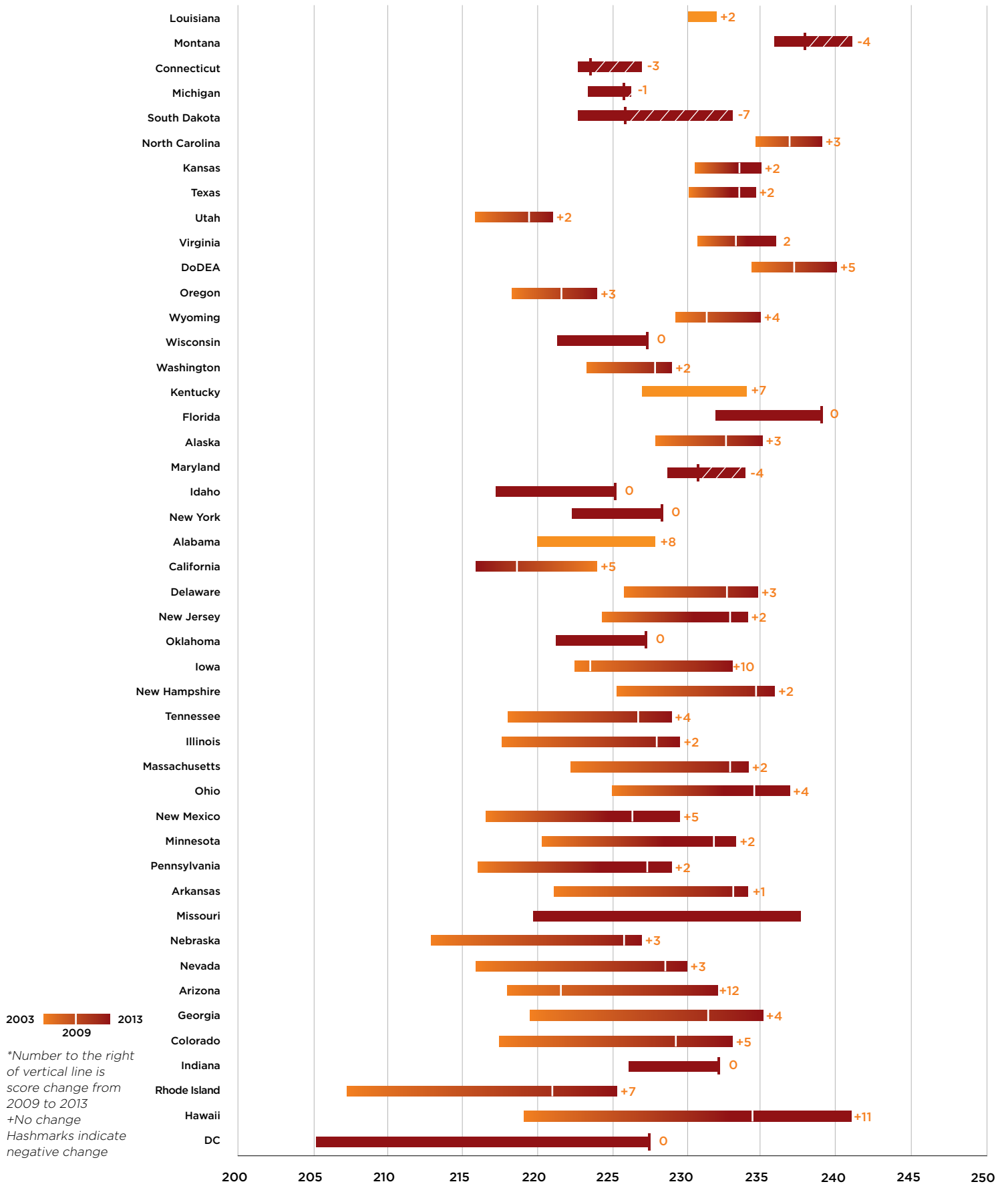
In grade eight, Hispanic students in Arizona (+4) and Rhode Island (+8) were again among those showing significant gains. They are joined by their counterparts in New Jersey (+11), Washington (+10), and Wyoming (+9).



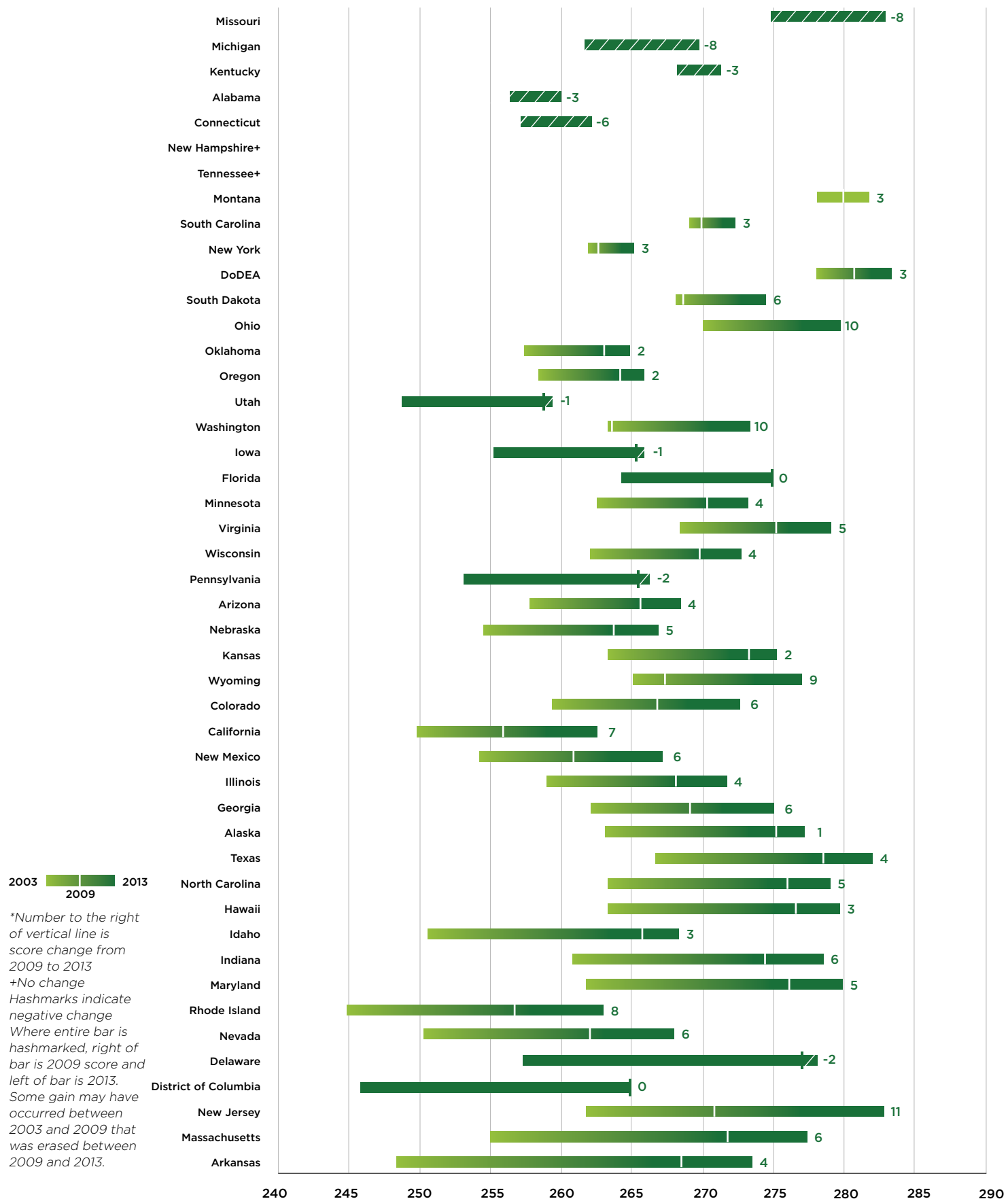
Number of Jurisdictions by Significance of 4-Year Change in Average NAEP Math Scores



Change* in Grade 4 Average NAEP Math Scores for Hispanic Students by State, 2003-2009-2013



Change* in Grade 8 Average NAEP Math Scores for Hispanic Students, by State, 2003-2009-2013





State finding 5. In all states, 50 percent or more of Hispanic students participating in the assessment were eligible for the National School Lunch Program in 2013.

Although we are not presenting other factors, we have singled out poverty as a critical factor to present with these analyses. Poverty experienced early in life, sustained poverty, and extreme poverty are associated with particularly negative outcomes for children. Children growing up in poor households are more likely to be unhealthy, drop out of school, have chronic health problems as adults, and earn lower wages than those not poor during childhood.²⁵ Poverty has a number of direct (e.g., brain development)²⁶ and indirect (e.g., instability)²⁷ influences on students' performance on assessments,²⁸ posing greater challenges for school personnel as the overall percentage of students in poverty increases.

Eligibility to participate in the national school lunch program (NSLP) is often used as a measure, albeit imperfect,²⁹ of poverty. Because of the focus of this report, the estimates for the percentage of students eligible for NSLP presented in the table are for Hispanic students only.

The percentage of Hispanic students eligible for NSLP participating in the grade four assessment (data for grade eight are not shown) ranged from 56 percent in Montana and North Dakota, to 90 percent in Alabama and Mississippi. Alaska and Hawaii also had notably (comparably) low rates (57 and 58 percent, respectively).

²⁵See <http://www.childtrends.org/wp-content/uploads/2013/11/2009-11ChildreninPoverty.pdf>

²⁶For example, see Hanson JL, Hair N, Shen DG, Shi F, Gilmore JH, et al. (2013) Family Poverty Affects the Rate of Human Infant Brain Growth. PLoS ONE 8(12): e80954. doi:10.1371/journal.pone.0080954

²⁷Evans, Gary W. (2004) The Environment of Childhood Poverty. American Psychologist, Vol 59(2), Feb-Mar 2004, 77-92. doi: 10.1037/0003-066X.59.2.77

²⁸Rumberger, R. (2007) Parsing the Data on Student Achievement in High-Poverty Schools. North Carolina Law Review, 85: 1293-1314.

²⁹As measured by eligibility in the National School Lunch Program. The author acknowledges that the measure has challenges as a proxy for poverty. For a full discussion see "Improving the Measurement of Socioeconomic Status for the National Assessment of Educational Progress: A Theoretical Foundation" at <http://www.edweek.org/media/nagbmeasures-14socioeconomic.pdf> and Robert Hauser's later work.

**Percent of Students Eligible for National School Lunch Program (NSLP),
by Jurisdiction, 2013**

Jurisdiction	% Hispanic Students Eligible for NSLP	Jurisdiction	% Hispanic Students Eligible for NSLP
Alabama	90	Montana	56
Alaska	57	Nebraska	83
Arizona	76	Nevada	83
Arkansas	88	New Hampshire	65
California	81	New Jersey	78
Colorado	73	New Mexico	83
Connecticut	81	New York	83
District of Columbia	74	North Carolina	87
Delaware	85	North Dakota	56
Florida	72	Ohio	74
Georgia	87	Oklahoma	86
Hawaii	58	Oregon	89
Idaho	83	Pennsylvania	84
Illinois	77	Rhode Island	88
Indiana	82	South Carolina	86
Iowa	74	South Dakota	72
Kansas	87	Tennessee	84
Kentucky	84	Texas	82
Louisiana	75	Utah	76
Maine	‡	Vermont	‡
Maryland	71	Virginia	63
Massachusetts	84	Washington	81
Michigan	83	West Virginia	‡
Minnesota	78	Wisconsin	77
Mississippi	90	Wyoming	67
Missouri	76	DoDEA	N/A

‡ NAEP reporting standards not met (e.g., not enough students for a large enough sample).

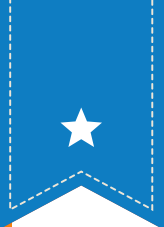
State finding 6. Child Trends’ notable states and jurisdictions are New Jersey, Indiana, Hawaii, Arizona, and DoDEA.

Child Trends selected the states or jurisdictions with the greatest combined number of instances of top-tier scores for 2013, short-term increases, and long-term increases, across both grades. Four states plus DoDEA were notable: New Jersey, Indiana, Hawaii, and Arizona. All of these jurisdictions showed significant long-term (10-year) gains in grades four and eight. Arizona was the only state to also show significant short-term (four-year) gains in both grades; in the remaining four jurisdictions, students at one grade level only had a significant short-term gain. In addition, each of the five jurisdictions was a top scorer in 2013 in one grade or (for DoDEA) both grades. It should be noted that of these states (DoDEA not included, as it has no poverty measure), both Hawaii and Colorado had significantly lower rates of poverty than the others.³⁰

³⁰NSLP eligible rates for Hispanic students were tested using Connecticut, as the median state, as a focal state. Both Colorado and Hawaii had significantly less participation, while the other states selected showed no difference.

Honorable mentions go to four additional states: Colorado, Nevada, New Mexico, and Texas. Colorado, Nevada, and New Mexico all showed significant, consistent gains in both grades. Texas showed strong gains and top 2013 scores in eighth grade and a modest long-term increase in grade four. States that showed strong short- and long-term gains, but were in the bottom tier of states for 2013, including California and Rhode Island, were excluded.

Connecticut and Michigan have the dubious distinction of being the only states with data where Hispanic students both had no significant improvement and did not score high enough to be in the top-tier for 2013. For a full data table, see the appendix.



Notable

New Jersey
Indiana
Hawaii
Arizona
DoDEA

Honorable Mention

Colorado
Nevada
New Mexico
Texas

Large city and school district findings

In the first part of this section, we present trends for large cities. These data come from a nationwide sample of cities, a sample far broader than that of the specific school districts mentioned later. NAEP provides these data to illuminate trends within our nation's large cities.

The districts named in this report are those that elected to participate in the NAEP Trial Urban District Assessment (TUDA), a special, voluntary assessment in which only 21 districts participate. The NAEP TUDA is our only means of comparing urban district performance on a common yardstick.

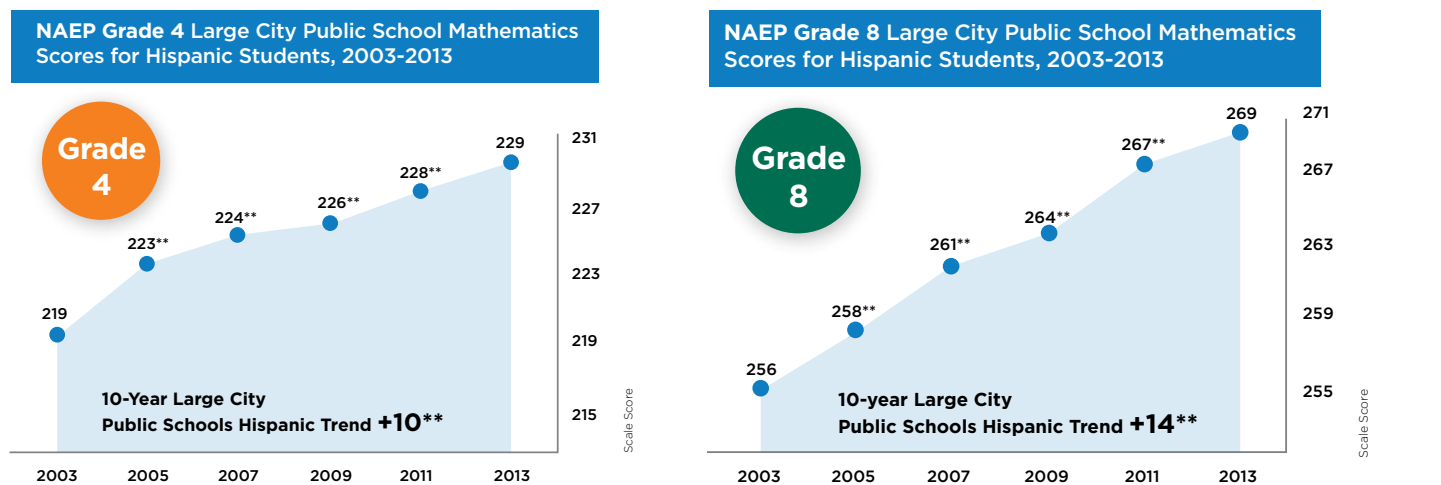
Because TUDA participation is voluntary, **all districts named in this brief should be commended for their commitment to transparency and data use to improve our schools.** TUDA began in 2003, and the number of districts participating has continued to rise over the years.

City/district finding 1. Over the last 10 years, Hispanic fourth- and eighth-graders in large U.S. cities also have made significant gains in mathematics — the equivalent of roughly one grade level.

If we focus only on our large cities, gains for Hispanic students meet, or even exceed, those previously noted. In the 10-year analysis (2003 to 2013), average scores for Hispanic students in large cities rose 10 points in grade four, and 14 points in grade eight, or the equivalent of at least one grade level.

All 10-year increases are statistically significant and, as may be seen in the graphs, follow consistently-increasing assessment-to-assessment gains.

This rise accompanied a significant rise in the percentage of students taking the assessment who were Hispanic. In 2003, in large cities, Hispanic students were already over one-third of the sample (36 percent), and rose to more than 43 percent by 2013.



** Statistically significant. NOTE: "Large cities" refers to a sample of students from public schools in all districts participating and in all large central cities not participating in the urban district assessment.

Hispanic Students Participating in NAEP Grade 4 and 8 Mathematics in Large Cities: Percentages of All Participating Students, 2003-2013

	2003	2005	2007	2009	2011	2013	Difference 2003-2013
Grade 4	36	39	40	42	43	43	+7**
Grade 8	33	36	38	42	43	42	+9**

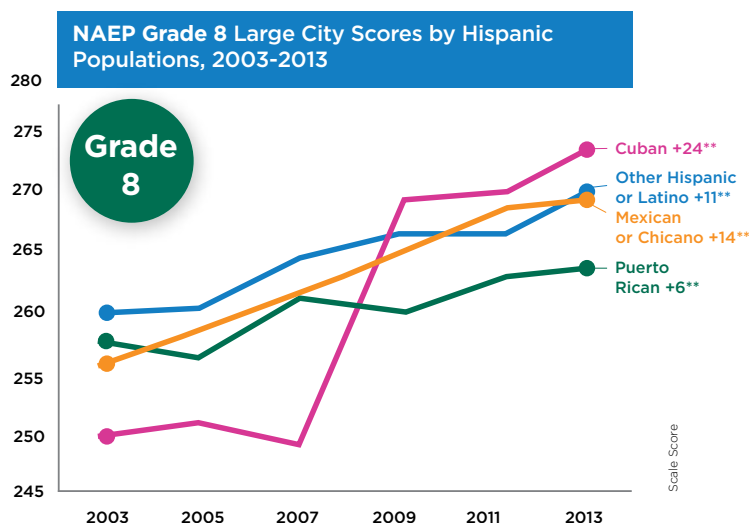
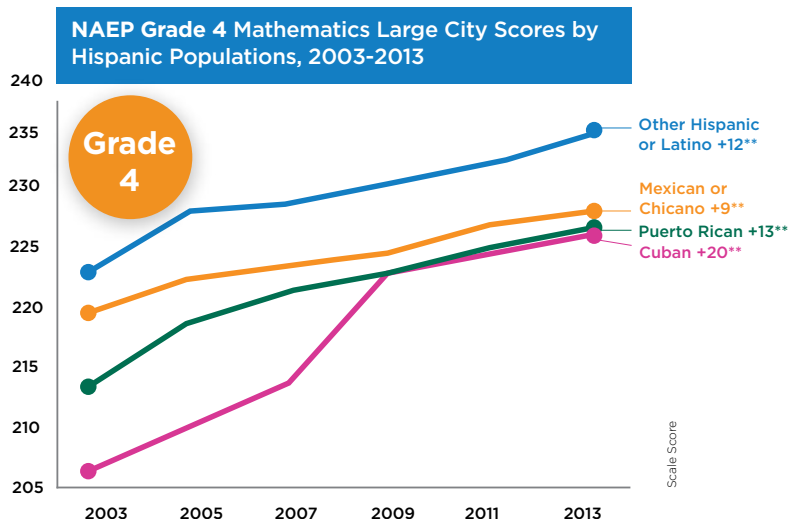
**Statistically significant

City/district finding 2. Significant increases were posted for all measured subgroups of Hispanic students.

Similar to the national findings, large-city subpopulations of Hispanic fourth-graders, including Cubans, Puerto Ricans, Mexicans and Chicanos, and other Hispanics or Latinos, had statistically significant increases at both grades four and eight.

Cuban or Cuban American students, in particular, saw significant gains. Although in 2003 they had the lowest average scores of all Hispanic groups in both grades in large cities, in 10 years they gained 20 to 24 points, the rough equivalent of two grade levels, and their scores are now comparable to those of the other subgroups. The gap between the lowest- and highest-scoring subgroups narrowed from 17 points in 2003, to nine points in 2013 in grade four. In grade eight, the gap was consistent at 10 points.

The scores for Cuban or Cuban American students in large cities³¹ were also statistically significantly higher than the national public average increases. Average scores for Cuban or Cuban American students in large cities increased two grade levels over the 10 years, but only one grade level nationwide.³² The differences are obscured within the overall averages, because these subgroups are only one to three percent of the sample (see table on participation percentages).



** Statistically significant. NOTE: "Large cities" refers to a sample of students from public schools in all districts participating and in all large central cities not participating in the urban district assessment.

³¹The districts with the greatest percent of Cubans or Cuban Americans are Miami-Dade (30 percent) and Hillsborough County (8 percent). All other districts have less than 4 percent Cubans or Cuban Americans. These data are for the grade four math assessment.

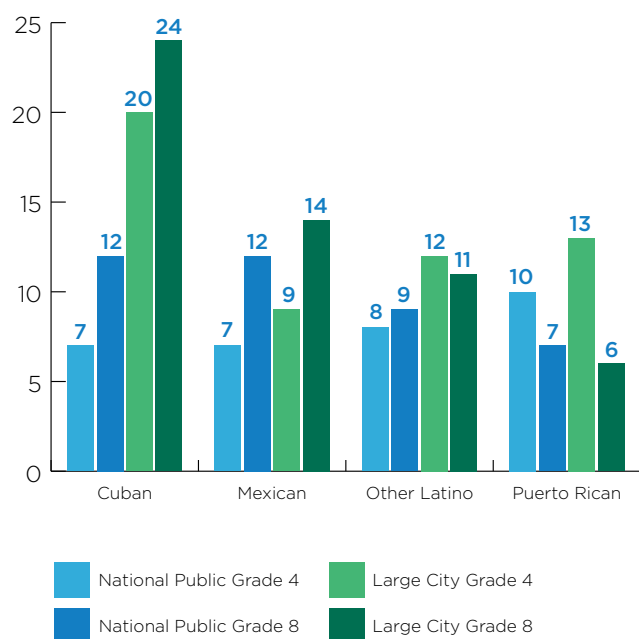
³²The other Hispanic or Latino average score in large cities was also significantly higher than the national public average in grade four. None of the other subgroups demonstrated significant differences between the national public and large city increases.

Hispanic Students Participating in NAEP Grade 4 Mathematics in Large City Schools: Percentages of all Participating Students, 2003-2013

	% Large City Sample	
	2003	2013
Cuban or Cuban American	3	3
Mexican, Mexican American, or Chicano	24	27
Other Hispanic or Latino	12	13
Puerto Rican	6	5
Total Hispanic (see note)	36	43

NOTE: Percentages of subgroups sum to more than the total Hispanic percentage because students were permitted to choose multiple answers.

Change in NAEP Scores 2003-2013 by Hispanic Subgroup, Grade 4 and 8, National Public and Large City



Note: Height of all columns shows increase for all groups 2003-2013, all of which were statistically significant increases.

City/district finding 3. In top-tier TUDA districts for Hispanic students, like Dallas and Miami-Dade, 2013 scores are the equivalent of more than two grade levels higher than they are in bottom-tier districts, such as Detroit and Fresno.

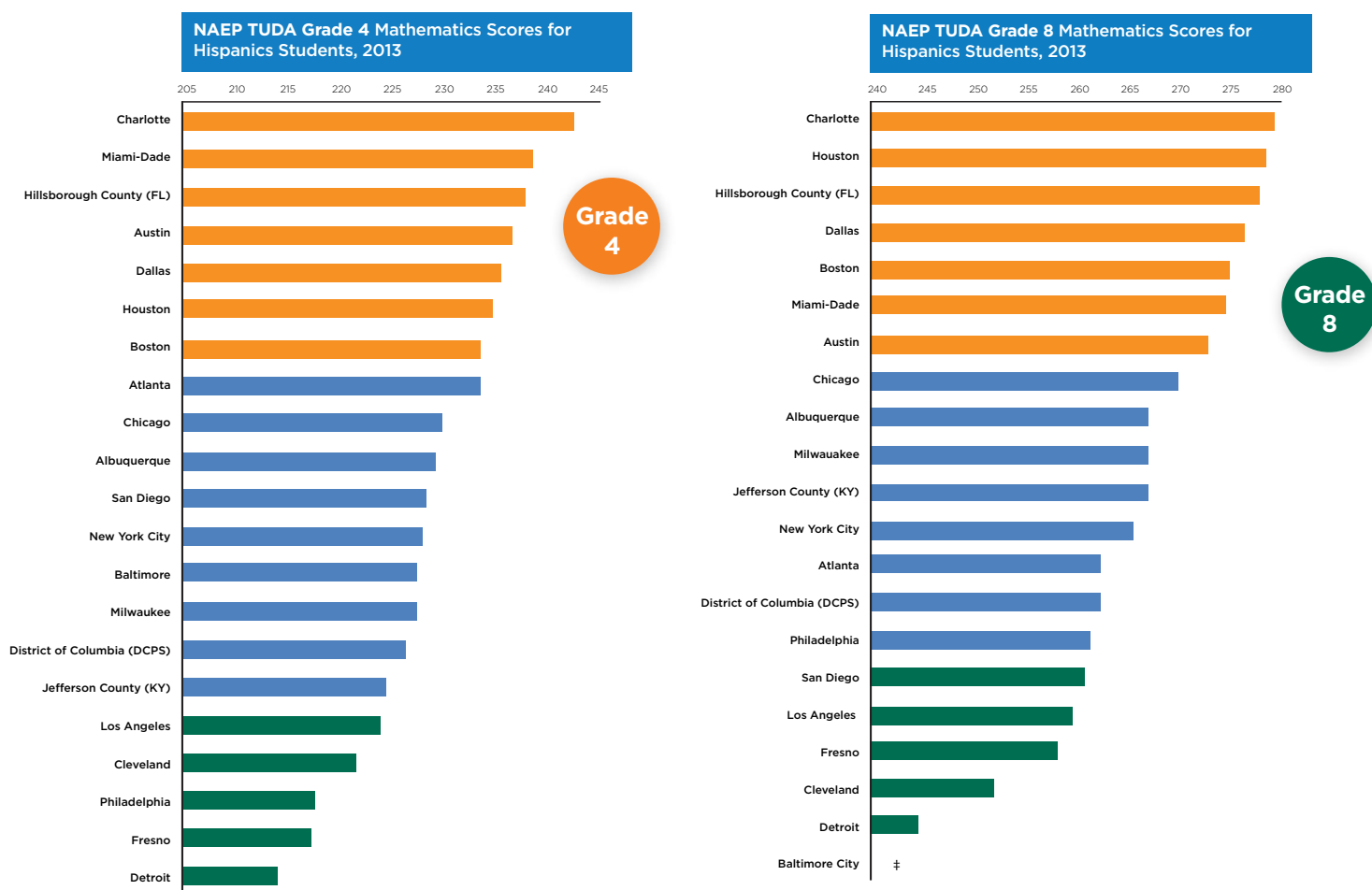
Selected large urban districts (21 in 2013) also participate in NAEP TUDA. It is worth restating that all such districts should be lauded for their participation and their commitments to transparency, data use, and accountability.

While overall scores for Hispanic students have increased dramatically, there is wide variation among TUDA average scores. On the 2013 grade four assessment, the difference between the top-performing district for Hispanic students, Charlotte, and the lowest performing district, Detroit, is 28 points. In grade eight, the difference between top and bottom districts is 36 points, or roughly more than three grade levels.

The top-tier districts in 2013 for Hispanic students in both grades four and eight were Charlotte, Miami-Dade, Hillsborough County (FL), Austin, Dallas, Houston, and Boston.

The middle-tier of districts includes Atlanta, Chicago, Albuquerque, New York City, Baltimore City, Milwaukee, District of Columbia Public Schools,³³ and Jefferson County, KY. For grade eight scores only, Philadelphia joins the mid-tier. For grade four scores only, San Diego joins the mid-tier.

The lowest-scoring districts include Los Angeles, Cleveland, Fresno, Detroit, San Diego (grade eight only) and Philadelphia (for grade four only).



NOTE: In grade 4, Atlanta scored the same as Boston (233), but due to significant variability in the scores, falls into the second tier of mid-level performing districts. Significance tests were comparisons of Albuquerque (focal jurisdiction) to other districts in 2013. NAEP reporting standards were not met for Baltimore City in grade 8.

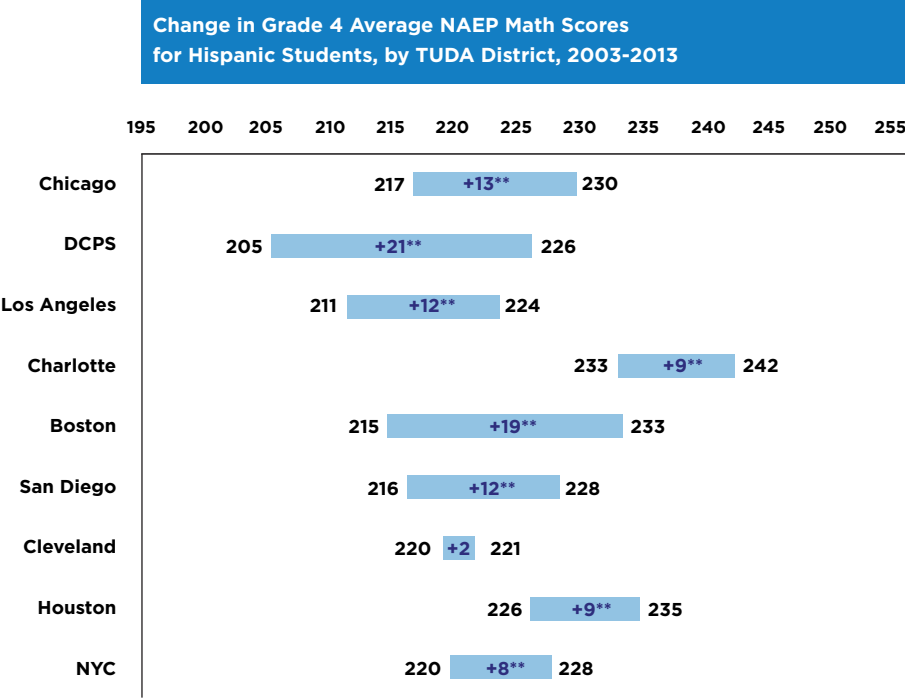
³³Note that the TUDA District of Columbia scores only count the non-charter DC schools. The DC data presented in the state analyses include the charters.



City/district finding 4. Over ten years (2003-2013), several districts, including the District of Columbia, Boston, Los Angeles and Houston, have seen remarkable score increases—roughly equivalent to two grade levels.

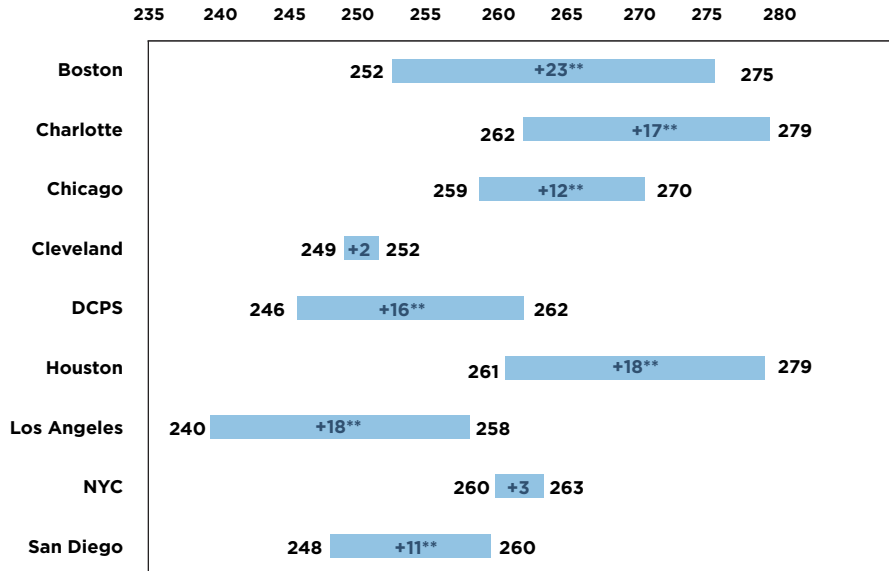
The District of Columbia and Boston top the list of school districts participating in NAEP TUDA that had increases in scores for Hispanic students on grade four mathematics from 2003 to 2013, amounting to about two grade levels (21 and 19 points, respectively—see graph). Notably, Hispanic students in the District of Columbia started out at the back of the pack in 2003, but are now in the middle range. Other districts showing statistically significant score increases at grade four include Charlotte, Houston, New York, Chicago, Los Angeles, and San Diego. Among districts joining NAEP in 2003, only in Cleveland did Hispanic students not make statistically significant 10-year progress.

For grade eight students, Boston (+23 points) again tops the list. In both Houston and Los Angeles, students’ scores increased by 18 points between 2003 and 2013. Charlotte, Chicago, District of Columbia, and San Diego all made statistically significant gains, comparable to one grade level (10+ points).



How to read this graph: The left side of the bar is the 2003 scale score, the right side is the 2013 score, and the number in the middle of the bar is the point gain over the ten years. If the increase includes asterisks **, the increase was statistically significant. For example, Hispanic students in Boston averaged 252 in 2003 and 275 in 2013, which was a 23-point and statistically significant increase.

Change in Grade 8 Average NAEP Math Scores for Hispanic Students, by TUDA District, 2003-2013



How to read this graph: The left side of the bar is the 2003 scale score, the right side is the 2013 score, and the number in the middle of the bar is the point gain over the ten years. If the increase includes asterisks **, the increase was statistically significant. For example, Hispanic students in Boston averaged 252 in 2003 and 275 in 2013, which was a 23 point and statistically significant increase.

City/district finding 5. Hispanic students in many districts, including Atlanta and Charlotte, have also made significant recent-year gains.

In grade four, students in four districts made statistically significant gains within just the most-recent four years. These were Atlanta (+11 points), Charlotte (+7), Los Angeles (+5), Austin (+4), and Chicago (+4). No district showed statistically significant declines over this period.

Eighth-graders in Milwaukee (+10 points), Boston (+6), Houston (+4), and Los Angeles (+4) made statistically significant four-year gains. This was the only short- or long-term significant increase for students in Milwaukee.

Los Angeles was the only district that showed significant short-term gains for both grade four and grade eight.

In a number of districts, apparent declines in scores, while numerically substantial, were not statistically significant. Similarly, some apparent gains were not statistically significant. Statistical significance is affected by both sample size and variability in scores.

City/district finding 6. Hispanic students in these urban districts have made progress despite poverty rates³⁴ ranging from 75 to 100 percent.

As do many large urban areas, the districts examined here have high poverty rates, as measured by the percentage of students eligible for the National School Lunch Program (NSLP). As noted earlier under the state-level findings, poverty has numerous negative effects on students and schools.

³⁴As measured by eligibility in the National School Lunch Program. The author acknowledges that the measure has challenges as a proxy for poverty; see earlier discussion about problems with this approach.

The percentage of Hispanic students participating in the grade four assessment eligible for NSLP ranged from 75 percent in Miami-Dade and Hillsborough County, to 98 percent in Philadelphia and 100 percent in Cleveland.*

These percentages are very different from the earlier presented state estimates. Only two states reached 90 percent, Alabama and Mississippi. In TUDA, the majority of jurisdictions are 90 percent or above. No TUDA district is below 75 percent of their Hispanic students being eligible for NSLP, and for states, about one-quarter fall below that level.

NSLP eligibility rates over 90 percent does not preclude high scores or significant gains. Dallas, with 97 percent eligibility, was a top-tier district in both grades for their Hispanic students' top scores in 2013. Chicago, Los Angeles and Boston, at 93 percent eligibility, each demonstrated statistically significant short- and long-term increases.

City/district finding 7. Child Trends recognizes Charlotte, Boston, and Houston as notable school districts.

The table below puts all of the data together. To qualify as notable, districts needed top scores in four out of six categories: significant long-term (10-year) increase in grade four scores, significant long-term (10-year) increase in grade eight scores, significant short-term (four-year) increase in grade four scores, significant short-term (four-year) increase in grade eight scores, top 2013 scores at grade four, or top 2013 scores at grade eight. These criteria excluded any district that did not begin to participate in the assessments until after 2009. Dallas and Hillsborough County, for example, each were top-scoring districts for Hispanics in 2013, but they did not have comparative data with which to assess long- or short-term gains.

Charlotte, Boston, and Houston had statistically significant increases in three of the four comparisons, and each was also a top-scoring district in 2013.

Chicago, Austin, District of Columbia, and Los Angeles earned honorable mentions. Students in the District of Columbia Public Schools, without charter schools,³⁵ saw an impressive 21-point increase since 2003 in grade four scores, and a 16-point increase in grade eight scores. Los Angeles was the only district with statistically significant gains in the four-year and 10-year analyses for both grades four and eight; however, the district also demonstrated significant changes in their English language learner (ELL) population (see data limitations) and was in the bottom tier for 2013 scores.

Percent of Hispanic Students Taking TUDA Eligible for NSLP	
Cleveland*	100
Philadelphia	98
Dallas	97
Fresno	96
Baltimore City	94
Detroit	94
Boston	93
Chicago	93
Los Angeles	93
Houston	91
New York City	90
Atlanta	89
San Diego	87
Jefferson County (KY)	86
Milwaukee	86
Charlotte	85
District of Columbia	84
Albuquerque	83
Austin	82
Hillsborough County (FL)	75
Miami-Dade	75

*Cleveland has a community eligibility provision for NSLP

Notable

Charlotte

Boston

Houston

Honorable Mention

Chicago

Austin

District of Columbia

Los Angeles

³⁵TUDA data do not include charter schools, but the state-level NAEP data do include charter schools.

Limitations of the data

There are a number of significant limitations of these data. For any given cohort of students, NAEP only provides a snapshot in time. NAEP does not track the same students over time (i.e., is not a longitudinal study). Based on the NAEP data, we know, for example, that fourth grade Hispanic students who took the assessments in 2013 performed significantly better on average than the fourth grade students performed ten years ago. We do not account for all the other ways these cohorts differed, many of which may affect scores.

Said another way, we are not addressing causation. This is an important and a significant issue that should be noted with the reporting of these data. We know from NAEP that scores are increasing, but we **cannot tell why**. Demographic change in a district is one factor that we know may have a significant effect on NAEP scores. Immigration to the city or other demographic shifts, such as highly-educated families remaining in cities instead of moving to the suburbs or immigrating in greater numbers into the country, may explain score changes. We are not concluding that these districts are doing a better job of educating Hispanic students; academic achievement is a product of multiple factors within children, families, and their communities. We are suggesting that there are trends here that may be worth a closer look. As noted above, these top districts may just be the beneficiaries of an ongoing influx of already high-performing Hispanic students. More, successively rigorous, research could begin to tease apart the “why” behind the NAEP trends.

We do not specifically address the question of the level of English proficiency of Hispanic participants for a number of reasons. First, as mentioned earlier, 93 percent of Hispanic children are U.S.-born, so English language learner (ELL) status is relevant for only a fraction of participants. Second, NAEP has procedures for addressing language proficiency and ensuring equitable participation across assessments and jurisdictions, including providing Spanish language assessments for mathematics.³⁶

Students who are classified on NAEP as ELL students do score significantly lower on the assessments than non-ELL participants. For Hispanic students, the average score difference is about two grade levels (20 points for national public in 2013, grade four), and this difference has remained fairly constant over the 10 years we examined.³⁷

Grade 4 Hispanic Student Average and Percentages by ELL Status

Year	Jurisdiction	ELL Average score	ELL %	Non ELL Average Score	Non ELL %	Total Hispanic Average Score
2013	National public	218	35	237	65	230
	Large city	216	39	237	61	229
2003	National public	211	40	228	60	221
	Large city	209	45	227	55	219

The percentage of ELL students (all languages) participating in NAEP across the national public has increased slightly on average for grade four and remained level in grade eight; however, the percentage of Hispanic students who are ELL has decreased over the decade by about five percent points in grade four and seven points in grade eight (see tables below). This decrease was not enough to account for the score changes, though, and in fact, has a minimal impact on average. For example, if we weight the national public Hispanic 2013 grade four ELL and non-ELL scores by the 2003 percentages of ELL participants, it would only reduce the increase by one point (new weighted score of 229 instead of the actual average of 230). In grade eight, the changes follow a similar pattern. The percent of Hispanic students who are ELL dropped eight points (from 25 to 17 percent) and reweighting the 2013 scores to the 2003 percentages would mean a change the overall Hispanic score by less than three points.

Grade 8 Hispanic Student Average and Percentages by ELL Status

Year	Jurisdiction	ELL Average score	ELL %	Non ELL Average Score	Non ELL %	Total Hispanic Average Score
2013	National public	242	17	277	83	271
	Large city	241	19	276	81	269
2003	National public	237	25	265	75	258
	Large city	233	27	264	73	256

Although not a significant issue for overall estimates, the change in the percent of Hispanic students who are ELL may disproportionately affect some jurisdictions and the changing ELL demographics may be a part of the why behind the score increases. The appendix includes data tables

with adjusted scores accounting for changes in the percent of ELL students. In most cases, the changes are minimal, but in a small number of cases, they are not. Utah, for example, went from 64 percent ELL in 2003 to 29 percent in 2013, a change that may have fully accounted for the increases. Los Angeles went from 69 to 37 percent.

About Child Trends

Child Trends is a nonprofit, nonpartisan research center that studies children at all stages of development. Its mission is to improve the lives and prospects of children and youth by conducting high-quality research and sharing the resulting knowledge with practitioners and policymakers. Child Trends has more than 120 employees and annual revenue of about \$14 million. Read more at childtrends.org.

The Child Trends Hispanic Institute provides timely and insightful research-based information and guidance to policymakers, practitioners, the media, corporate leaders, and private philanthropy who work to improve outcomes for Latino children and youth in the U.S. Read more at <http://www.childtrends.org/hispanic-institute>.

About NAEP

Adapted from the NAEP website: <http://nationsreportcard.gov/about.aspx>

National Assessment of Educational Progress (NAEP), also known as The Nation's Report Card™, is a continuing and nationally representative measure of achievement in various subjects over time. Since 1969, NAEP assessments have been conducted periodically in reading, mathematics, science, writing, U.S. history, civics, geography, and other subjects. NAEP collects and reports information on student performance at the national, state, and local levels, making the assessment an integral part of our nation's evaluation of the condition and progress of education. Only academic achievement data and related background information are collected. The privacy of individual students and their families is protected. NAEP is a congressionally authorized project of the National Center for Education Statistics (NCES) within the Institute of Education Sciences of the U.S. Department of Education. The Commissioner of Education Statistics is responsible for carrying out the NAEP project. The National Assessment Governing Board oversees and sets policy for NAEP.

NAEP state assessments began in 1990. In 2001, with the reauthorization of the Elementary and Secondary Education Act, states that receive Title I funding were required to participate in state NAEP in reading and mathematics at grades four and eight every two years.

The Trial Urban District Assessments (TUDA) were begun in 2003 by NCES and the National Assessment Governing Board, with Michael Casserly of the Council of Great City Schools providing much support and leadership in the recruitment of districts. Districts must volunteer to participate in NAEP TUDA, which is why all of these districts should be lauded for their participation. If you do not see your district among those listed, contact your superintendent and add your voice to a request for participation.

Additional Acknowledgements

We would like to thank the National Center for Education Statistics (NCES) for their careful review and thoughtful comments. We are also grateful to the Child Trends experts and researchers who so graciously and thoroughly reviewed multiple versions of this report, including Laura Lippman, David Murphey, and Mae Cooper, and to our incredible communications team including August Aldebot-Green and Heather Ryan and led by Frank Walter.

Data Tables

NAEP States Grades 4 and 8: Child Trends' "Notables" and "Honorable Mentions"

		Grade 4				Grade 8		
	Our Top Pick?	Score Change [†] 2003-2013	Score Change [†] 2009-2013	Top in 2013?	NSLP%	Score Change [†] 2003-2013	Score Change [†] 2009-2013	Top in 2013?
Alabama	-	‡	Not Sig (+8)	No	90	‡	Not Sig (-3)	No
Alaska	-	Not Sig (+7)	Not Sig (+3)	No	57	+ 14 **	Not Sig (+1)	No
Arizona	✓✓✓	+ 15 **	+ 12 **	No	76	+ 11 **	+ 4 **	No
Arkansas	-	+ 13 **	Not Sig (+1)	No	88	+ 25 **	Not Sig (+4)	No
California	-	+ 8 **	+ 4 **	No	81	+ 13 **	+ 7 **	No
Colorado	✓	+ 16 **	+ 4 **	No	73	+ 13 **	+ 6 **	No
Connecticut	-	Not Sig (+1)	Not Sig (-3)	No	81	Not Sig (-1)	Not Sig (-6)	No
District of Columbia	-	+ 22 **	Not Sig (0)	No	74	19 **	Not Sig (0)	No
Delaware	-	+ 9 **	Not Sig (+3)	No	85	19 **	Not Sig (-2)	No
Florida	-	+ 7 **	Not Sig (0)	Yes	72	+ 11 **	Not Sig (0)	No
Georgia	-	+ 16 **	Not Sig (+4)	No	87	13 **	Not Sig (+6)	No
Hawaii	✓✓✓	+ 22 **	+ 11 **	Yes	58	+ 16 **	Not Sig (+3)	No
Idaho	-	+ 8 **	Not Sig (+1)	No	83	17 **	Not Sig (+3)	No
Illinois	-	+ 12 **	Not Sig (+2)	No	77	13 **	Not Sig (+4)	No
Indiana	✓✓✓	+ 16 **	+ 11 **	Yes	82	+ 18 **	Not Sig (+6)	No
Iowa	-	+ 11 **	+ 10 **	No	74	Not Sig (+10)	Not Sig (-1)	No
Kansas	-	+ 5 **	Not Sig (+2)	No	87	12 **	Not Sig (+2)	No
Kentucky	-	‡	Not Sig (+7)	No	84	‡	Not Sig (-3)	No
Louisiana	-	‡	Not Sig (+1)	No	75	‡	‡	No
Maine	-	‡	‡	No	‡	‡	‡	No
Maryland	-	+ 7 **	Not Sig (-3)	No	71	+ 18 **	Not Sig (+5)	Yes
Massachusetts	-	+12**	Not Sig (-3)	No	84	+ 22 **	Not Sig (+6)	No

NSLP %=Percentage of Hispanic students participating who are eligible for the National School Lunch Program (i.e., free or reduced price lunch program).

‡ NAEP reporting standards not met (e.g., not enough students for a large enough sample).

** Statistically significant

Note: Larger differences may not be significant due to higher variability in the data.

		Grade 4				Grade 8		
	Our Top Pick?	Score Change [†] 2003-2013	Score Change [†] 2009-2013	Top in 2013?	NSLP%	Score Change [†] 2003-2013	Score Change [†] 2009-2013	Top in 2013?
Michigan	-	Not Sig (+2)	Not Sig (-1)	No	83	Not Sig (-6)	Not Sig (-8)	No
Minnesota	-	+ 13 **	Not Sig (+2)	No	78	Not Sig (+11)	Not Sig (+4)	No
Mississippi	-	‡	‡	No	90	‡	‡	No
Missouri		+ 14 **	Not Sig (-4)	No	76	‡	Not Sig (-8)	No
Montana	-	Not Sig (+1)	Not Sig (-4)	No	56	‡	Not Sig (+3)	No
Nebraska	-	+14**	Not Sig (+4)	No	83	+ 12 **	Not Sig (+5)	No
Nevada	✓	+ 14 **	+ 3 **	No	83	+ 18 **	+ 6 **	No
New Hampshire	-	+ 11 **	Not Sig (+2)	No	65	‡	Not Sig (0)	No
New Jersey	✓✓✓	+ 10 **	Not Sig (+3)	No	78	+ 21 **	+ 11 **	Yes
New Mexico	✓	+ 13 **	+ 5 **	No	83	+ 13 **	+ 6 **	No
New York	-	+ 8 **	Not Sig (-2)	No	83	Not Sig (+3)	Not Sig (+3)	No
North Carolina	-	Not Sig (+4)	Not Sig (+3)	Yes	87	16 **	Not Sig (+5)	No
North Dakota	-	‡	‡	No	56	‡	‡	No
Ohio	-	+ 12 **	Not Sig (+4)	No	74	Not Sig (+7)	Not Sig (+10)	No
Oklahoma	-	+ 10 **	Not Sig (0)	No	86	Not Sig (+7)	Not Sig (+2)	No
Oregon	-	+ 6 **	Not Sig (+3)	No	89	8 **	Not Sig (+2)	No
Pennsylvania	-	+ 13 **	Not Sig (+2)	No	84	11 **	Not Sig (-2)	No
Rhode Island	-	+ 18 **	+7 **	No	88	+ 18 **	+ 8 **	No
South Carolina	-	Not Sig (-4)	Not Sig (-3)	No	86	‡	Not Sig (+3)	No
South Dakota	-	Not Sig (+3)	Not Sig (-7)	No	72	‡	Not Sig (+6)	No
Tennessee	-	Not Sig (+11)	Not Sig (+4)	No	84	‡	Not Sig (0)	No
Texas	✓	+ 5 **	Not Sig (+1)	No	82	+ 15 **	+ 4 **	Yes

NSLP %=Percentage of Hispanic students participating who are eligible for the National School Lunch Program (i.e., free or reduced price lunch program).

‡ NAEP reporting standards not met (e.g., not enough students for a large enough sample).

** Statistically significant

Note: Larger differences may not be significant due to higher variability in the data.

Utah	-	+ 5 **	Not Sig (+3)	No	76	9 **	Not Sig (-1)	No
Vermont	-	‡	‡	No	‡	‡	‡	No
Virginia	-	+ 6 **	Not Sig (+3)	No	63	11 **	Not Sig (+5)	No
Washington	-	+6	Not Sig (+3)	No	81	+10**	+10**	No
West Virginia	-	‡	‡	No	‡	‡	‡	No
Wisconsin	-	Not Sig (+6)	Not Sig (0)	No	77	11 **	Not Sig (+4)	No
Wyoming	-	+ 6 **	Not Sig (+4)	No	67	+ 12 **	+ 9 **	No
DoDEA	✓✓✓	+ 6 **	+ 6 **	Yes	N/A	+ 5 **	Not Sig (+3)	Yes

NSLP % = Percentage of Hispanic students participating who are eligible for the National School Lunch Program (i.e., free or reduced price lunch program).

‡ NAEP reporting standards not met (e.g., not enough students for a large enough sample).

** Statistically significant

Note: Larger differences may not be significant due to higher variability in the data.

Grade 4 NAEP Mathematics Scores for Hispanic Students, by State, 2003-2013

	2003 % Hispanic	2003	2005	2007	2009	2011	2013	2013 % Hispanic
Alabama	1	‡	‡	218	220	227	228	7
Alaska	5	228	227	232	232	239	235	7
Arizona	38	217	218	220	220	227	232	45
Arkansas	4	221	229	230	233	233	234	11
California	49	216	219	218	219	222	224	54
Colorado	25	217	223	224	228	230	233	31
Connecticut	15	223	223	223	227	222	224	20
Delaware	7	226	229	234	231	231	234	15
District of Columbia	8	205	215	220	227	223	228	14
Florida	21	232	233	238	238	236	238	31
Georgia	7	219	229	229	231	233	235	16
Hawaii	3	219	219	224	230	237	241	6
Idaho	13	217	226	224	225	223	225	16
Illinois	18	218	219	223	227	226	229	27
Indiana	4	226	230	233	230	234	242	10
Iowa	5	222	222	230	223	229	234	8
Kansas	8	230	234	234	233	235	235	17
Kentucky	1	‡	‡	221	227	236	234	5
Louisiana	1	‡	‡	234	230	230	232	4
Maine	1	‡	‡	‡	‡	‡	‡	2
Maryland	6	227	232	233	238	245	234	14
Massachusetts	12	222	225	231	232	236	234	18
Michigan	4	223	224	230	227	228	226	9

	2003 % Hispanic	2003	2005	2007	2009	2011	2013	2013 % Hispanic
Minnesota	4	220	223	229	232	230	234	8
Mississippi	1	‡	‡	‡	‡	229	230	3
Missouri	3	220	221	234	237	231	233	5
Montana	2	236	234	241	241	237	237	4
Nebraska	9	213	219	220	224	226	227	17
Nevada	30	216	219	221	227	229	230	41
New Hampshire	3	225	226	232	234	235	236	4
New Jersey	16	224	230	234	232	234	234	21
New Mexico	53	217	218	222	224	228	229	63
New York	20	221	226	230	231	226	229	23
North Carolina	6	235	234	235	236	238	239	16
North Dakota	1	‡	‡	‡	‡	233	237	2
Ohio	2	225	231	231	233	233	237	4
Oklahoma	7	220	226	227	229	227	229	14
Oregon	14	218	218	217	221	220	224	21
Pennsylvania	5	216	220	229	227	226	229	8
Rhode Island	16	207	211	220	219	224	226	23
South Carolina	3	232	236	227	232	234	229	7
South Dakota	2	223	‡	228	233	226	226	4
Tennessee	2	218	229	222	225	228	229	8
Texas	44	230	235	236	233	235	235	51
Utah	11	216	220	220	219	223	221	17
Vermont	1	‡	‡	‡	‡	‡	‡	1
Virginia	7	230	230	235	234	237	236	12
Washington	12	223	224	225	227	226	229	21
West Virginia	1	‡	‡	‡	‡	‡	‡	1
Wisconsin	8	221	224	229	228	228	228	12
Wyoming	8	229	234	229	231	235	235	13
DoDEA	14	234	235	233	235	236	240	19

‡ NAEP reporting standards not met (e.g., not enough students for a large enough sample).

Grade 8 NAEP Mathematics Scores for Hispanic Students, by State, 2003-2013

	2003 % Hispanic	2003	2005	2007	2009	2011	2013	2013 % Hispanic
Alabama	1	‡	‡	249	260	255	257	4
Alaska	3	263	272	274	275	277	277	7
Arizona	37	258	260	262	265	266	269	43
Arkansas	3	248	266	256	269	272	274	10
California	39	250	254	256	256	260	263	53
Colorado	21	259	260	264	267	271	273	30
Connecticut	12	259	254	254	263	262	258	19
Delaware	6	257	268	267	278	274	276	13
District of Columbia	9	246	252	251	265	261	265	13
Florida	19	264	265	270	274	274	274	29
Georgia	4	262	258	266	270	277	276	11
Hawaii	3	263	257	264	276	263	280	6
Idaho	11	251	261	264	264	267	268	15
Illinois	15	259	265	265	269	272	272	24
Indiana	3	261	261	267	273	275	278	9
Iowa	4	255	264	261	266	269	265	8
Kansas	9	263	266	269	274	274	276	16
Kentucky	1	‡	‡	‡	272	269	269	4
Louisiana	2	‡	‡	‡	‡	269	277	4
Maine	1	‡	‡	‡	‡	‡	‡	2
Maryland	6	262	262	272	275	273	280	11
Massachusetts	10	255	265	270	271	273	277	16
Michigan	3	267	265	259	269	274	261	6
Minnesota	3	262	263	269	269	270	273	7
Mississippi	1	‡	‡	‡	‡	273	279	3
Missouri	2	‡	‡	270	284	267	276	4
Montana	2	‡	‡	‡	278	285	282	4
Nebraska	7	255	261	261	262	261	267	17
Nevada	25	250	256	257	262	266	268	40
New Hampshire	2	‡	‡	264	270	266	270	4
New Jersey	14	262	264	271	272	274	283	19
New Mexico	51	254	255	260	262	269	268	60
New York	17	262	262	264	262	263	265	23
North Carolina	5	263	265	273	274	275	279	13
North Dakota	1	‡	‡	‡	‡	‡	‡	2
Ohio	2	270	259	276	267	273	277	3
Oklahoma	6	258	257	259	263	264	265	13
Oregon	10	258	257	261	264	268	266	22
Pennsylvania	3	253	267	264	266	269	264	8
Rhode Island	13	245	244	251	255	261	263	20
South Carolina	2	‡	269	272	269	273	272	5

‡ NAEP reporting standards not met (e.g., not enough students for a large enough sample).

Grade 8 NAEP Mathematics Scores for Hispanic Students, by State, 2003-2013

	2003 % Hispanic	2003	2005	2007	2009	2011	2013	2013 % Hispanic
South Dakota	1	‡	‡	269	268	274	274	3
Tennessee	2	‡	‡	264	270	266	270	6
Texas	38	267	271	277	277	283	281	49
Utah	9	249	255	256	259	257	258	16
Vermont	‡	‡	‡	‡	‡	‡	‡	2
Virginia	5	268	270	275	274	279	279	11
Washington	9	263	262	263	264	269	273	22
West Virginia	‡	‡	‡	‡	‡	‡	‡	1
Wisconsin	4	262	265	268	268	270	273	10
Wyoming	7	265	265	274	269	271	278	12
DoDEA	14	278	280	282	281	282	283	20

‡ NAEP reporting standards not met (e.g., not enough students for a large enough sample).

Grade 4 Hispanic Student Scores Weighted ELL Status by State, 2013

	2013 % ELL	2003 % ELL	2013 Score Weighted to 2003 ELL %	Actual Hispanic 2013 Score	Difference
Alabama	28	‡	‡	228	N/A
Alaska	23	48	‡	235	N/A
Arizona	14	37	225	232	7
Arkansas	66	52	236	234	-2
California	40	55	220	224	3
Colorado	39	29	235	233	-2
Connecticut	20	15	225	224	-1
Delaware	15	18	234	234	1
District of Columbia	37	51	224	228	4
Florida	24	31	237	238	2
Georgia	25	32	234	235	2
Hawaii	7	10	‡	241	N/A
Idaho	22	40	220	225	5
Illinois	27	32	228	229	1
Indiana	53	43	243	242	-1
Iowa	40	41	233	234	0
Kansas	60	25	241	235	-5
Kentucky	34	‡	‡	234	N/A
Louisiana	44	‡	‡	232	N/A
Maine	‡	‡	‡	‡	N/A
Maryland	42	20	242	234	-8
Massachusetts	33	18	238	234	-3
Michigan	40	36	227	226	-1
Minnesota	41	44	233	234	1
Mississippi	37	‡	‡	230	N/A
Missouri	28	21	‡	233	N/A
Montana	5	4	‡	237	N/A
Nebraska	33	35	227	227	0
Nevada	50	45	231	230	-1
New Hampshire	20	34	‡	236	N/A
New Jersey	11	13	234	234	0
New Mexico	23	37	226	229	3
New York	24	18	230	229	-2
North Carolina	33	51	235	239	3
North Dakota	5	‡	‡	237	N/A
Ohio	38	22	238	237	-1
Oklahoma	39	50	228	229	1
Oregon	50	58	222	224	2
Pennsylvania	16	22	228	229	1
Rhode Island	23	28	224	226	1

‡ NAEP reporting standards not met (e.g., not enough students for a large enough sample).

Grade 4 Hispanic Student Scores Weighted ELL Status by State, 2013

	2013 % ELL	2003 % ELL	2013 Score Weighted to 2003 ELL %	Actual Hispanic 2013 Score	Difference
Tennessee	41	23	233	229	-4
Texas	42	32	236	235	-1
Utah	29	64	211	221	10
Vermont	‡	‡	‡	‡	N/A
Virginia	36	47	234	236	2
Washington	33	28	231	229	-1
West Virginia	‡	‡	‡	‡	N/A
Wisconsin	50	48	228	228	0
Wyoming	15	13	235	235	0
DoDEA	11	12	‡	240	N/A

‡ NAEP reporting standards not met (e.g., not enough students for a large enough sample).

NAEP Trial Urban District (TUDA) Grades 4 and 8: Child Trends' "Notables" and "Honorable Mentions"

			Grade 4			Grade 8		
	Our Top Pick?	NSLP%	Score Change [†] 2003-2013	Score Change [†] 2009-2013	Top in 2013?	Score Change [†] 2003-2013	Score Change [†] 2009-2013	Top in 2013?
Albuquerque		83	N/A	N/A	No	N/A	N/A	No
Atlanta		89	N/A	+ 11 **	No	N/A	‡	No
Austin	✓	82	N/A	+ 4 **	Yes	N/A	Not Sig (-1)	Yes
Baltimore City		94	N/A	‡	No	N/A	‡	No
Boston	✓✓✓	93	+ 19 **	Not Sig (+2)	Yes	+ 23 **	+ 6 **	Yes
Charlotte	✓✓✓	85	+ 9 **	+ 7 **	Yes	+ 17 **	Not Sig (+8)	Yes
Chicago	✓	93	+ 13 **	+ 4 **	No	+ 12 **	Not Sig (+2)	No
Cleveland		100	Not Sig (+1)	Not Sig (+4)	No	Not Sig (+2)	Not Sig (+1)	No
Dallas		97	N/A	N/A	Yes	N/A	N/A	Yes
District of Columbia	✓	84	+ 21 **	Not Sig (-1)	No	+ 16 **	Not Sig (-1)	No
Detroit		94	N/A	Not Sig (+8)	No	N/A	Not Sig (-12)	No
Fresno		96	N/A	Not Sig (+1)	No	N/A	Not Sig (+3)	No
Hillsborough Co.		75	N/A	N/A	Yes	N/A	N/A	Yes
Houston	✓✓✓	91	+ 9 **	Not Sig (0)	Yes	+ 18 **	+ 4 **	Yes
Jefferson Co.		86	N/A	Not Sig (-2)	No	N/A	‡	No
Los Angeles	✓	93	+ 12 **	+ 5 **	No	+ 18 **	+ 4 **	No
Miami-Dade		75	N/A	Not Sig (0)	Yes	N/A	Not Sig (+1)	Yes
Milwaukee		86	N/A	Not Sig (+1)	No	N/A	+ 10 **	No
New York City		90	+ 8 **	Not Sig (-3)	No	Not Sig (+3)	Not Sig (+3)	No
Philadelphia		98	N/A	Not Sig (-3)	No	N/A	Not Sig (+3)	No
San Diego		87	+ 12 **	Not Sig (+4)	No	+ 11 **	Not Sig (-6)	No

N/A =Not Applicable, the district was not yet participating in the NAEP assessments

NSLP %=Percentage of Hispanic students participating in the NAEP Mathematics Grade 4 TUDA assessments in that district who are eligible for the National School Lunch Program (i.e., free or reduced price lunch program).

‡ NAEP reporting standards not met (e.g., not enough students for a large enough sample).

** Statistically significant

Note: Larger differences may not be significant due to higher variability in the data.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), Trial Urban District Assessments, 2003-2013 Mathematics Assessments.

NAEP Trial Urban District (TUDA) Mathematics, Grades 4 and 8 Average Scale Scores for Hispanic Students, 2003-2013

			Grade 4					Grade 8					
	Our Top Pick?	2003	2005	2007	2009	2011	2013	2003	2005	2007	2009	2011	2013
Albuquerque						229	229					269	267
Atlanta		‡	‡	223	222	230	233	‡	‡	‡	‡	264	262
Austin	✓		234	233	233	237	237		267	271	274	276	273
Baltimore City					‡	‡	227				‡	‡	‡
Boston	✓✓✓	215	225	230	232	234	233	252	261	270	269	271	275
Charlotte	✓✓✓	233	234	234	235	240	242	262	262	264	272	272	279
Chicago	✓	217	217	219	226	223	230	259	263	265	268	271	270
Cleveland		220	224	215	217	218	221	249	251	258	250	258	252
Dallas						234	235					276	277
Detroit					206	215	214				255	258	243
District of Columbia	✓	205	215	220	227	223	226	246	252	251	263	253	262
Fresno					216	214	217				253	251	256
Hillsborough Co.						239	238					274	278
Houston	✓✓✓	226	232	234	235	236	235	261	265	270	275	278	279
Jefferson Co.					226	238	224				‡	270	265
Los Angeles	✓	211	216	217	218	220	224	240	245	253	254	255	258
Miami-Dade					239	237	238				274	274	275
Milwaukee					226	221	227				256	259	266
New York City		220	226	230	230	227	228	260	259	262	261	261	263
Philadelphia					221	223	217				258	256	261
San Diego		216	222	223	224	229	228	248	258	259	265	263	260

‡ NAEP reporting standards not met (e.g., not enough students for a large enough sample).

NSLP % = Percentage of Hispanic students participating in the NAEP Mathematics Grade 4 TUDA assessments in that district who are eligible for the National School Lunch Program (i.e., free or reduced price lunch program).

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), Trial Urban District Assessments, 2003-2013 Mathematics Assessments.

Grade 4 Hispanic Student Scores Weighted ELL Status by State, 2013

	2013 % ELL	2003 % ELL	2013 Score Weighted to 2003 ELL %	Actual Hispanic 2013 Score	Difference
Albuquerque	26	—	N/A	229	N/A
Atlanta	35	‡	‡	233	N/A
Austin	53	—	N/A	237	N/A
Baltimore City	62	—	N/A	227	N/A
Boston	58	34	237	233	-3
Charlotte	28	43	238	242	4
Chicago	27	39	226	230	4
Cleveland	42	28	224	221	-3
Dallas	72	—	N/A	235	N/A
Detroit	85	—	N/A	214	N/A
District of Columbia (DCPS)	40	51	223	226	3
Fresno	33	—	N/A	217	N/A
Hillsborough County (FL)	24	—	N/A	238	N/A
Houston	56	59	234	235	0
Jefferson County (KY)	39	—	N/A	224	N/A
Los Angeles	37	69	214	224	9
Miami-Dade	31	—	N/A	238	N/A
Milwaukee	36	—	N/A	227	N/A
New York City	26	16	231	228	-3
Philadelphia	16	—	N/A	217	N/A
San Diego	55	62	227	228	2

‡ NAEP reporting standards not met (e.g., not enough students for a large enough sample).

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