# Report on 2015 <br> Trial Urban District Assessment (TUDA) <br> National Assessment of Educational <br> Progress (NAEP) 

Grades 4 and 8 Reading and Mathematics

Office of Data and Accountability
October 2015

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The Trial Urban District Assessment (TUDA) was started in 2002 as part of the National Assessment of Educational Progress (NAEP). In 2015, Boston Public Schools was one of twenty-one urban districts that voluntarily participated in the NAEP assessment. Boston participated in the grades 4 and 8 reading and mathematics assessments in 2003, 2005, 2007, 2009, 2011, 2013 and 2015; in the Science assessments in 2005, 2009 and 2011 (Grade 8 only); and in Writing in 2007. 2015 marked the $12^{\text {th }}$ year that Boston voluntarily participated in the TUDA program.

This report examines the 2015 Reading and Mathematics results of the TUDA districts and compares their performance to each other, to public schools across the nation, and to public schools across Large Cities (LC).

## Reading

## Boston's Scale Score Change Between 2003 and 2015:

- Over this twelve-year period, Boston's $4^{\text {th }}$ graders made a significant 13-point scale score gain, exceeding the Large City average (9-points), as well as the Nation average (5-points). Boston also made a significant 5 point gain in average scale scores since 2013, at a time when most other TUDA districts did not see significant gains.
- Boston's $8^{\text {th }}$ graders also experienced a 5-point gain during this 12 year period.


## Boston's Performance over Time:

- Boston's average scores in both grades 4 and 8 have continued to increase or hold steady (no statistical difference between performances from one year to the next) each year since the district first participated in NAEP/TUDA in 2003.
- Boston's $4^{\text {th }}$ grade reading average score in 2015 was comparable to that of the National average and exceeded Large Cities by a margin that was statistically significant. Boston's 2015 average was also significantly higher than every administration of the assessment since 2003, except for the 2011 administration.
- In grade 8 , Boston's average score in 2015 was about the same as Large Cities, but it was significantly lower than the Nation's average. Although Boston's 2015 score was significantly better than the first three previous administrations (2003, 2005, and 2007), students across the nation and in Large Cities significantly increased their scores at each of the previous administrations through the 2009 administration (after which time these average scores have not sustained significant gains).


## Boston's Performance Compared to other TUDA Districts, Large Cities, and the Nation:

- In grade 4 , Boston's average score was on par with the National average for the first time. The district's performance also exceeded the performance of Large Cities across the country (with a population over 250,000 ) by 5 scaled score points. The average
score for Boston's $8^{\text {th }}$ graders was the same as that of Large Cities and was significantly lower than the national average by 6 points.
- Compared to other TUDA districts, Boston's average scores in both grades 4 and 8 were higher than or equal to those of 16 other districts. Only Charlotte district scored higher than Boston in both test grades.


## Performance by Racial/Ethnic Group:

- In $4^{\text {th }}$ grade, White students saw a 16-point gain; Hispanic students experienced a 13point gain; and African American students demonstrated a 12-point gain since 2003. The gains made by Boston's 8th grade students between 2003 and 2015 are not statistically significant for any ethnic group.
- In Boston, the gaps in performance between Asian/White students and Black/Hispanic students persist in both 4th and 8th grade.
- However, Boston's African-American students performed significantly better than their peers across the nation and in Large Cities in $4^{\text {th }}$ grade.
- Boston's Hispanic students in $4^{\text {th }}$ grade had a significantly higher average than that of Large Cities, as well as the National average. Compared to other TUDA districts, Boston's Hispanic $4^{\text {th }}$ graders performed as well as or significantly better than all other districts, with three exceptions (Hillsborough, Duval County, and Miami-Dade).


## Students with Disabilities:

- In grade 4, students with disabilities (SD) in Boston outperformed their peers across the nation and in Large Cities; in grade 8, they performed on par with their peers in Large Cities as well as the national average. Compared to other TUDA districts, only three had higher average scores that Boston in both grades (Hillsborough County, Duval County, and Miami-Dade).


## English Language Learners:

- Boston's English Language Learners (ELLs) in $4^{\text {th }}$ grade scored higher than the national average and higher than their peers in Large Cities; none of the TUDA districts scored significantly higher than Boston.
- ELL students in $8^{\text {th }}$ grade performed on par with their peers across the Nation and in Large Cities. Only Detroit's English Learners performed significantly higher than Boston in grade 8 reading.


## Performance by Achievement Level:

- In 2015, $65 \%$ of Boston's $4^{\text {th }}$ grade students scored at the basic level or above on the reading assessment. Only four TUDA districts had a higher percentage. Boston's performance was comparable to the National average (68\%) and significantly higher than the Large Cities average (59\%).
- In grade 8, the percentage of students in Boston who performed at or above Basic was $67 \%$, statistically surpassing or equaling the rates of 17 TUDA districts and Large

Cities (67\%). However, Boston's rate was lower than that of three districts and the Nation (75\%).

- In both grades, Boston made significant improvements in the percentage of students performing at or above Proficient since 2003, with a 13-point increase in grade 4 and 6 -point gain in grade 8 , compared to a 8 -point gain for Large Cities in grade 4 and a 6 point gain in grade 8 .


## Performance by Percentile Rank:

- Boston's $4^{\text {th }}$ graders saw a significant and steady improvement since 2003 and 2005 across all quintiles. For $8^{\text {th }}$ graders, there have also been significant gains for students at the $25^{\text {th }}$ and $75^{\text {th }}$ quintiles since 2003 and 2005, and at the $50^{\text {th }}$ quintile since 2003.


## Performance of General Education Students (Neither SD Nor ELL):

- The proportion of Boston's students who were neither SD nor ELL (i.e. general education students) in the grade 8 reading test was $65 \%$. The only district with a lower proportion of general education students is Dallas. Nevertheless, Boston has a significantly smaller population of general education students than the national sample at $83 \%$ and, the Large City rate at $78 \%$.
- Analyzing the NAEP reading scores of these general education students revealed that at the $8^{\text {th }}$ grade, Boston had one of the highest scores, demonstrating a statistical tie with Austin and San Diego. This average is significantly higher than that of Large Cities, and statistically equal to the national average.


## Mathematics

## Boston's Scale Score Change Between 2003 and 2015:

- Between 2003 and 2015, Boston's $4^{\text {th }}$ graders experienced the third largest gain of any jurisdiction with a 16-point increase in average score; the Large City gain was $10-$ points, and the national average was up 6 points.
- The gain made by Boston's $\mathbf{8}^{\text {th }}$ graders since 2003 is even more impressive, totaling 19 points, surpassing the 12 -point gain experienced by Large Cities, and the 5 -point gain nationally. This has resulted in fully closing the gap with the Nation ( 281 points).


## Boston's Performance over Time:

- Boston's average scores in both grades 4 and 8 have continued to increase or remain statistically constant each year since the district first participated in NAEP/TUDA in 2003.
- In 2003, Boston's $4^{\text {th }}$ grade performance compared to Large Cities was significantly lower: that trend was reversed in 2005 and Boston continues to outperform Large Cities. Over the past 10 years, the performance gap with Nation is also substantially smaller (4 points), though it was statically significant.
- Boston's $8^{\text {th }}$ grade students also experienced significant gains since 2003. In 2015, Boston's $8^{\text {th }}$ graders had an average score significantly higher than the Large City average by 9 points, and achieved the same average scale score as the national average ( 281 points).


## Boston's Performance Compared to other TUDA Districts, Large Cities, and the Nation:

- Of the 21 participating TUDA districts, Boston was one of only four to score significantly higher than Large Cities in grade 8.
- Compared to other TUDA districts, Boston's average score in grade 4 was higher than or equal to those of 15 other districts. In grade 8, only one district (Charlotte) scored significantly higher than Boston.


## Performance by Racial/Ethnic Group:

- From 2003 to 2015, students in all racial groups made statistically significant gains in their average scores on the $4^{\text {th }}$ grade test. Black students saw a 12-point gain while Asian, Hispanic, and White students experienced 16, 15, and 19-point gains respectively.
- The gains made by Boston's $8^{\text {th }}$ grade students between 2003 and 2013 were also statistically significant across all ethnic groups: Asian students showed an 18 point gain, there was a 22 point gain for White students, a 19 point gain for Hispanic students, and a 18 point gain for Black students.
- Despite consistent performance gains for students of all ethnic backgrounds, the gaps in performance between Boston's Asian/White students and Black/Hispanic students persist in both $4^{\text {th }}$ and $8^{\text {th }}$ grade.
- However, in both grades 4 and 8, Boston's Black students significantly outperformed their peers across the Nation and in Large Cities. Importantly, Boston's Black students had the highest scale scores of all TUDA districts in $8^{\text {th }}$ grade.
- Boston's Hispanic students in $4^{\text {th }}$ and $\mathbf{8}^{\text {th }}$ grade also performed on par with Hispanic students across the Nation and in Large Cities. Compared to other TUDA districts, Boston's Hispanic $8^{\text {th }}$ graders performed as well as or significantly better than all other districts.


## Students with Disabilities:

- In $4^{\text {th }}$ grade, Boston's students with disabilities had an average score statistically comparable to the national average and that of Large Cities. While Boston's average score in grade 8 was not significantly different from the national average, it was significantly higher than that of Large Cities. In $8^{\text {th }}$ grade, students with disabilities in Boston also performed better than a majority of TUDA districts; none of the districts with higher averages were statistically significant.


## English Language Learners:

- Boston's English Language Learners (ELLs) in 4th grade scored significantly higher than their peers across the Nation and in Large Cities. None of the 18 TUDA districts with a sufficiently large ELL student sample had significantly higher averages than Boston's in grade 8, and only one district (Dallas) scored significantly better than Boston in grade 4.


## Performance by Achievement Level:

- In 2015, $78 \%$ of Boston's $4^{\text {th }}$ grade students scored at the basic level or above on the math assessment. Five TUDA districts had a higher percentage; Charlotte, Duval County, Hillsborough County, Miami-Dade, and Austin. Boston's performance was not statistically significantly different than Large Cities (75\%) or the Nation (81\%).
- In grade 8 , the percentage of students in Boston who performed at or above Basic was $67 \%$, significantly higher than Large Cities ( $61 \%$ ) but 3 points lower than the Nation (70\%).
- The percentage of Boston students scoring at or above Proficient in 2015 in grade 8 was significantly higher than that of Large Cities.
- In both grades Boston made significant improvements in the percentage of students performing at or above Proficient compared to the first two administrations (2003 and 2005). Boston also saw a significant improvement in grade 8 from 2007 to 2015, with a 7-point increase. Since 2003, the percentage of $4^{\text {th }}$ graders who are proficient/advanced increased by 21 points, compared to 12 points for large cities; and the percentage proficient/advanced in $8^{\text {th }}$ grade increased 17 points, compared to 10 points for Large Cities.


## Performance by Percentile Rank:

- Boston's $4^{\text {th }}$ and $8^{\text {th }}$ graders have experienced significant gains since 2003 across all quintiles and experienced significant gains with students in all quintiles, but the lowest $\left(10^{\text {th }}\right)$, between 2005 and 2015.


## Performance of General Education Students (Neither SD nor ELL):

- The percentage of Boston students who took the $8^{\text {th }}$ grade math test who were neither SD nor ELL was just $65 \%$. This proportion of general education students is the $2^{\text {nd }}$ smallest of any TUDA district, higher than Dallas (61\%), and smaller than the Nation ( $82 \%$ ) and Large Cities (78\%).
- In addition to the high performance of Boston's students with disabilities and English Language Learners relative to other jurisdictions, the performance of Boston's general education students in grade 8 math was also impressive: their average score not only ranked the highest, but was significantly better than that of Large City, the Nation, and all other districts (Austin had statistically equivalent scores to Boston's).

Developed in 1969, the National Assessment of Educational Progress (NAEP), also referred to as the Nation's Report Card, is the largest nationally representative assessment of what America's students know and can do. It provides a common yardstick for measuring the progress of students' education across the country. While each state has its own unique assessment, NAEP asks the same questions in every state, making state comparisons possible.

In 2001, following discussions between the National Center for Education Statistics (NCES), the National Assessment Governing Board (NAGB), and the Council of the Great City Schools (CGCS), Congress appropriated funds for district-level assessments on a trial basis, similar to the trial for state assessments that began in 1990. As a result, the NAGB passed a resolution approving the selection of urban districts for participation in the Trial Urban District Assessment (TUDA), a special project within NAEP that would make assessment results available at the district level. Representatives of the Council of Great City Schools worked with the staff of NAGB to identify districts to be invited for the trial assessment. Districts were selected based on a number of characteristics, including size, minority concentrations, federal program participation, socioeconomic conditions, and percentages of students with disabilities (SD) and English Language Learners (ELL).

In 2002, five urban school districts participated in NAEP's first Trial Urban District Assessment (TUDA) in reading and writing. In 2003, ten urban districts (including the original five) participated in the TUDA program in reading and mathematics in grades 4 and 8: Atlanta, Boston, Charlotte-Mecklenburg, Chicago, Cleveland, Houston, Los Angeles, New York City, San Diego, and Washington, D.C. (District of Columbia Public Schools-DCPS). In 2005, Austin was added to the group of school systems that participated in the reading, math and science testing. These eleven large urban school districts continued participating in TUDA in 2007. In 2009, seven more districts (Baltimore City, Detroit, Fresno Unified, Jefferson County (KY), Miami-Dade County, Milwaukee, and Philadelphia) joined the TUDA project. In 2011, twenty-one districts, with three new additions (Albuquerque, Dallas and Hillsborough County-FL), were invited by the NAGB to participate in mathematics and reading TUDA assessments at grades 4 and 8 and Science at grade 8 . For 2013, these twenty-one TUDA districts continued participating in the mathematics and reading testing at grades 4 and 8. In 2015, Milwaukee was replaced by Duval County (Jacksonville, FL), hence, the NAEP 2015 TUDA was conducted in reading and mathematics at grades 4 and 8 for these twenty-one participating districts. 2015 marks the $12^{\text {th }}$ year that Boston voluntarily participated in the TUDA program.

It should be noted that since 2009, in addition to public-school students, the sampled charter schools were included in the NAEP TUDA results if they were also included in a district's Adequate Yearly Progress (AYP) reports. Additionally, the "Large Cities (LC)" designation refers to public schools located in urban areas with populations of 250,000 or more (as defined by NCES). Comparisons between national, district, and large city results are limited to public school students. In NAEP reports, the category "Nation (public)" does not include Department of Defense or Bureau of Indian Education schools. It should also be noted that among the TUDA districts, eight of the twenty-one consist entirely of schools in cities with a population of 250,000 or more; thirteen of them however -

Albuquerque, Atlanta, Austin, Charlotte, Cleveland, Dallas, Duval County (FL), Fresno, Hillsborough (FL), Houston, Jefferson County, Los Angeles and Miami-Dade - also include a number of fourth and eighth grade students enrolled in surrounding suburban or rural areas. Results for these districts include data from all students, both urban and suburban/rural, a fact that must be kept in mind when comparing their performance to other districts, large cities, or the nation.

This report provides results for Boston's public school students in grades 4 and 8 from the National Assessment of Educational Progress (NAEP) assessment in Reading and in Mathematics. Results are reported by average scale score (reported on a $0-500$ scale), and by achievement levels (Basic, Proficient, and Advanced).

An overview of the Reading and Math assessment frameworks is included in Appendix A.

## 2015 NAEP READING

## READING: DEMOGRAPHIC CONTEXT

The charts below display the percentage of students who participated in the 2015 TUDA NAEP Reading test by their racial/ethnic identification, disability (SD), English Language Learner (ELL) status, and Low-Income status. The charts display not only Boston's participation rates, but also the Nation's and Large Cities", as well as the TUDA minimums and maximums.

Boston's percentages of Black and Hispanic students in both grades 4 and 8 fall in the middle range of the other TUDA districts. However, in 2015 Boston joined Cleveland as one of two TUDA districts to report that $100 \%$ of students received free/reduced-price lunch based on the district's 100\% Community Eligibility Provision (CEP) for all schools. Compared to other TUDA districts, Boston also has very high participation rates for students with disabilities and English Language Learners; in particular, Boston has the $\mathbf{2}^{\text {nd }}$ highest participation rate for students with disabilities in grade 4 and English Language Learners in grade 8. These differences are important to consider in comparing results across jurisdictions.

In addition, because results are based on samples rather than entire populations, examining statistical significance is essential in determining differences across groups.

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## Distribution of Selected Student Groups for TUDA Districts

Grade 4 Reading Demographic Characteristics:


Grade 8 Reading Demographic Characteristics:


## (1)Change in Reading Average Scores Between 2003 and 2015



- Of the 10 participating TUDA districts in 2003, Boston's $4^{\text {th }}$ graders saw a significant 13-point scale score gain between 2003 and 2015. Boston's gain exceeded that of Large Cities (9-points) and surpassed the 5-point gain made by students nationwide.


## Grade 8 Reading



- Between 2003 and 2015, Boston's $8^{\text {th }}$ graders experienced a significant 5-point gain in reading. Therefore, the gains made by Boston were not as great as those made by Large City (8-points), but larger than those made across the Nation (3-points).


## Grade 4 Reading



- Boston's $4^{\text {th }}$ grade reading average score in 2015 was 5 -points higher than they were in 2013, a difference that is statistically significant. Boston's 2015 score (219) was significantly higher than that of Large Cities and was for the first time on par (no statistically significant difference) with the national average (221).
- The reading performance of Boston's 4th graders in 2015 was significantly higher than every administration of the NAEP, except for 2011.


## Grade 8 Reading



- In 2015, Boston's $8^{\text {th }}$ grade students had an average score of 258 , comparable to that of Large Cities; but significantly lower than the national average (by 6 points).
- Boston's $8^{\text {th }}$ grade average score in 2015 was significantly higher than the first three previous administrations (2003, 2005, and 207); by contrast, the national and Large City averages have increased significantly at each of first four administrations since 2003.


## (3) 2015 Reading Scale Score Comparisons Across Jurisdictions Large City vs. TUDA Districts

2015 Average Scale Score Comparisons - Large City (LC) vs TUDA Districts


Relative to each district listed at the top of the figure:
: That Distict had signiifcanty ( $\mathrm{P}<.05$ ) higher average scale score than Large City

- Of the 21 participating TUDA districts, Boston was one of ten to have a score significantly higher than, or equal to, that of Large Cities in both the grade 4 and grade 8 reading assessments.

Boston's scale scores for all students as well as for student subgroups are provided in Appendix B. Scale scores for all TUDA districts are provided in Appendix C.

## Boston vs. TUDA Districts

2015 Average Scale Score Comparisons - Boston vs TUDA Districts

| Grade Level |  |  |  | $\begin{aligned} & \frac{5}{6} \\ & \frac{5}{4} \\ & \hline \end{aligned}$ |  |  |  |  | $\begin{array}{r} \text { 巽 } \\ \hline \\ \hline \end{array}$ |  |  |  |  |  |  |  |  |  | $\underset{\text { ¢ }}{\substack{\text { ¢ }}}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Grade 4 | $=$ | - | - | $\checkmark$ | - | $\downarrow$ | = | - | $=$ | - | = | $\checkmark$ | - | $\checkmark$ | = | = | - | $\checkmark$ | - | - | = |
| Grade 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | = |

Relative to each district listed at the top of the figure:
: Boston had significantly $(\mathrm{P}<.05)$ higher average scale score than that District
: No significant difference between Boston and that District
: Boston had significantly ( $\mathrm{P}<.05$ )lower average scale score than that District

- Boston scored higher than or equal to all but Charlotte in both grades 4 and 8 , and lower than four districts (Austin, Duval County, Hillsborough County, and MiamiDade) in grade 4.


## (4) Average Reading Scale Scores by Race/Ethnicity

Grade 4 Reading: 2003-2015


- In 2015, Hispanic students saw a 9 point gain that was statistically significant. African-American and White students also saw increases, but these were not statistically significant. Finally, Asian students saw a 4-point drop, but this was not statistically significant in terms of its difference from 2013.
- From 2003 to 2015, White, African-American, and Hispanic students have experienced statistically significant gains, with 16,12 , and 13-point gains respectively.

Grade 8 Reading: 2003-2015


- Reading scores for Boston's $8^{\text {th }}$ grade students between 2013 and 2015 remained relatively constant for all ethnic groups, as we are not observing any statistically significant differences. Since 2003, no racial group has experienced a statistically significant gain on the $8^{\text {th }}$ grade Reading test.
- The gaps in performance between Boston's White/Asian students and Black/Hispanic students persist in both $4^{\text {th }}$ and $8^{\text {th }}$ grade.
Appendix D provides detailed information on the performance of students by racial group.


## Boston's Black Students Compared to the Nation, Large Cities, and other TUDA Districts

Grade 4 Black Students
2015 Reading Average Scale Score Comparisons: Boston and Nation, Large City \& TUDA Districts


- Despite continued disparity in the performance of Black students compared to their White and Asian peers, the district's Black students had an average score of 214, which is significantly greater than the national average (206) and that of Large Cities (204). Boston's $4^{\text {th }}$ grade Black students performed as well as or significantly better than all TUDA districts.

* Significantly different ( $\mathrm{P}<.05$ ) from Boston.
$\ddagger$ Reporting standard not met. Sample size insufficient to permit a reliable estimate.
- In grade 8, the performance of Boston's African-American students (250) was about the same as their peers across the Nation (247) and in Large Cities (246). Among the TUDA districts, however, Boston's African-American students performed as well as or significantly better than all other districts.


## Boston's Hispanic Students Compared to the Nation, Large Cities, and other TUDA Districts

Grade 4 Hispanic Students
2015 Reading Average Scale Score Comparisons: Boston and Nation, Large City \& TUDA Districts


- Boston's Hispanic students in $4^{\text {th }}$ grade also had significantly higher average scores (214) than Hispanic students in Large Cities (206), as well as the national average (208). Among the participating TUDA districts, only Miami-Dade, Hillsborough County, and Duval County's Hispanic $4^{\text {th }}$ graders scored significantly higher than Boston's.

Grade 8 Hispanic Students
2015 Reading Average Scale Score Comparisons: Boston and Nation, Large City \& TUDA Districts


- In grade 8 , Boston's Hispanic students (249) performed as well as their peers in Large Cities (251) and across the Nation (253). Among TUDA districts with a sufficiently large sample of Hispanic students, three districts significantly outperformed Boston (Duval County, Miami-Dade, and Chicago).


## (5) Average Reading Scale Scores for Other Student Groups Students Eligible for Free/Reduced Lunch

Grade 4 Low-Income Students 2015 Reading Average Scale Score Comparisons: Boston and Nation, Large City \& TUDA Districts


- In grade 4, low-income students in Boston scored significantly higher than the Nation (by 10 points) and Large Cities (by 14 points). Boston's average was also the second highest among the TUDA districts and was not significantly bested by any other TUDA district.

Grade 8 Low-Income Students
2015 Reading Average Scale Score Comparisons: Boston and Nation, Large City \& TUDA Districts

*Significantly different ( P < . .05) from Boston.

- Among $8^{\text {th }}$ graders, Boston's low-income students (258) performed better than their peers in Large Cities (249) and across the Nation (253). Compared to other TUDA districts, no other districts had significantly higher average performance.


## Students with Disabilities

Grade 4 Students with Disabilities
2015 Reading Average Scale Score Comparisons: Boston and Nation, Large City \& TUDA Districts


* Significantly different ( $\mathrm{P}<.05$ ) from Boston.
$\ddagger$ Reporting standard not met. Sample size insufficient to permit a reliable estimate.
- In $4^{\text {th }}$ grade, students with disabilities in Boston (192) outperformed their peers in Large Cities (176). Their average score was significantly different from the national average (186). Boston's special education students performed equally well or better than all but three other districts (Miami-Dade, Duval County, and Hillsborough County).

Grade 8 Students with Disabilities
2015 Reading Average Scale Score Comparisons: Boston and Nation, Large City \& TUDA Districts


* Significantly different (P < . .05) from Boston.
$\ddagger$ Reporting standard not met. Sample size insufficient to permit a reliable estimate.
- In grade 8 , the average score for students with disabilities in Boston (227) was comparable to the average for Large Cities (224) and the national average (229). Compared to other TUDA districts, Boston's performance was statistically lower than Hillsborough County, Duval County, and Miami-Dade.


## English Language Learners

Grade 4 English Language Learners 2015 Reading Average Scale Score Comparisons: Boston and Nation, Large City \& TUDA Districts


* Significantly different ( $\mathrm{P}<.05$ ) from Boston.
$\ddagger$ Reporting standard not met. Sample size insufficient to permit a reliable estimate.
- Boston's $4^{\text {th }}$ grade English Language Learners (ELLs) outperformed their peers across the Nation and in Large Cities. Compared to other TUDA districts, Boston's average score was the highest score, as it was in 2013 as well.

Grade 8 English Language Learners
2015 Reading Average Scale Score Comparisons: Boston and Nation, Large City \& TUDA Districts


- The average score for ELL students in $8^{\text {th }}$ grade was comparable to that of their peers in Large Cities and across the Nation. Boston's ELL average was statistically lower than Detroit.


## (6) Reading Performance by Achievement Level: Boston vs. Nation, Large Cities, and TUDA Districts

## 2015 Reading Percentage of Students Scoring at or Above Basic

## Grade 4 Reading Percentage of Students Scoring at or Above Basic:


\# Estimate rounds to zero.
NOTE: Detail may not sum to totals because of rounding.

- In 2015, $65 \%$ of Boston's $4^{\text {th }}$ grade students scored at or above the basic level on the Reading assessment. This percentage was significantly higher than or equal to that in all but four other TUDA districts. Boston's performance was on par with the national average ( $68 \%$ ), as there was no statistical difference between the performances of the two samples. A higher percentage of Boston students performed at the Basic level or above compared to students in Large Cities (59\%) and this was statistically significant.


## Grade 8 Reading Percentage of Students Scoring at or Above Basic:


\# Estimate rounds to zero.
NOTE: Detail may not sum to totals because of rounding.

- In grade 8, the percentage of students in Boston who performed at or above Basic ( $67 \%$ ) was significantly higher than or equal to 17 other TUDA districts and Large Cities ( $67 \%$ ). Boston's percentage was significantly lower compared to the Nation (75\%) and three other TUDA districts.

Percentage of Students Scoring at or Above Proficient in 2015 Reading: Boston vs. TUDA Districts


Relative to each district listed at the top of the figure:

- Boston had significantly higher percentage of students scored in Profcient and Advanced than that District

E : No significant difference between Boston and that District

- Boston had significantly lower percentage of students scored in Proficient and Advanced than that District
- In 2015, Boston's $4^{\text {th }}$ grade proficient/advanced rate ( $29 \%$ ) was significantly higher than that of seven TUDA districts. Boston's rate was about the same as that of Large Cities, and lower than that of three districts (Charlotte, Hillsborough and MiamiDade).
- Boston's $8^{\text {th }}$ graders performed about the same as their peers in Large Cites with a proficient/advanced rate of $28 \%$. Compared to all the other TUDA districts, Boston's performance was higher than 11 districts and about the same as the other 9 districts.

Performance Over Time: 2003-2015
Percentage of Students Scoring at or Above Proficient in Reading, 2003-2015

|  | Grade 4 |  |  |  |  |  |  | Grade 8 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2003 | 2005 | 2007 | 2009 | 2011 | 2013 | 2015 | 2003 | 2005 | 2007 | 2009 | 2011 | 2013 | 2015 |
| LARGE CITY | 19** | 20** | $22^{* *}$ | $23^{* *}$ | 24** | 26 | 27 | 19** | 20** | 20** | 21** | $23^{* *}$ | 26 | 25 |
| Albuquerque | -- | -- | -- | -- | 24 | 24 | 24 | -- | -- | -- | -- | 22 | 23 | 19* |
| Atlanta | 14** | 17** | $18^{* *}$ | 22 | 24 | 27 | 26 | 11** | $12^{* *}$ | $13^{* *}$ | 17 | 17 | 22 | 20* |
| Austin | -- | 28** | 30 | 32 | 36 | 36 | 35* | -- | 27 | 28 | 30 | 30 | 31 | 33* |
| Baltimore | -- | -- | -- | 12 | 11 | 14 | 11* | -- | -- | -- | 10 | 12 | 16 | $13^{*}$ |
| Boston | $16^{* *}$ | $16^{* *}$ | 20** | 24 | 26 | 26 | 29 | 22** | 23** | 22** | $23^{* *}$ | $24^{* *}$ | 28 | 28 |
| Charlotte | $31^{* *}$ | 33 | 35 | 36 | 36 | 40 | 39* | 30 | 29 | 29 | 28 | 34 | 36 | 33* |
| Chicago | 14** | 14** | $16^{* *}$ | $16^{* *}$ | $18^{* *}$ | 20** | 27 | $15^{* *}$ | $17^{* *}$ | $17^{* *}$ | 17** | 21 | 21 | 24 |
| Cleveland | 9 | 10 | 9 | 8 | 8 | 9 | 11* | 10 | 10 | 11 | 10 | 11 | 11 | 11* |
| Dallas | -- | -- | -- | -- | 14 | 16 | 17* | -- | -- | -- | -- | 13 | 15 | 17* |
| Detroit | -- | -- | -- | 5 | 7 | 7 | $6^{*}$ | -- | -- | -- | 7 | 7 | 9 | $7^{*}$ |
| District of Columbia | 10** | 11** | 14** | 18** | 20** | 25** | 30 | $10^{* *}$ | $12^{* *}$ | $12^{* *}$ | 14** | 15 | 18 | 19* |
| Duval County (FL) | -- | -- | -- | -- | -- | -- | 35* | -- | -- | -- | -- | -- | -- | 31* |
| Fresno | -- | -- | -- | 12 | 11 | 13 | 13* | -- | -- | -- | 12 | 12 | 13 | 13* |
| Hillsborough County (FL) | -- | -- | -- | -- | 44 | 40 | 41* | -- | -- | -- | -- | 32 | 35** | 29 |
| Houston | 18** | 21 | $17^{* *}$ | 19 | 24 | 19 | 23 | 14** | 17 | 18 | 18 | 18 | 19 | 20 |
| Jefferson County | -- | -- | -- | 30 | 35 | 33 | 36* | -- | -- | -- | 26 | 27 | 29 | 31* |
| Los Angeles | 11** | 14** | $13^{* *}$ | $13^{* *}$ | 15** | 19 | 21* | 11** | $13^{* *}$ | $12^{* *}$ | 15** | 16 | 19 | 20* |
| Miami-Dade | -- | -- | -- | $31^{* *}$ | $32^{* *}$ | 35 | 39* | -- | -- | -- | 28 | 28 | 27 | $32^{*}$ |
| N.Y.C. | 22** | 22 | 25 | 29 | 29 | 28 | 26 | 22 | 20** | 20** | $21^{* *}$ | 24 | 25 | 27 |
| Philadelphia | -- | -- | -- | 11 | 13 | 14 | 14* | -- | -- | -- | 15 | 16 | 16 | 16* |
| San Diego | 22** | 22** | 25 | 29 | 31 | 33 | 30 | 20** | $23^{* *}$ | $23^{* *}$ | 25 | 27 | 29 | 32* |

[^1]** Significantly different ( P < .05) from 2015.

- In grade 4, Boston made significant improvements in the percentage of students performing at or above Proficient since 2003 (13-point gain for Boston, compared to a 8 -point gain for Large Cities). The percentage of Boston's $8^{\text {th }}$ graders scoring at or above Proficient in 2015 also rose a significant 6-points compared to 2003, the same as that of Large Cities.


## (7) Reading Performance by Percentile Rank

Grade 4 Reading


- Among Boston's $4^{\text {th }}$ graders, significant improvements were observed since 2003 and 2005 for students at all quintiles. Specifically, we are seeing increases for students in the $10^{\text {th }}$ and $25^{\text {th }}$ quintiles since 2013.


## Grade 8 Reading



- For $8^{\text {th }}$ graders, there have been significant gains for students at the $75^{\text {th }}$ quintiles since 2003, 2005, and 2007, at the $25^{\text {th }}$ quintile since 2003 and 2005 , and at the $50^{\text {th }}$ quintile since 2003.


## (8) Reading Performance of Students Who are Neither Students with Disabilities Nor English Language Learners

The chart below shows the comparisons of percentage of students who are neither SD nor ELL in grade 8 across all jurisdictions. Also shown is the performance of these students across all jurisdictions. The corresponding statistics for students in grade 4 are presented in Appendix E.


- The percentage of students who were neither SD nor ELL (i.e. general education students) in Boston who took the $8^{\text {th }}$ grade reading test was $65 \%$; this rate is significantly lower than all other jurisdictions except for Dallas, ranging from $88 \%$ to $62 \%$, with $83 \%$ for the Nation and $78 \%$ for Large City.

- Boston's general education students had the highest score (almost equal with Austin and San Diego), significantly higher than that of Large Cities and a majority of the TUDA districts; it also was comparable to the national average.


## 2015 NAEP MATHEMATICS

## MATHEMATICS: DEMOGRAPHIC CONTEXT

The charts below display the percentage of students who participated in the 2015 TUDA NAEP Math test by their racial/ethnic identification, disability, English Language Learner status, and Low-Income status. The charts display not only Boston's participation rates, but also the Nation's and Large Cities', as well as the TUDA minimums and maximums.

In both grades 4 and 8 , Boston's percentages for Black and Hispanic students fall in the middle range of the other TUDA districts. However, in 2015 Boston joined Cleveland as one of two TUDA districts to report that $100 \%$ of students received free/reduced-price lunch based on the district's $100 \%$ Community Eligibility Provision (CEP) for all schools. Compared to other TUDA districts, Boston has the $2^{\text {nd }}$ highest participation rate for students with disabilities in grade 4 and English Language Learners in grade 8. These differences are important to consider in comparing results across jurisdictions.

In addition, because results are based on samples rather than entire populations, examining statistical significance is essential in determining differences across groups.

## Distribution of Selected Student Groups for TUDA Districts

Grade 4 Mathematics Demographic Characteristics:


Grade 8 Mathematics Demographic Characteristics:

(1) Change in Mathematics Average Scores Between 2003 and 2015

Grade 4 Mathematics


- Of the 10 participating TUDA districts in 2003, Boston's $4^{\text {th }}$ graders made the third largest gain - 16 points - since 2003. By contrast, $4^{\text {th }}$ graders across the Nation and in the Large Cities only gained 6 and 10 points, respectively, during this 12 year period.


## Grade 8 Mathematics



- Between 2003 and 2015, Boston's $8^{\text {th }}$ graders saw a significant gain of 19 points in mathematics. Boston's gain was 7 points higher than that of Large Cities and was almost four times greater than the gain made by students across the Nation (5 points).

Grade 4 Mathematics


- Boston's average score in 2015 was significantly higher than the 2003 and 2005 administrations of the NAEP.
- Boston's performance in 2015 statistically equal to that of Large Cities and 4 points below the national average.
- Boston's performance has steadily improved since 2003, catching up with the Large City average and narrowing the gap compared to the national average.

Grade 8 Mathematics


- In 2015, Boston's $8^{\text {th }}$ grade students had an average score significantly higher (by 7 points) than the average for Large Cities and equal to that of the Nation ( 281 points).
- Boston's $8^{\text {th }}$ grade average score in 2015 was significantly higher than in the first three administrations, from 2003 to 2007.
- Since 2003, the math performance of Boston's $8^{\text {th }}$ graders increased at a rate that surpassing the Large City gains and completely eliminated the gap with the Nation.


## (3) 2013 Mathematics Scale Score Comparisons Across Jurisdictions Large City vs TUDA Districts

2015 Average Scale Score Comparisons - Large City (LC) vs TUDA Districts


Relative to each district listed at the top of the figure:
: That Distict had significantly ( $P<.05$ ) higher average scale score than Large City
E : No significant difference between that District and Large City
: That District had significantly ( $\mathrm{P}<.05$ ) lower average scale score than Large City

- Of the 21 participating TUDA districts, Boston was one of 11 to score equal to or higher than the Large City average at both grade levels.

Boston's scale scores for all students as well as for student subgroups are provided in Appendix B. Scale scores for all TUDA districts are provided in appendix C.

## Boston vs. TUDA Districts

2015 Average Scale Score Comparisons - Boston vs TUDA Districts


Relative to each district listed at the top of the figure:
: Boston had significanty ( $\mathrm{P}<.05$ ) higher average scale score than that District
: No significant difference between Boston and that District
: Boston had significanty ( $\mathrm{P}<.05$ )lower average scale score than that District

- In addition to its higher or comparable scores compared to Large Cities, Boston's performance stands out in comparison to other TUDA districts in both grades 4 and 8 . In grade 4, Boston's average scale scores were higher than or equal to all but five districts (Austin, Charlotte, Duval County, Hillsborough County, and Miami-Dade). Boston's performance in grade 8 was even more impressive, with only Charlotte scoring higher.


## (4) Average Mathematics Scale Scores by Race/Ethnicity

Grade 4 Mathematics: 2003-2015


- From 2003 to 2015, students in all racial groups made statistically significant gains in their average scores on the $4^{\text {th }}$ grade test. Black students saw a 12 -point gain, while Asian, Hispanic, and White students experienced 16, 15, and 19-point gains respectively. The performance gaps between Asian/White and Hispanic/Black students remain unchanged.

Grade 8 Mathematics: 2003-2015


- Gains made by Boston's $8^{\text {th }}$ grade students between 2003 and 2015 were also statistically significant across all ethnic groups: improvements ranged from 18 points for Asian and African-American students, to 22 points for White students.

Appendix D provides detailed information on the performance of students by racial group.

## Boston's Black Students Compared to the Nation, Large Cities, and other TUDA Districts

Grade 4 Black Students
2015 Mathematics Average Scale Score Comparisons Boston and Nation, Large City \& TUDA Districts


* Significantly different ( $\mathrm{P}<.05$ ) from Boston.
$\ddagger$ Reporting standard not met. Sample size insufficient to permit a reliable estimate.
- Despite continued disparity in the performance of Black students compared to their White and Asian peers, the district's Black students outperformed their peers across the nation: $4^{\text {th }}$ graders in Boston had an average score of 228, compared to the national average of 224. Similarly, Black students in Boston had an average score 6 points higher than the average for Large Cities. Compared to the TUDA districts, Boston's Black students performed equally well or better than all other districts, with only one exception (Charlotte).

* Significantly different ( $\mathrm{P}<.05$ ) from Boston.
$\ddagger$ Reporting standard not met. Sample size insufficient to permit a reliable estimate.
- In Grade 8, Boston's Black students again outperformed their peers across the Nation and in Large Cities. Importantly, Boston's Black students had the highest scale score of any TUDA district.

Boston's Hispanic Students Compared to the Nation, Large Cities, and other TUDA Districts

## Grade 4 Hispanic Students

2015 Mathematics Average Scale Score Comparisons Boston and Nation, Large City \& TUDA Districts


- Boston's Hispanic students in $4^{\text {th }}$ grade performed on par (233 points) with Hispanic students across the Nation (230) and in Large Cities (230). Compared to other TUDA districts, Boston's Hispanic $4^{\text {th }}$ graders performed as well as or significantly better than most other districts, with only 7 TUDA districts showing significantly higher scores.

Grade 8 Hispanic Students
2015 Mathematics Average Scale Score Comparisons Boston and Nation, Large City \& TUDA Districts


* Significantly different ( $\mathrm{P}<.05$ ) from Boston.
$\ddagger$ Reporting standard not met. Sample size insufficient to permit a reliable estimate.
- In Grade 8, Boston's Hispanic students performed on par with their national peers and Hispanic students in Large Cities. Hispanic students in most TUDA districts, performed comparably to Boston with only 6 districts demonstrated performance significantly below that of Boston.


## (5) Average Mathematics Scale Scores for Other Student Groups Students eligible for Free/Reduced Lunch

## Grade 4 Low-Income Students

2015 Mathematics Average Scale Score Comparisons Boston and Nation, Large City \& TUDA Districts


- In grade 4, low-income students in Boston scored significantly higher than the Nation (by 7 points) and Large Cities (by 9 points). Boston's average was also statistically one of the highest among all TUDA districts.

Grade 8 Low-Income Students
2015 Mathematics Average Scale Score Comparisons Boston and Nation, Large City \& TUDA Districts


- Among $8^{\text {th }}$ graders, the performance of Boston's low-income students was not only significantly higher than the national and Large City averages, but was also higher than all TUDA districts.


## Students with Disabilities

## Grade 4 Students with Disabilities

2015 Mathematics Average Scale Score Comparisons Boston and Nation, Large City \& TUDA Districts


* Significantly different ( $\mathrm{P}<.05$ ) from Boston.
- In $4^{\text {th }}$ grade math, the average score for students with disabilities in Boston was comparable to that of their peers in Large Cities and the Nation. Boston's special education students also performed better than a fair number of TUDA districts, with only four demonstrating a statistically higher score.

Grade 8 Students with Disabilities
2015 Mathematics Average Scale Score Comparisons Boston and Nation, Large City \& TUDA Districts


* Significantly different ( $\mathrm{P}<.05$ ) from Boston.
- In $8^{\text {th }}$ grade, students with disabilities in Boston outperformed their peers in Large Cities. Boston's average score was not significantly different form the national average. Boston's average for special education students was also the second highest among the TUDA districts and not significantly different from Duval County.


## English Language Learners

Grade 4 English Language Learners 2015 Mathematics Average Scale Score Comparisons Boston and Nation, Large City \& TUDA Districts


- Boston's $4^{\text {th }}$ grade English Language Learners (ELLs) had an average scale score higher than the national average and that of their peers in Large Cities. Compared to other TUDA districts, only one (Dallas) of the 18 districts with a sufficiently large ELL sample had a significantly higher average score than Boston.


## Grade 8 English Language Learners

2015 Mathematics Average Scale Score Comparisons Boston and Nation, Large City \& TUDA Districts


* Significantly different (P < . 05 ) from Boston.
$\ddagger$ Reporting standard not met. Sample size insufficient to permit a reliable estimate.
- ELL students in $8^{\text {th }}$ grade had an average score that was statistically on par with that of their ELL peers across the nation and in Large Cities. Boston's ELL average was statistically equivalent to most TUDA districts, except 5 districts whose average scores fell below that of Boston.


## (6) Mathematics Performance by Achievement Level: Boston vs. Nation, Large Cities, and TUDA Districts

## Grade 4 Mathematics Percentage of Students Scoring at or Above Basic:


\# Estimate rounds to zero.
NOTE: Detail may not sum to totals because of rounding.

- In 2015, 78\% of Boston's $4^{\text {th }}$ grade students scored at the basic level or above on the math assessment. This percentage was significantly higher than or equal to that of all but five other TUDA districts. Boston's performance was not significantly different from the Nation overall $(81 \%)$ or the percent of students that performed at the Basic level or above in Large Cities (75\%).


## Grade 8 Mathematics Percentage of Students Scoring at or Above Basic:


\# Estimate rounds to zero.
NOTE: Detail may not sum to totals because of rounding.

- In grade 8, the percentage of students in Boston who performed at or above Basic ( $67 \%$ ) was significantly higher compared to 12 other TUDA districts, as well as Large Cities ( $61 \%$ ). Boston's percentage was significantly lower than the Nation's average (70\%). No other TUDA district, however, had a significantly higher proportion of students at Basic or Above in grade 8 math.


## 2015 Mathematics Percentage of Students Scoring at or Above Proficient

## Percentage of Students Scoring at or Above Proficient in 2015 Mathematics: Boston vs. TUDA Districts



Relative to each district listed at the top of the figure:
: Boston had significantly higher percentage of students scored in Proficient and Advanced than that District
: No significant difference between Boston and that District
: Boston had signiifcanty lower percentage of students scored in Proficient and Advanced than that District

- In 2015, Boston's $4^{\text {th }}$ grade proficient/advanced rate (33\%) was significantly higher than that of 8 TUDA districts. Boston's rate was about the same as that of Large Cities.
- Boston's $8^{\text {th }}$ graders performed significantly better than students in Large Cities, with a proficient/advanced rate of $34 \%$. Compared to all the other TUDA districts, Boston's performance was significantly better than all districts except for three. In these three cases, Austin, Charlotte, and San Diego, the difference between the other district and Boston was not statistically significant.

Performance Over Time: 2003-2015
Percentage of Students Scoring at or Above Proficient in Mathematics, 2003-2015

|  | Grade 4 |  |  |  |  |  |  | Grade 8 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2003 | 2005 | 2007 | 2009 | 2011 | 2013 | 2015 | 2003 | 2005 | 2007 | 2009 | 2011 | 2013 | 2015 |
| LARGE CITY | $20^{* *}$ | $24^{* *}$ | $28^{* *}$ | $29^{* *}$ | 30 | 33 | 32 | 16** | 19** | 22** | 24 | 26 | 27 | 26 |
| Albaquerque | -- | -- | -- | -- | $34^{* *}$ | $34^{* *}$ | 28 | -- | -- | -- | -- | 26 | 26** | 21* |
| Atlanta | $13^{* *}$ | 17** | 20** | 21** | 25 | $31^{* *}$ | 26* | 6** | 7** | 11** | 11** | 16 | 17 | $20^{*}$ |
| Austin | -- | 40** | 40** | $38 * *$ | 46 | 46 | 47* | -- | 33 | 34 | 39** | 38 | 35 | 35* |
| Baltimore | -- | -- | -- | 13 | 17** | 19** | 12* | -- | -- | -- | 10 | 13 | 13 | $12^{*}$ |
| Boston | 12** | 22** | 27 | 31 | 33 | 34 | 33 | $17^{* *}$ | 23** | $27^{* *}$ | 31 | 34 | 36 | $34^{*}$ |
| Charlotte | 41** | 44** | $44^{\star *}$ | $45^{\star *}$ | 48 | 50 | 51* | $32^{* *}$ | $33^{* *}$ | $34^{* *}$ | $33^{* *}$ | 37 | 40 | 39* |
| Chicago | $10^{* *}$ | $13^{* *}$ | $16^{* *}$ | $18^{* *}$ | $20^{* *}$ | 28 | 30 | 9** | $11^{* *}$ | $13^{* *}$ | $15^{* *}$ | 20 | 20 | 25 |
| Cleveland | 10 | 13 | 10 | 8** | 11 | 13 | $13^{*}$ | 6** | 6** | 7 | 8 | 10 | 9 | 9* |
| Dallas | -- | -- | -- | -- | $25^{* *}$ | 30 | 34 | -- | -- | -- | -- | 22 | 23 | $20^{*}$ |
| Detroit | -- | -- | -- | 3 | 3 | 4 | 5 | -- | -- | -- | 4 | 4 | 3 | 4* |
| District of Columbia | $7^{* *}$ | 10** | 14** | 19** | $23^{* *}$ | $30^{* *}$ | 33 | 6** | 7** | $8^{* *}$ | $12^{* *}$ | 15 | 17 | $17^{*}$ |
| Duval County (FL) | -- | -- | -- | -- | -- | -- | 41* | -- | -- | -- | -- | -- | -- | $22^{*}$ |
| Fresno | -- | -- | -- | 14 | 15 | 15 | 14* | -- | -- | -- | 15 | 13 | 12 | $12^{*}$ |
| Hillsborough Cnty (FL) | -- | -- | -- | -- | 43 | 43 | 43* | -- | -- | -- | -- | 32 | $34^{* *}$ | 27 |
| Houston | $18^{* *}$ | $26^{* *}$ | $28^{* *}$ | 30 | 32 | 32 | 36 | 12** | $16^{* *}$ | $21^{* *}$ | 24 | 27 | 28 | 27 |
| Jefferson County | -- | -- | -- | 31 | 32 | 33 | 34 | -- | -- | -- | 22 | 25 | 25 | 26 |
| Los Angeles | $13^{* *}$ | 18 | 19 | 19 | 20 | 25 | 22* | 7** | 11** | 14 | 13 | 16 | 18 | 15* |
| Miami-Dade | -- | -- | -- | $33^{* *}$ | $33^{* *}$ | $34^{* *}$ | 41* | -- | -- | -- | 22 | 22 | 24 | 26 |
| N.Y.C. | $21^{* *}$ | 26 | $34^{* *}$ | $35^{* *}$ | $32^{* *}$ | $34^{* *}$ | $26^{*}$ | $20^{* *}$ | $20^{* *}$ | 22 | 26 | 24 | 25 | 27 |
| Philadelphia | -- | -- | -- | 16 | 20 | 19 | 15* | -- | -- | -- | 17 | 18 | 19 | $20^{*}$ |
| San Diego | 20** | 29 | 35 | 36 | 39** | 42** | 31 | 18** | 22** | $24^{* *}$ | 32 | 31 | 31 | $32^{*}$ |

- The percentage of students scoring at or above Proficient in mathematics in 2015 for Boston was significantly higher than Large Cities in grade 8.
- In grade 4, Boston made significant improvements in the percentage of students performing at or above Proficient since 2003 and 2005. In grade 8 , Boston made significant improvements in the percentage of students performing at or above Proficient since 2003, 2005, and 2007. Since 2003, the percentage of $4^{\text {th }}$ graders who are proficient/advanced increased by 21 points, compared to 12 points for large cities; and the percentage of proficient/advanced in $8^{\text {th }}$ grade increased 17 points for Boston, compared to 10 points for Large Cities.


## (7) Mathematics Performance by Percentile Rank

## Grade 4 Mathematics



- Among Boston's $4^{\text {th }}$ graders, significant improvements continued since 2003 and 2005 at almost all performance levels. Fourth graders at the $75^{\text {th }}$ percentile also saw significant gains since 2007, with a 5-point increase. Although there were improvements since 2009 for students at the high-performing levels (at the $75^{\text {th }}$ and $90^{\text {th }}$ percentiles), the increases were not statistically significant.


## Grade 8 Mathematics



- Among Boston's $8^{\text {th }}$ graders, significant improvements have been demonstrated since 2003 at all performance levels. Eighth graders at the higher-performing levels $\left(90^{\text {th }}, 75^{\text {th }}\right.$, and $50^{\text {th }}$ percentile) also saw significant gains since 2007.


## (8) Mathematics Performance of Students Who are Neither Students with Disabilities Nor English Language Learners

The chart below shows the comparisons of percentage of students who are neither SD nor ELL in grade 8 across all jurisdictions. Also shown is the performance of these students across all jurisdictions. The corresponding statistics for students in grade 4 are presented in Appendix E.


- The percentage of students who were neither SD nor ELL (i.e. general education students) in Boston who took the $8^{\text {th }}$ grade math test was $65 \%$; this rate is significantly lower than all other jurisdictions, which ranged from $61 \%$ to $87 \%$, with $82 \%$ for the Nation and $78 \%$ for Large City.

Grade 8 Regular Education Students
2015 Mathematics Average Scale Score Comparisons: Boston and Nation, Large City \& TUDA Districts


- Boston's general education students had the highest score in $8^{\text {th }}$ grade math, significantly better than the Large City and national averages.


## APPENDIX A: Assessment Framework

The content for each NAEP assessment is determined by the National Assessment Governing Board (NAGB). The framework, which incorporates ideas and input from subject area experts, school administrators, policymakers, teachers, parents, and others, documents the specific knowledge and skill areas to be measured, and sets guidelines for the types of texts and questions to be used, as well as how the questions should be designed and scored.

## Reading

The 2015 NAEP reading assessment uses the same framework used in 2009. The reading framework includes two types of texts on the assessment: literary texts and informational texts. The framework also specifies that vocabulary knowledge will be assessed in the context of a passage. Vocabulary items function both as a measure of passage comprehension and as a test of readers' specific knowledge of the word's meaning as intended by the passage author. The framework includes three cognitive targets, or behaviors and skills, for items from both literary and informational texts: Locate/Recall, Integrate/Interpret, and Critique/Evaluate.

The 2009 NAEP Reading Framework replaced the previous reading framework that was used from 1992 through 2007. Compared to the previous framework, the 2009 reading framework includes more emphasis on literary and informational texts, a redefinition of reading cognitive processes, a new systematic assessment of vocabulary knowledge, and the addition of poetry to grade 4.

Results from special analyses determined the 2009 reading assessment results could be compared with those from earlier assessment years. A summary of these special analyses and an overview of the differences between the previous framework and the 2009 framework are available on the Web at http://nces.ed.gov/nationsreportcard/reading/trend study.asp.

## Mathematics

The 2015 NAEP mathematics framework, which defines the content and format for the 2015 assessment, reflects changes from 2005 in grade 12 only; mathematics content objectives for grades 4 and 8 have not changed. Therefore, main NAEP trend lines from the early 1990s can continue at fourth and eighth grades for the 2015 assessment.

The mathematics framework calls for the assessment to include questions based on five mathematics content areas: 1) Number Properties and Operations; 2) Measurement; 3) Geometry; 4) Data Analysis, Statistics, and Probability; and 5) Algebra. In addition, the framework specifies that each question should measure one of three levels of mathematical complexity (refers to the cognitive demands of the item) - low, moderate, and high. By considering these two criteria (mathematical content and mathematical complexity) for each question, the framework ensures that NAEP assesses an appropriate balance of content along with a variety of ways of knowing and doing mathematics.

## NAEP Permitted Accommodations and Inclusion Policy

It is NAEP's intent to assess all selected students from the target population, including students with disabilities (SD) and English language learners (ELL). Beginning in 2002, students with disabilities and English language learners who require accommodations have been permitted to use them in NAEP, unless a particular accommodation would alter the skills and knowledge being tested. For example, calculators are not permitted on non-calculator sections of the NAEP mathematics test for students who would otherwise require non-standard accommodations provided on state assessment. The table below shows the accommodations used for the most recent NAEP assessments.

NAEP Accommodations for SD/ELL Students

| Accommodations | Math | Reading |
| :---: | :---: | :---: |
| Standard Accommodations for SD/ELL Students: |  |  |
| Extended time | Yes | Yes |
| Small group, or one-on-one | Yes | Yes |
| One-on-one | Yes | Yes |
| Directions only read aloud in English | Yes | Yes |
| Test items read aloud in English - occasional or most/all | Yes | No |
| Breaks during test | Yes | Yes |
| Writes directly in the booklet | No | No |
| Other Accommodations for SD students: |  |  |
| Calculator version of the test FN3 | Yes FN3 | No |
| Must have an aide present in the testing room | Yes | Yes |
| Responds orally to a scribe | Yes | Yes |
| Large print version of the test | Yes | Yes |
| Magnification | Yes | Yes |
| Uses template/special equipment/preferential seating | Yes | Yes |
| Cueing to stay on task | Yes | Yes |
| Presentation in Braille | Yes | Yes |
| Response in Braille | Yes | Yes |
| Presentation in Sign Language | Yes | No |
| Response in Sign Language | Yes | Yes |
| Other Accommodations for ELL students: |  |  |
| Bilingual dictionary without definitions in any language | Yes | No |
| Directions only read aloud in Spanish | Yes | Yes |
| Spanish/English version of the test (not g12) | Yes | No |
| Test items read aloud in Spanish (not g 12 Math) | Yes | No |

To help to ensure that NAEP results accurately reflect the educational performance of all students in the target population, and can continue to serve as a meaningful measure of U.S. students' academic achievement over time, in March 2010, the Governing Board adopted a new policy, NAEP Testing and Reporting on Students with Disabilities and English Language Learners. The policy defines specific inclusion goals for NAEP samples. At the national, state, and district levels, the goal is to include 95 percent of all students selected for the NAEP samples, and 85 percent of those in the NAEP sample who are identified as SD or ELL.

## Population Tested

Results from the biennial Trial Urban District Assessment from 2003 to 2015 are reported for the participating districts for public-school students at grades 4 and 8 . The TUDA assessment employed larger-than-usual samples within the districts, making reliable district-level data possible. The samples were also large enough to provide reliable estimates on subgroups within the districts, such as female students or Hispanic students. Because students were sampled, all analyses are examined for statistical significance.

In Boston, students from about 50 schools at grade 4 and 40 schools at grade 8 participated in the 2015 NAEP assessments. A total of 2,100 students were assessed in mathematics ( 1,100 at grade 4 and 1,000 at grade 8 ), and a total of 2,000 students were assessed in Reading (1,000 at grade 4 and 1,000 at grade 8 ).
(Intentionally left blank)

## Appendix B

| 2015 NAEP Results by Student Group: Grade 4 <br> Scale Scores and Percents of Students at Each Achievement Level |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Boston |  |  |  |  | Large Cities |  |  |  |  |
|  | Scale <br> Score | Percent of Students |  |  | \% Students Assessed | Scale Score | Percent of Students |  |  | \% Students Assessed |
|  |  | Proficient <br> \& above | Basic \& above | Below Basic |  |  | $\begin{gathered} \text { Proficient } \\ \& \text { above } \end{gathered}$ | Basic <br> \& above | Below <br> Basic |  |
| READING |  |  |  |  |  |  |  |  |  |  |
| All Students | 219 | 29 | 65 | 35 | 100 | 214 | 27 | 59 | 41 | 100 |
| Student Status <br> Students with Disabilities <br> English Language Learners | $\begin{aligned} & 192 \\ & 205 \\ & \hline \end{aligned}$ | $\begin{gathered} 8 \\ 13 \\ \hline \end{gathered}$ | $\begin{array}{r} 31 \\ 48 \\ \hline \end{array}$ | $\begin{array}{r} 69 \\ 52 \\ \hline \end{array}$ | $\begin{array}{r} 19 \\ 32 \\ \hline \end{array}$ | $\begin{aligned} & 176 \\ & 187 \\ & \hline \end{aligned}$ | $\begin{aligned} & 8 \\ & 7 \\ & \hline \end{aligned}$ | $\begin{aligned} & 23 \\ & 30 \\ & \hline \end{aligned}$ | $\begin{array}{r} 77 \\ 70 \\ \hline \end{array}$ | $\begin{array}{r} 13 \\ 19 \\ \hline \end{array}$ |
| Gender <br> Female <br> Male | $\begin{aligned} & 224 \\ & 215 \\ & \hline \end{aligned}$ | $\begin{array}{r} 33 \\ 25 \\ \hline \end{array}$ | $\begin{aligned} & 72 \\ & 60 \end{aligned}$ | $\begin{aligned} & 28 \\ & 40 \end{aligned}$ | $\begin{aligned} & 48 \\ & 52 \end{aligned}$ | 217 210 | 30 25 | $\begin{aligned} & 63 \\ & 56 \end{aligned}$ | 37 <br> 44 | $\begin{aligned} & 49 \\ & 51 \end{aligned}$ |
| Race/Ethnicity <br> African American / Black <br> Asian / Pacific Islander <br> Hispanic <br> White | $\begin{aligned} & 214 \\ & 230 \\ & 214 \\ & 241 \end{aligned}$ | $\begin{aligned} & 21 \\ & 42 \\ & 22 \\ & 57 \end{aligned}$ | $\begin{aligned} & 59 \\ & 77 \\ & 60 \\ & 86 \\ & \hline \end{aligned}$ | $\begin{aligned} & 41 \\ & 23 \\ & 40 \\ & 14 \end{aligned}$ | $\begin{gathered} 31 \\ 9 \\ 45 \\ 15 \end{gathered}$ | $\begin{aligned} & 204 \\ & 231 \\ & 206 \\ & 235 \end{aligned}$ | $\begin{aligned} & 16 \\ & 46 \\ & 19 \\ & 51 \end{aligned}$ | $\begin{aligned} & 48 \\ & 76 \\ & 53 \\ & 81 \end{aligned}$ | $\begin{aligned} & 52 \\ & 24 \\ & 47 \\ & 19 \end{aligned}$ | $\begin{gathered} 25 \\ 8 \\ 45 \\ 19 \end{gathered}$ |
| Free/Reduced-Price Lunch Eligible | 219 | 29 | 65 | 35 | 100 | 205 | 18 | 51 | 49 | 73 |
| MATHEMATICS |  |  |  |  |  |  |  |  |  |  |
| All Students | 236 | 33 | 78 | 22 | 100 | 234 | 32 | 75 | 25 | 100 |
| Student Status <br> Students with Disabilities <br> English Language Learners | $\begin{aligned} & 215 \\ & 226 \\ & \hline \end{aligned}$ | $\begin{aligned} & 11 \\ & 21 \\ & \hline \end{aligned}$ | $\begin{aligned} & 50 \\ & 68 \\ & \hline \end{aligned}$ | $\begin{array}{r} 50 \\ 32 \\ \hline \end{array}$ | $\begin{array}{r} 19 \\ 33 \\ \hline \end{array}$ | $\begin{aligned} & 210 \\ & 218 \\ & \hline \end{aligned}$ | $\begin{aligned} & 11 \\ & 14 \end{aligned}$ | $\begin{aligned} & 44 \\ & 56 \end{aligned}$ | $\begin{array}{r}56 \\ 44 \\ \hline\end{array}$ | $\begin{array}{r} 13 \\ 20 \\ \hline \end{array}$ |
| Gender <br> Female <br> Male | $\begin{aligned} & 236 \\ & 235 \end{aligned}$ | $\begin{aligned} & 31 \\ & 34 \end{aligned}$ | $\begin{aligned} & 79 \\ & 76 \end{aligned}$ | 21 24 | $\begin{aligned} & 49 \\ & 51 \end{aligned}$ | 234 234 | 31 33 | 75 74 | $\begin{aligned} & 25 \\ & 26 \end{aligned}$ | $\begin{aligned} & 49 \\ & 51 \end{aligned}$ |
| Race/Ethnicity <br> African American / Black <br> Asian / Pacific Islander <br> Hispanic <br> White | $\begin{aligned} & 228 \\ & 259 \\ & 230 \\ & 253 \\ & \hline \end{aligned}$ | $\begin{aligned} & 22 \\ & 70 \\ & 24 \\ & 58 \\ & \hline \end{aligned}$ | $\begin{aligned} & 70 \\ & 95 \\ & 74 \\ & 93 \end{aligned}$ | $\begin{gathered} 30 \\ 5 \\ 26 \\ 7 \\ \hline \end{gathered}$ | $\begin{gathered} 31 \\ 8 \\ 45 \\ 15 \end{gathered}$ | $\begin{aligned} & 222 \\ & 251 \\ & 230 \\ & 251 \\ & \hline \end{aligned}$ | $\begin{aligned} & 16 \\ & 56 \\ & 26 \\ & 56 \\ & \hline \end{aligned}$ | $\begin{aligned} & 61 \\ & 88 \\ & 72 \\ & 91 \\ & \hline \end{aligned}$ | $\begin{gathered} 39 \\ 12 \\ 28 \\ 9 \end{gathered}$ | $\begin{gathered} 24 \\ 8 \\ 46 \\ 19 \end{gathered}$ |
| Free/Reduced-Price Lunch Eligible | 236 | 33 | 78 | 22 | 100 | 227 | 23 | 69 | 31 | 74 |
| \# Estimate rounds to zero. |  |  |  |  |  |  |  |  |  |  |

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2015 Reading and Mathematics
Assessments.

| 2015 NAEP Results by Student Group: Grade 8 <br> Scale Scores and Percent of Students at Each Achievement Level |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Boston |  |  |  |  | Large Cities |  |  |  |  |
|  | Scale Score | Percent of Students |  |  | \% Students Assessed | Scale Score | Percent of Students |  |  | \% Students Assessed |
|  |  | Proficient \& above | Basic $\&$ above | Below <br> Basic |  |  | Proficient <br> \& above | Basic \& above | Below <br> Basic |  |
| READING |  |  |  |  |  |  |  |  |  |  |
| All Students | 258 | 28 | 67 | 33 | 100 | 257 | 25 | 67 | 33 | 100 |
| Student Status <br> Students with Disabilities <br> English Language Learners | $\begin{aligned} & 227 \\ & 227 \end{aligned}$ | $\begin{aligned} & 4 \\ & 4 \\ & \hline \end{aligned}$ | $\begin{aligned} & 29 \\ & 35 \end{aligned}$ | $\begin{aligned} & 71 \\ & 65 \end{aligned}$ | $\begin{aligned} & 18 \\ & 23 \end{aligned}$ | $\begin{aligned} & 224 \\ & 221 \end{aligned}$ | $\begin{aligned} & 6 \\ & 3 \\ & \hline \end{aligned}$ | $\begin{aligned} & 30 \\ & 27 \end{aligned}$ | $\begin{aligned} & 70 \\ & 73 \end{aligned}$ | $\begin{aligned} & 13 \\ & 12 \end{aligned}$ |
| Gender <br> Female <br> Male | $\begin{aligned} & 262 \\ & 254 \end{aligned}$ | $\begin{aligned} & 32 \\ & 24 \end{aligned}$ | $\begin{aligned} & 72 \\ & 62 \\ & \hline \end{aligned}$ | $\begin{aligned} & 28 \\ & 38 \\ & \hline \end{aligned}$ | $\begin{array}{r} 49 \\ 51 \\ \hline \end{array}$ | $\begin{aligned} & 261 \\ & 252 \\ & \hline \end{aligned}$ | $\begin{aligned} & 29 \\ & 21 \\ & \hline \end{aligned}$ | $\begin{aligned} & 72 \\ & 63 \end{aligned}$ | $\begin{aligned} & 28 \\ & 37 \\ & \hline \end{aligned}$ | $\begin{aligned} & 49 \\ & 51 \end{aligned}$ |
| Race/Ethnicity <br> African American / Black <br> Asian / Pacific Islander <br> Hispanic <br> White | $\begin{aligned} & 250 \\ & 281 \\ & 249 \\ & 282 \\ & \hline \end{aligned}$ | $\begin{aligned} & 17 \\ & 56 \\ & 18 \\ & 58 \\ & \hline \end{aligned}$ | $\begin{aligned} & 62 \\ & 86 \\ & 59 \\ & 87 \\ & \hline \end{aligned}$ | $\begin{aligned} & 38 \\ & 14 \\ & 41 \\ & 13 \end{aligned}$ | $\begin{aligned} & 35 \\ & 11 \\ & 39 \\ & 14 \end{aligned}$ | $\begin{aligned} & 246 \\ & 271 \\ & 251 \\ & 277 \\ & \hline \end{aligned}$ | $\begin{aligned} & 14 \\ & 42 \\ & 19 \\ & 48 \\ & \hline \end{aligned}$ | $\begin{aligned} & 56 \\ & 79 \\ & 62 \\ & 86 \\ & \hline \end{aligned}$ | $\begin{aligned} & 44 \\ & 21 \\ & 38 \\ & 14 \end{aligned}$ | $\begin{gathered} 26 \\ 8 \\ 44 \\ 20 \\ \hline \end{gathered}$ |
| Free/Reduced-Price Lunch <br> Eligible | 258 | 28 | 67 | 33 | 100 | 249 | 17 | 60 | 40 | 70 |
| MATHEMATICS |  |  |  |  |  |  |  |  |  |  |
| All Students | 281 | 34 | 67 | 33 | 100 | 274 | 26 | 62 | 38 | 100 |
| Student Status <br> Students with Disabilities English Language Learners | $\begin{aligned} & 250 \\ & 247 \end{aligned}$ | $\begin{aligned} & 9 \\ & 7 \\ & \hline \end{aligned}$ | $\begin{aligned} & 34 \\ & 32 \end{aligned}$ | $\begin{aligned} & 66 \\ & 68 \end{aligned}$ | $\begin{aligned} & 17 \\ & 24 \\ & \hline \end{aligned}$ | $\begin{aligned} & 239 \\ & 241 \end{aligned}$ | $4$ | $\begin{aligned} & 24 \\ & 27 \\ & \hline \end{aligned}$ | $\begin{aligned} & 76 \\ & 73 \\ & \hline \end{aligned}$ | $\begin{aligned} & 13 \\ & 12 \\ & \hline \end{aligned}$ |
| Gender <br> Female <br> Male | $\begin{aligned} & 285 \\ & 278 \end{aligned}$ | 36 31 | 70 64 | $\begin{aligned} & 30 \\ & 36 \\ & \hline \end{aligned}$ | 49 51 | 275 273 | 26 26 | $\begin{aligned} & 63 \\ & 61 \\ & \hline \end{aligned}$ | 37 39 | $\begin{aligned} & 50 \\ & 50 \end{aligned}$ |
| Race/Ethnicity <br> African American / Black <br> Asian / Pacific Islander <br> Hispanic <br> White | $\begin{aligned} & 269 \\ & 318 \\ & 271 \\ & 311 \\ & \hline \end{aligned}$ | $\begin{aligned} & 18 \\ & 70 \\ & 24 \\ & 69 \\ & \hline \end{aligned}$ | $\begin{aligned} & 58 \\ & 92 \\ & 60 \\ & 90 \\ & \hline \end{aligned}$ | $\begin{gathered} 42 \\ 8 \\ 40 \\ 10 \\ \hline \end{gathered}$ | $\begin{aligned} & 35 \\ & 11 \\ & 40 \\ & 14 \\ & \hline \end{aligned}$ | $\begin{aligned} & 258 \\ & 300 \\ & 268 \\ & 296 \\ & \hline \end{aligned}$ | $\begin{aligned} & 11 \\ & 54 \\ & 18 \\ & 49 \\ & \hline \end{aligned}$ | $\begin{aligned} & 45 \\ & 84 \\ & 57 \\ & 83 \\ & \hline \end{aligned}$ | $\begin{aligned} & 55 \\ & 16 \\ & 43 \\ & 17 \\ & \hline \end{aligned}$ | $\begin{gathered} 26 \\ 8 \\ 44 \\ 19 \\ \hline \end{gathered}$ |
| $\begin{aligned} & \text { Free/Reduced-Price Lunch } \\ & \text { Eligible } \\ & \hline \end{aligned}$ | 281 | 34 | 67 | 33 | 100 | 266 | 17 | 54 | 46 | 71 |
| \# Estimate rounds to zero. |  |  |  |  |  |  |  |  |  |  |

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2015 Reading and Mathematics
Assessments.

# APPENDIX C：Summary of Average Scale Score of TUDA Districts 

 2015 NAEP Average Scale Scores by Subject and Grade level for Large City and TUDA Districts| Subject／Grade Level |  |  |  | $\begin{aligned} & \stackrel{C}{\omega} \\ & \frac{3}{4} \end{aligned}$ |  | $\begin{aligned} & \text { Z } \\ & \text { ON } \\ & \text { OO } \end{aligned}$ | 끛 든 | $\begin{aligned} & \text { 을 } \\ & \text { OU } \\ & \hline \mathrm{U} \\ & \hline \end{aligned}$ |  | $\begin{aligned} & \frac{0}{0} \\ & \overline{\bar{\sigma}} \end{aligned}$ | 交 |  | $\begin{aligned} & \text { 巻 } \\ & \stackrel{1}{3} \\ & \text { Z } \\ & \vdots \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \text { O} \\ & \text { O} \\ & \text { Wix } \end{aligned}$ |  | $\begin{aligned} & \text { 흔 } \\ & \text { 訁ָ } \\ & \text { 호 } \end{aligned}$ |  |  |  | $\begin{aligned} & \text { 그́ } \\ & \text { n } \\ & \frac{1}{0} \\ & 2 \\ & 2 \\ & 20 \end{aligned}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Reading Grade 4 | 214 | 207 | 212 | 220 | 199 | 219 | 226 | 213 | 197 | 204 | 186 | 214 | 225 | 199 | 230 | 210 | 222 | 204 | 226 | 214 | 201 | 216 |
| Reading Grade 8 | 257 | 251 | 252 | 261 | 243 | 258 | 263 | 257 | 240 | 250 | 237 | 245 | 264 | 242 | 261 | 252 | 261 | 251 | 265 | 258 | 248 | 262 |
| Math Grade 4 | 234 | 231 | 228 | 246 | 215 | 236 | 248 | 232 | 219 | 238 | 205 | 232 | 243 | 218 | 244 | 239 | 236 | 224 | 242 | 231 | 217 | 233 |
| Math Grade 8 | 274 | 271 | 266 | 284 | 255 | 281 | 286 | 275 | 254 | 271 | 244 | 258 | 275 | 257 | 276 | 276 | 272 | 263 | 274 | 275 | 267 | 280 |
| ＊Large City（LC）：Nation－wic | scho | in | Sis | po | pu | of | ，000 | or me | as | ned | dy | anal | enter | 碞 | ducaio | Satisis | stics（N | CES） |  |  |  |  |
| ＊＊Distict paricipate in TUDA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

(Intentionally left blank)

## Appendix D

## Grade 4 Reading: 2002-2015



## Grade 4 Reading：2002－2015（Continued）

National Genter for Education Statistics
2015 Readilng TUDA Assessment Report Card：Summary Data Tables with Addilional Detal for Average Scores，Achievement Levelis，
and Percenties for Districts and Jurisodictions
Average scores and achievementitlevel results in NAEP reading for fouth－grade publc school studerts，by selected raceletinictity categores and jurisocilion：Various years，2002－15－Contnued

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|  |  |
|  | $\qquad$ <br> D－ 2 |

## Grade 4 Reading: 2002-2015 (Continued)

National Genter for Education Statistics

| and P |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Average scores and achievementslevel resuls in NAEP reading tor fourth-grace public school students, by selected raceetinnicity categorles and jurisocicion: Various years, 2002-15-Continued |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Raceetelnicty and Jurisoliction | Average scale score |  |  |  |  |  |  |  | Ator above Easlc Percentas |  |  |  |  |  |  |  | or studen |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  | At or above Pronclient |
|  | 2002 | 2003 | 2005 | 2007 | 2009 | 2011 | 2013 | 2015 |  |  |  |  |  |  |  |  | 2002 | 2003 | 2005 | 2007 | 2009 | 2011 | 2013 | 2015 | 2002 | 2003 | 2005 | 2007 | 2009 | 2011 | 2013 | 2015 |
| Aslan/Pacific Islander Nation (public) | 223 ‥ | $225 \cdots$ | 227 … | 231 ‥ | 234 | 234 | 235 | 238 | 69 ‥ | 69 ‥ | $72 \cdots$ | 76 "* | 79 | 79 | 79 | 81 | $36 \cdots$ | 37 ‥ | 40 "* | $45 \cdots$ | 48 | 49 | 51 | 53 |
| Large city' | $220 \cdots$ | 223 | 223 | ${ }^{228}$ | 228 | 224 | 228 | 231 | 64 ... | 66 | 67 | 72 | 73 | 70 | 74 | 76 | 32 | 35 | 35 | 40 | 42 | 38 | 43 | 46 |
| Albuquerque |  | - | - | - | - | $\pm$ | $\pm$ | $\pm$ | - | - | - | - | - |  | : | $\pm$ | - | - | - | - | - | $\pm$ | $\pm$ | $\pm$ |
| Allanta | $\pm$ | : | $\pm$ | $\pm$ | $\pm$ | : | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\ddagger$ | $\pm$ | $\pm$ | : | : | $\pm$ | $\pm$ | $\pm$ | $\pm$ | : | : | $\pm$ | $\pm$ |
| Austin | - | - | $\pm$ | 236 | $\pm$ | : | $\pm$ | $\pm$ | - | - | $\pm$ | 78 | $\pm$ | $\pm$ | : | : | - | - | $\pm$ | 56 | $\pm$ | $\pm$ | $\pm$ | $\pm$ |
| Batimore cily | - | - | - | - | $\pm$ | : | $\pm$ | $\pm$ | - | - | - | - | $\pm$ | : | : | $\pm$ | - | - | - | - | : | $\pm$ | $\pm$ | $\pm$ |
| Boston | - | 223 | 224 | 229 | 231 | 226 | 234 | 230 | - | 71 | 68 | 74 | 80 | 70 | 83 | 77 | - | 29 | 33 | 45 | 43 | 37 | 48 | 42 |
| Cnanote | - | 218 … | $\pm$ | 235 | 233 | 233 | 238 | 246 . | - | 61 … | $\pm$ | 77 | 77 | 78 | 82 | 86 | - | 31 … | $\pm$ | 48 | 40 | 50 | 55 | 66 . |
| Cnlcago | : | : | $\pm$ | 237 | $232 \cdots$ | 227 … | 235 | $247^{\circ}$ | $\pm$ | $\pm$ | $\pm$ | 82 | 78 | 74 ‥ | 83 | 89. | : | $\pm$ | $\pm$ | 51 | 46 | 39 "* | 48 | ${ }^{64}$ |
| Cleveland | - | : | $\pm$ | $\pm$ | $\pm$ | \% | $\pm$ | $\pm$ | - | : | $\pm$ | $\ddagger$ | $\pm$ | : | $\pm$ | : | - | $\pm$ | $\ddagger$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ |
| Dallas | - | - | - | - | - | : | $\pm$ | $\pm$ | - | - | - | - | - | : | : | \% | - | - | - | - | - | $\pm$ | $\pm$ | $\pm$ |
| Detroit | - | - | - | - | $\pm$ | : | $\pm$ | $\pm$ | - | - | - | - | $\pm$ | : | : | : | - | - | t | - | $\pm$ | $\pm$ | $\pm$ | $\pm$ |
| District of Columbla (DCPS) | : | : | $\pm$ | $\ddagger$ | $\pm$ | : | $\pm$ | $\pm$ | $\pm$ | : | $\pm$ | $\ddagger$ | $\pm$ | : | : | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | = | $\pm$ | $\pm$ | $\pm$ |
| Duval County (FL) | - | - | - | - | - | - | - | $\pm$ | - | - | - | - | $\overline{7}$ | - | - | $\pm$ | - | - | - | - | - | - | - |  |
| Fresno | - | - | - | - | 194. | 195 ‥ | 199 | 208 : ${ }^{\text {c/ }}$ | - | - | - | - | 37 | 39 | 43 | 55 :* | - | - | - | - | 11 | 11 | 17 | 16 :." |
| Hillsborough County (FL) | - | - | - | - | - | $\pm$ | 247 | $\pm$ | - | - | - | $\overline{77}$ | - | - | 93 | $\pm$ | - | - | - | - | - | $\pm$ | 64 | $\pm$ |
| Houston | : | : | $\pm$ | 231 | 240 | 245 | 245 | $\pm$ | $\pm$ | : | $\pm$ | 77 | 86 | 90 | 87 | : | : | $\pm$ | $\pm$ | 47 | 52 | 65 | 60 | $\pm$ |
| Jetterson cily (KY) | - | - | - | - | $\pm$ | 256 | $\pm$ | $\pm$ | - | - | - | $\overline{6}$ | $\pm$ | 94 | $\pm$ | ${ }^{2}$ | 26 | 28 | 37 | 31 | ${ }_{33}$ | 74 | 1 | $\pm$ |
| Lo5 Angeles | ${ }^{218} \times$ | ${ }^{218}{ }^{\cdots}$ | 223 | 219 | 220 ‥ | ${ }^{225}$ | ${ }^{223}$ | ${ }^{236}$ | $\stackrel{70}{-}$ | 61 … | $\stackrel{66}{-}$ | $\stackrel{66}{-}$ | ${ }^{68}$ | ${ }^{76}$ | ${ }_{6} 9$ | 82 | 26 ‥ | 28 ‥ | 37 | 31 | ${ }^{33}$ | ${ }^{36}$ | 34 | 49 |
| Mlaml-Dade | - | - | - | - | $\pm$ | $\pm$ | 1 | $\pm$ | - | - | - | - | $\pm$ | $\pm$ | 4 | $\pm$ | - | - | - | - | $\pm$ | 16 | 19 | $\pm$ |
| Mlwaukee | 35 | - | 235 | 230 | 214 235 | 206 230 | 201 202 | 236 | $\overline{78}$ | 72 | 79 | 75 | 62 82 | 45 76 | 49 | 81 | 50 | 39 | 47 | 43 | 20 50 | 16 43 | 19 47 | 51 |
| New Yorr cily Priadelphia | ${ }^{235}$ | ${ }^{227}$ | 235 | 230 | 235 214 | ${ }^{230}$ | 232 | ${ }_{221}^{236}$.. | 78 | $\xrightarrow{72}$ | 79 | 75 | 82 | 76 | ${ }^{78}$ | 81 70 | 50 | ${ }^{39}$ | 47 | 43 | 50 |  | 47 | ${ }^{51}$.. |
| Phlagelphla San Dlego | - | 222 | 222 | ${ }_{223}$ | 214 227 | 212 224 | 215 229 | ${ }_{222}^{221 .}$ | - | $\overline{66}$ | - | $\overline{70}$ | 61 75 | 59 72 | 64 75 | 70 69. | - | $\overline{3}$ | $\overline{32}$ | $\overline{35}$ | ${ }_{41}^{25}$ | 28 40 | ${ }_{41}^{32}$ | $\begin{aligned} & 33 \text {.. } \\ & 36 \end{aligned}$ |
| - Not avalizble Distrce did not parilicipa:e. <br> $\ddagger$ Reporting standards not met. Sample size insumicient to permit a rellable estmate. <br> - Signiticanty aifterent $p<0.05$ ) trom large city in 2015. <br> -" Signincantily difrerent $p<0.05$ ) from nation (public) in 2015. <br> -" Signifcantly dilverent p e . 05 ) from 2015. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Grade 8 Reading: 2002-2015

National Genter for Education Statistics
2015 Reading TuDA Aeseesment Report Card: summary Data Tables with Additional Detall for Average Scores, Achievement Levels,
and Percentiligs for Districts and Jurisolictions
Average scores and achlevement-level results in NAEP reading for eighth-grade public school students, by selected race/ethnicity categories and jurisdiction: Various years, 2002-15

|  |  |  |
| :---: | :---: | :---: |
|  |  |  $\vdots$ 8 8 8 <br>  <br>  <br>  <br>  <br>  ! ! ! <br>  |
|  |  |  ! <br>  ! <br>  <br>  <br>  : <br>  |
|  |  |  |

Grade 8 Reading: 2002-2015 (Continued)
Mational Genter for Education Statistics
2015 Reading TUDA Aesessment Report Card: summary Data Tables with Addiltional Detall for Average Scores, Achlevement Levels,
and Percentligs for Districts and Jurisdictlons
Average scores and achlevement-level results in NAEP reading tor elghth-grade pubic school students, by selected raceetitnicity categories and jurisolicilon: Various years, 2002-15-Continued


## Grade 8 Reading: 2002-2015 (Continued)

Mational Genter for Education Statistics
2015 Reading TUDA Assessment Report Card: summary Data Tables with Additional Detall for Average scores, Achisvement Levels,
and Percentlise for Districts and Jurisdictions
Average scores and achevement-level results in NAEP reading for elghth-grade public school stuventis, by selected raceefitnicty categorles and jurlsocicilon: Various years, 2002-15-Continued


## Grade 4 Mathematics: 2003-2015



Grade 4 Mathematics: 2003-2015 (Continued)
Hational Genter for Education Statistics
2015 Mathematice TUDA Aseesement Report Card: Summary Data T3bles with Additional Detall for Average Scores, Achlevement
Levels, and Percentlies for Districta and Jurisdictions
Average scores and achlevenent-level results in NAEP mathenatics for fourth-gade public school students, by selected racelethrictity categories and Jurisdiction:
Various years, 2003-15-Conthued

|  | !. !. !. ! ! ! ! ! ! ! ! ! ! !-! <br>  <br>  <br>  ! ! <br>  <br>  $\stackrel{\vdots}{\vdots!}$ |  <br>  <br>  <br>  <br>  <br>  <br>  |
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|  |  <br>  <br>  <br>  : $\stackrel{!}{!}$ <br>  |  <br>  <br>  <br>  <br>  <br>  i <br>  |
|  |  <br>  <br>  <br> ! i ! i i ! <br>  ! ! <br>  ! : |  <br>  <br>  <br>  <br>  <br>  <br>  |
|  |  |  |

Grade 8 Mathematics: 2003-2015
Average scores and achievement-level results in NAEP mathematics for eighri-grade public school students, by selected raselethnicty categories and jurisdiction:
Various years, 2003-15

| Race/ellivicty and jursolction | Average scale score |  |  |  |  |  |  | Percertage of students |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | At or above Basic |  |  |  |  |  |  | At or above Proncient |  |  |  |  |  |  |
|  | 2003 | 2005 | 2007 | 2009 | 2011 | 2013 | 2015 | 2003 | 2005 | 2007 | 2009 | 2011 | 2013 | 2015 | 2003 | 2005 | 2007 | 2009 | 2011 | 2013 | 2015 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Nation (pubilc) | 287 … | 288 … | 290 | $292 \cdots$ | 293 ". | $293 \cdots$ | 291 * | 79 -* | $79 \cdots$ | 81 | $82 \cdots$ | $83 \cdots$ | $83 \cdots$ | 81 | 36 "** | 37 … | 41 | 43 | $43 \cdots$ | $44 \cdots$ | $42^{*}$ |
| Large city ${ }^{\text {a }}$ | 285 … | 288 … | 292 | 294 | 295 | 295 | 296 ** | 77 "* | 78 … | 81 | 81 | 83 | 84 | 83 | 36 "* | $39 \cdots$ | 44 | 46 | 48 | 47 | $49^{\text {** }}$ |
| Albuquerque | $\bar{\square}$ | - | - | - | 291 | 295 | $289{ }^{\circ}$ | - | - | - | - | 79 | 81 | 80 | - | + | - | - | 44 | 49 | 40 * |
| Atania | 298. | $\pm$ | $\pm$ | 1 | 309 "- | 311 | 318. | 83 "* | $\ddagger$ | $\pm$ | $\pm$ | 95 | 94 | 99. | $54 \cdots$ | $\ddagger$ | - | $\pm$ | 66 | 68 | 79 '." |
| Austin | - | 305 | 308 | 312 | 313 | 312 | 313. | - | 90 | 91 | 94 | 94 | 95 | $94 \cdot \cdots$ | - | 61 | 65 | 70 | 69 | 70 | 66 '," |
| Batmore City | - | - | - | $\pm$ | 280 | 285 | 281. | - | - | - | $\pm$ | 70 | 70 | 68 | - | - | - | $\pm$ | 31 | 39 |  |
| Boston | $289 \cdots$ | 299 … | 305 | 311 | 305 | 309 | 311 \% | 77 ‥ | 83 | 69 | 93 | 88 | 89 | $90 \%$ | 48 … | $54 \cdots$ | 58 | 67 | 61 | 66 | 69 '." |
| Chanotle | 301 … | $304 \times$ | 308 | 304 "- | 311 | 313 | $312 \cdots$ | 91 | 90 | so | 91 | 93 | 93 | $91^{\circ} \cdot$ | 55 … | 60 | 62 | 58 ". | 66 | 68 | 67 '.* |
| Cricago | $276 \cdots$ | 281 … | 287 … | 269 … | 296 "- | 234. | $317 \%$ | 68 "* | 71 … | 79 … | 76 "* | 84 | 81 "* | $95 \%$ | 25 "* | 33 … | $35 \cdots$ | 39 ". | $47^{\ldots}$ | $49 \cdots$ | $72 \cdots$ |
| Cleveland | 269 | 265 | 269 | 275 | 277 | 265 | $273 \cdots$ | 63 | 54 | 64 | 67 | 69 | 52 | 63 ** | 14 | 17 | 12 | 21 | 25 | 18 | 23 ',* |
| Dall35 | - | - | - | - | 306 | 304 | $\pm$ | - | - | - | - | 91 | 88 | $\ddagger$ | - | - | - | - | 65 | 60 | $\pm$ |
| Detron: | - | - | - | $\pm$ | $\pm$ | $\pm$ | $\pm$ | - | - | - | $\pm$ | $\pm$ | $\pm$ | $\pm$ | - | - | - | $\pm$ | $\ddagger$ | $\pm$ | $\pm$ |
| Distret of Calumbla (DCPS) | $\pm$ | 317 | $\ddagger$ | $\pm$ | 322 | 315 | $314 \cdot \cdots$ | = | 94 | $\pm$ | $\pm$ | 97 | 92 | 91 '** | I | 69 | $\pm$ | $\pm$ | 78 | 72 | 72 ,'" |
| Duval County (FL) | - | - | - | - | - | - | $285{ }^{\circ}$ |  | - | - | - | - | - | $76 \%$ |  | - | - | - | - | - | $32 \%$ |
| Fresno | - | - | - | 262 | 281 | 279 | 281 -." | - | - | - | 70 | 68 | 70 | $71^{*}$ | - | - | - | 38 | 34 | 30 | 33 * |
| Hillsborough Courty (FL) | $\square$ | - | - | - | 293 | 296 | $290{ }^{\circ}$ | $\bar{\square}$ | $\checkmark$ | - | - | 82 | 85 | 80 | $\overline{4}$ | - | - | - | 44 | 49 | 43 |
| Houston | 293 … | 294. | 308 | 311 | 309 | 312 | 313\%... | 80 ‥ | 85 | 94 | 94 | 93 | 92 | 93. | $47^{\cdots}$ | 50 | 63 | ${ }_{3}^{67}$ | ${ }^{66}$ | ${ }^{68}$ | 70, 38 |
| Jemerson County (KY) | - | - | - | 284 | 285 | 285 | 285 \%* | - | - | - | 75 | 76 | 74 | 73 ', | - | - | - | 33 | 34 | 35 | 38 * |
| Los Angeles | 277 | 280 | 285 | 287 | 291 | 293 | $285{ }^{\circ}$ | 67 | 68 | 73 | 74 | 77 | 80 | 73 | 29 | 32 | 40 | 41 | 44 | 49 | 38. |
| Mamb-Dade | - | - | - | 291 | 288 ". | 295 | 299 * | - | - | - | 84 | 78 | 83 | 87 | - | - | - | 40 | 39 | 46 | 51 |
| Miwaukee | - | - | - | 271 | 274 | 282 | - | 7 | 77 | = | 61 | 63 | 72 | - | $\overline{-}$ | $\bar{\square}$ | $\overline{-}$ | 20 | 22 | 35 | - |
| New York Cty | 289 | 286 | 289 | 295 | 292 | 301 | 294 | 79 | 77 | 77 | 84 | 80 | 87 | 80 | 40 | 38 | 39 | 47 | 44 | 55 | 46 |
| Pnladepria | - | - | - | 284 | 281 | 287 | $282 \times$ | - | - | - | 71 | 70 | 76 | 69 ** | - | - | - | 35 | 32 | 34 | 31. |
| San Diego | 284 $\cdots$ | $292 \cdots$ | 294 | 301 | 302 | 300 | $302 \%$ | $76 \cdots$ | 83 | 85 | 89 | 89 | 86 | $88^{\circ}$ | $35 \cdots$ | 42 | 42 | 55 | 58 | 53 | $52^{*}$ |
| Black |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Nation (public) | $252 \cdots$ | 254 "- | 259 | 260 | 262 "- | 263 … | 260 | 39 -** | $41^{\text {m }}$ | 47 | 49 | 50 … | 51 ‥ | 47 | $7 \times$ | 8 … | 11 … | 12 | 13 | 14. | 12 |
| Large city' | $247 \cdots$ | 250 "- | 254 "- | 256 | 261 | 261 | 258 | 34. | 36 *. | 41 | 44 | 49 | 49 | 45 | $5^{*}$ | 7 … | 9 … | 10 | 13 | 13 | 11 |
| Abuquerque | - | - | - | - |  | $\pm$ | $\pm$ | - |  | - | - | $\pm$ | $\pm$ | $\pm$ | - |  | - |  | $\ddagger$ | $\pm$ | $\pm$ |
| Atania | $241 \cdots$ | $242 \cdots$ | 253 … | 255 | $262 \times$ | 251 | 258 | $26 \cdots$ | $28 . \cdots$ | 38 | 42 | 50 | ${ }^{48}$ | 43 | $3^{*}$ | $4{ }^{\text {m }}$ | 14 | 7 ${ }^{\text {m }}$ | 11 | 11 | 11 |
| Austin Batmore Ciy | - | 262 | 265 | 274 " | 265 | 267 | 260 | - | 52 | 57 | 62 | 53 | 55 | 49 | - | 12 | 14 | 21 | 17 | 17 | 9 |
| Batimore Criy Boston | - | - | - | 255 | 259 "- | 257 | 251 ... | - | - | - | 41 | $45 \cdots$ | 44 | $37 \cdot \cdots$ | - | - | - | 7 | 10 | 10 | 9 |
| Boston | $251 \ldots$ | 256 … | 263 | 268 | 272 | 271 | $269 \%$ | $36 \cdots$ | $45 \cdots$ | 51 | 57 | 61 | 61 | $58 . \%$ | 6 ** | 9 … | 12 | 18 | 21 | 22 | 18 \% |
| Chariote | $258 \cdots$ | $264 \cdots$ | 267 | 270 | 268 | 271 | 268 - $\%$ | 47 | 54 | 58 | 60 | 58 | 62 | $57 \cdot$ | $11 \cdots$ | 14 | 15 | 17 | 16 | 20 | 18 '," |
| Cricago | $245 \cdots$ | 245 "- | $248 \cdots$ | $252 \times$ | 260 | 259 | 262 * | 29 … | 28 … | 35 "- | $38 \cdots$ | 43 | 46 | 50 | $4^{\text {*** }}$ | $3 \cdots$ | 6 *. | 7 … | 10 | 10 | 11 |
| Cleveland | 249 | 244 | 253 | 252 | 249 | 249 | $249 \cdots$ | 32 | 29 | 41 | 38 | 31 | 35 | $34^{*} \cdot \cdots$ | 5 | 3 | 5 | 5 | 6 | 7 | 6 -." |
| Dallas | - | - | - | - | 264 | 263 | 251 | - | - | - | - | 52 | 52 | 47 | - | - | - | - | 12 | 13 | 10 |
| Detrot: |  |  |  | 237 | 244 | 239 | $242 \%$ |  |  | 3 | 21 | 27 | 23 | $24^{\circ} \because$ | - | , | - | 4 | 3 | 3 | 4 -." |
| Distret of Coaumbla (DCPS) | $240 \cdots$ | 241 ". | 245 | $244 \cdots$ | 249 | 253 | $243 \cdots$ | $26 \cdots$ | 27 "* | $31 \times$ | 32 | 36 | 40 | $37 \cdot *$ | $3 \cdots$ | 4 * | 6 | 6 | 9 | 9 | $8^{\circ}$ |
| Duval County (FL) | - | - | - | - | - | - | $264 \%$ | - | - | - | - | - | - | 52 . | - | - | - | - | - | - | 11 |
| Fresno | - | - | - | 245 | 243 | 247 | 242 \% | - | - | - | 32 | 29 | 34 | $25^{\circ}$, | - | - | - | 7 | 7 | 6 | 7 |
| Hillsborough Courty (FL) | - | - |  | - | 263 | 264 | 260 | - |  | - | - | 54 | 54 | 47 | $\overline{7}$ | 万 |  | - | 10 | 13 | 10 |
| Houston | $259 \cdots$ | 257 … | 265 | 266 | 271 | 271 | $265{ }^{\circ} \mathrm{*}$ | 47 | 47 | 58 | 59 | 64 | 63 | $55^{\circ}$ | $7 \times$ | 7 … | 13 | 13 | 17 | 18 | 17. |
| Jeterson County (KY) | - | - | - | 252 | 257 | 257 | 252 ** | - | - | - | 38 | 42 | 44 | $38^{\circ} \cdot \cdots$ | - | $\bigcirc$ | - | 7 | 10 | 10 | 8 |
| Los Angeles | 234 | 239 ". | 245 | 247 | 246 | 256 | 255 | $21^{\prime \cdots}$ | 29 | $\stackrel{28}{-}$ | 34 | 36 | 44 | 41 | 2 | $\underline{7}$ | 7 | 12 | 8 | 9 | 10 |
| Miam-Dade |  | - | - | 260 | 256 | 259 | 255 | - | - | - | 48 | 42 | 47 | 40 | - | - | - | 12 | 9 | 10 | 8 |
| Miwaukee | - | - | - | 244 | 246 | 247 | - | - | - | - | 28 | 30 | 31 | - | - | - | - | 3 | 5 | 4 | - |
| New Yors Cty | 253 | 257 | 258 | 261 | 262 | 263 | 261 | 40 | 44 | 45 | 49 | 50 | 51 | 48 | 9 | 10 | 10 | 12 | 12 | 13 | 13 |
| Phlazdepria |  | - |  | 256 | 260 | 258 | 257 | - | - | - | 43 | 47 | 45 | 43 | - | - | - | 8 | 13 | 12 | 10 |
| San Diego | 252 | 253 | 258 | 263 | 256 | 260 | 261 | 39 | 40 | 43 | 50 | 42 | 50 | 52 | 7 | 8 | 11 | 16 | 8 | 14 | 9 |

Grade 8 Mathematics 2003-2015 (Continued)
Hational Genter for Elucation Statistics
2015 Mathematics TUDA Assesement Report Card: Summary Data Tables with Additional Dstall for Average Scores, Achlevement
Levels, and Percentles for Districts and Jurisdictions
Average scores and acirevement-evel resuts in NAEP mathematcs for eignth-grade public schood students, by selected raceiethrictiy categories and Jurisaliction:
Various years. $2003-15$-Continued

| Raceeternidity and jurisdetion | Average scale score |  |  |  |  |  |  | Feroentage of siudents |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | Ator above Baste |  |  |  |  |  |  | Ator above Proncient |  |  |  |  |  |  |
|  | 2003 | 2005 | 2007 | 2009 | 2011 | 2013 | 2015 | 2003 | 2005 | 2007 | 2009 | 2011 | 2013 | 2015 | 2003 | 2005 | 2007 | 2009 | 2011 | 2013 | 2015 |
| Hlapanic |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Nation (public) | $258 \cdots$ | 261 "- | $264 \cdots$ | 266 ". | 269 | 271 | 269 | $47^{\ldots}$ | $50^{\ldots}$ | $54^{\cdots}$ | $56 \cdots$ | 60 | 62 | 60 | $11^{\text {m }}$ - | 13 … | 15 … | 17 | 20 | 21 | 19 |
| Large city ${ }^{\text {a }}$ | $256 \cdots$ | 258 "- | 261 … | 264 | 267 | 269 | 268 | $43 \cdots$ | 46 ". | 50 "* | 54 | 58 | 60 | 57 | 10 "- | 11 … | 13 … | 16 | 19 | 20 | 18 |
| Abuquerque |  |  | - | - | 269 - | 267 | 264 "* | - | - | - | - | 57 | 56 | 55 " | - | - | - | - | 19 | 18 | 15 *." |
| Allanta | $\pm$ | 1 | $\ddagger$ | $\pm$ | 264 | 262 | 271 | $\ddagger$ | $\pm$ | $\pm$ | $\pm$ | 52 | 56 | 59 | I | $\ddagger$ | 1 | $\pm$ | 16 | 7 | 18 |
| Austin | - | 267 | 271 | 274 | 276 | 273 | 271 | - | 56 | 64 | 65 | 67 | 66 | 60 | - | 17 | 19 | 22 | 24 | 21 | 20 |
| Barimore Clity | - | - | - | $\pm$ | $\pm$ | $\pm$ | 261 | - | - | - | $\pm$ | $\pm$ | $\pm$ | 47 | - | - | - | $\pm$ | $\pm$ | $\pm$ | 17 |
| Boston | 252... | 261 "- | 270 | 269 | 271 | 275 | 271 | $38 \cdots$ | 51 | 60 | 61 | 62 | 66 | 60 | 7 … | 12 … | 20 | 20 | 24 | 25 | 24 *,* |
| Charote | $262 \cdots$ | 262 "- | 264 | 272 | 272 | 279 | 275 | 46 | 53 | 50 ". | 63 | 63 | 70 | 66 | 18 | 15 | 19 | 21 | 22 | 29 | 29 |
| Cricago | $259 \cdots$ | 263 ‥* | 265 … | 268 … | 271 | $270 \cdots$ | 275 -," | $48 \cdots$ | $52 \cdots$ | 55 "* | 59 | 64 | 61 | $66^{\circ} \cdot \cdots$ | 8 " | 11 … | $12 \cdots$ | 18 "* | $20 . \cdots$ | 20 ‥ | $26^{\circ}$,** |
| Cleveland | 249 | 251 | 258 | 250 | 258 | 252 | 257 '." | 35 | 33 | 44 | 35 | 44 | 39 | 44 :* | 2 | 7 | 6 | 4 | 11 | 9 | 10 ",* |
| Dallas | - | - | - | - | 276 | 277 … | 272 . | - | - | - | - | 67 | $70 \cdots$ | 62 | - | - | - | - | 22 | 23 | 22 |
| Detrolt | - | - |  | 255 | 258 | 243 | 253 ?." | - | - | - | 4 | 41 | 29 | 39 *,* | - | - | - | 8 | 8 | 7 | 6 \%." |
| District of Columbla (DCPS) | 245 | 252 " | 251 ". | 263 | 253 | 262 | 263 * | $33 \cdots$ | 39 | 38 "* | 56 | 40 | 52 | 52 | $3^{*}$ | $9 \times$ | $9 \times$ | 17 | 12 | 20 | 19 |
| Dural County (FL) |  | - | - | - | - | - | 266 | - | - |  | - | - | - | 58 | - | - |  | - |  | - | 13 |
| Fresno | - | - | - | 253 | 251 | 256 | 252 - | - | - | - | 40 | 37 | 43 | $38 \cdot \cdots$ | - | - | - | 10 | 10 | 9 | 9 -." |
| Hilsborough County (FL) | - | - | - | - | 274 | 278 | 266 | - |  | - | - | 64 | $69 \cdots$ | 56 |  | - | - | - | 23 | $26^{\cdots}$ | 17 |
| Houston | $261 \cdots$ | 265 "* | 270 | 275 | 278 ". | 279 … | 273 -." | $49 \cdots$ | 56 | 62 | 70 | $72 \cdots$ | $72 \cdots$ | 64 *** | $9 \cdots$ | $12 \cdots$ | $15 \cdots$ | 21 | 24 | 25 | 21 |
| Jetterson County (KY) |  | - |  | 1 | 270 | 265 | 266 | - | - | - | $\pm$ | 64 | 51 | 51 | - | - | - | $\pm$ | 20 | 17 | 17 |
| Los Angeles | $240 \cdots$ | 245 " | 253 … | 254 "- | 255 | 258 | 259 :** | 26 "* | $32 \cdots$ | $40 \cdots$ | $41^{\ldots}$ | 43 | 48 | 47 :** | $3^{*}$ | $6^{\ldots}$ | 9 | 8 | 10 | 12 | 10 '." |
| Mlaml-Dade | - | - | - | 274 | 274 | 275 | 277 :"* | - | - | - | 65 | 65 | 65 | 68 ',*" | - | - | - | 23 | 24 | 25 | 27 *** |
| Mlwaukee | - | - | - | 256 | 259 | 265 | - | - | - | - | 43 | 49 | 56 | - | - | - | - | 8 | 11 | 14 | - |
| New Yors Criy | 260 | 259 "- | 262 | 261 | 261 ". | 263 | 267 | 48 | 47 ‥ | 52 | 50 | 50 | 54 | 57 | 15 | 12 | 14 | 14 | 12 | 13 | 18 |
| Phladelphia | - | - | - | 258 | 256 | 261 | 259 :". | - | - | - | 43 | 42 | 49 | $47^{\text {* }}$ | - | - | - | 12 | 10 | 14 | 13 |
| San Diego | 243 … | 258 "- | 259 | 265 | 263 | 260 | 266 | $34 \cdots$ | 49 | 48 | 54 | 52 | 49 | 58 | $6 \cdots$ | 11 | 13 | 14 | 14 | 15 | 17 |
| AslaniPacific islander Nation (pubilic) | $289 \cdots$ | 294 "- | 296 … | $300 \cdots$ | 302 | 305 | $305{ }^{\circ}$ | $77 \times$ | 81 ㄲ.. | 82 … | 84 | 85 | 87 | 86 | $42 \cdots$ | 46 … | $49 \cdots$ | 53 | 55 | 60 |  |
| Large city ${ }^{1}$ | 281 … | 289 - | 291 ... | 299 | 296 | 299 | 300 -* | $71 \cdots$ | 76 … | 78 | 83 | 82 | 83 | 84 | 33 ... | $40^{\cdots}$ | 44 - | 52 | 49 | 53 | 54 |
| Albuqueque | - | - | - | - | $\pm$ | $\pm$ | $\pm$ | - | - | - | - | $\pm$ | $\pm$ | $\pm$ | - | - | - | - | $\pm$ | $\pm$ | $\pm$ |
| Alanta | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\ddagger$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ |
| Austin | - | $\pm$ | $\ddagger$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | - | $\pm$ | $\ddagger$ | $\pm$ | $\pm$ | $\ddagger$ | $\pm$ | - | $\ddagger$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\ddagger$ |
| Batimore Cliy | - | - | - | $\pm$ | $\pm$ | $\pm$ | $\pm$ | - | - | - | $\pm$ | $\pm$ | $\ddagger$ | $\pm$ | - | - | - | $\pm$ |  | $\pm$ | $\ddagger$ |
| Bostion | $300 \cdots$ | 309 | 305 | 312 | 319 | 318 | 318 -," | 87 | 92 | 91 | 92 | 93 | 92 | 92. | 57 | 61 | 57 | 68 | 71 | 73 | 70 *,* |
| Charote | $293 \cdots$ | I | 305 | I | 304 | 312 | 314 * | 81 | I | 88 | $\pm$ | 83 | 85 | 88 | $43 \cdots$ | $\pm$ | 56 | 1 | 61 | 61 | 67 |
| Cricago | 285 | 292 | $\ddagger$ | 301 | 296 | 305 | $\pm$ | 78 | 83 | $\ddagger$ | 88 | 82 | 86 | $\pm$ | 36 | 38 | $\pm$ | 54 | 50 | 61 | $\ddagger$ |
| Cleveland | $\pm$ | $\pm$ | $\ddagger$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\ddagger$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\ddagger$ | $\pm$ | $\pm$ | $\ddagger$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ |
| Dallas | - | - | - | - | $\pm$ | $\pm$ | $\pm$ | - | - | - | - | $\pm$ | $\pm$ | $\pm$ | - | - | - | - | $\pm$ | $\pm$ | $\ddagger$ |
| Detrolt | - | - | - | $\pm$ | $\pm$ | $\pm$ | $\pm$ | - | - | - | $\pm$ | $\pm$ | $\ddagger$ | $\pm$ | - | - | - | $\pm$ | $\pm$ | $\pm$ | $\pm$ |
| District of Columbla (DCPS) | $\pm$ | $\pm$ | $\ddagger$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\ddagger$ | $\pm$ | $\ddagger$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ | $\pm$ |
| Duval County (FL) | - | - | - | - | - | - | 296 | - | - |  | - | - | - | 85 | - | - | - | - | - | - | 48 |
| Fresno | - | - | - | 266 | 264 | 271 | 271 -." | - | - | - | 54 | 53 | 63 | $60 \%$ | - | - | - | 17 | 17 | 19 | $21^{\circ}$, |
| Hilsborough County (FL) | - | - | - | - | $\pm$ | $\pm$ | $\pm$ 。 | - | - | 87 |  | $\pm$ | $\ddagger$ | $\pm$ | - | 55 ... | 63 | - | $\pm$ | ${ }_{8}^{ \pm}$ |  |
| Houston | $\pm$ | 299 "-> | 310 | $\pm$ | 309 | 313 | 320 * | $\ddagger$ | 85 | 87 | $\pm$ | 87 | 82 | 90 | $\pm$ | $55^{*}$ | 63 | $\pm$ | 66 | 68 | $75^{*}$,* |
| Jefterson County (KY) | - | - | - | $\pm$ | $\pm$ | $\pm$ | $\pm$ | - | - | - | $\pm$ | $\pm$ | $\ddagger$ | $\pm$ |  | - | - | $\pm$ | $\pm$ | $\pm$ | $\ddagger$ |
| Los Angeles | $275 \cdots$ | 291 | 292 | 291 | 295 | 296 | 296 | 64 ㄲ | 82 | 82 | 78 | 80 | 86 | 82 | 25 ‥ | 43 | 45 | 44 | 43 | 47 | 49 |
| Mlamt-Dade | - | - | - | $\pm$ | $\ddagger$ | $\pm$ | $\pm$ | - | - | - | $\pm$ | $\pm$ | $\pm$ | $\pm$ | - | - | - | $\pm$ | ${ }^{*}$ | $\pm$ | $\ddagger$ |
| Mlwaukee | - | - | - | $\pm$ | 271 | $\pm$ | - | - | 7 | - |  | 68 | $\ddagger$ | - | - | - | - | $\pm$ | 23 | $\pm$ | - |
| New Yors Criy | 286 | 295 | 299 | 309 | 304 | 304 | 303 | 74 | 79 | 83 | 69 | 86 | 84 | 84 | 38 "-* | 50 | 53 | 64 | 57 | 59 | 56 |
| Phladephia | - | - | - | 295 | 295 | 297 | 303 | - | - | - | 85 | 79 | 85 | 88 | - | - | - | 46 | 47 | 50 | 56 |
| San Diego | 278 … | $282 \cdots$ | 289 | 292 | 293 | 293 | 292:** | $69 \cdots$ | 74 | 77 | 81 | 78 | 82 | $80^{\circ}$ | $28 \cdots$ | $31^{\cdots}$ | 40 | 48 | 45 | 46 | $47^{*}$ |

[^2]
 SOURCE: U.S. Depatment of Education, Instltute of Education Sclences, National Certer for Educaton Statistcs, Naztonal Assessment of Eoucational Progress (NAEP), various years, 2003-15 Mathemaitcs Assessmerts.

## APPENDIX E: Performance of Grade 4 Students who are Neither SD Nor ELL

## Grade 4 Reading

Comparisons of Percentage of Students who are Neither SD nor ELL in 2015: Boston and
Nation, Large City \& TUDA Districts, 2015


Comparisons of 2015 Average Scale Score of Students Who are Neither Students with Disabilities Nor English Language Learners

Grade 4 Regular Education Students
2015 Reading Average Scale Score Comparisons: Boston and Nation, Large City \& TUDA Districts


## Grade 4 Mathematics

## Comparisons of Percentage of Students who are Neither SD nor ELL in 2015: Boston and Nation, Large City \& TUDA Districts, 2015



Comparisons of 2015 Average Scale Score of Students Who are Neither Students with Disabilities Nor English Language Learners

Grade 4 Regular Education Students 2015 Mathematics Average Scale Score Comparisons: Boston and Nation, Large City \& TUDA Districts



[^0]:    * Large Cities include students from all cities in the nation with populations of 250,000 or more including the participating districts.

[^1]:    * Significantly different ( $\mathrm{P}<.05$ ) from Large City in 2015.

[^2]:    

