



# 4<sup>th</sup> Grade

## Overall, district performance is comparable to that of large central cities nationwide

Fourth-grade students in 7 of the 10 participating districts scored at least as well, on average, as students attending public schools in large central cities nationally. In many cases, the same was true when students from the TUDA districts were compared with their peers from the same racial/ethnic groups in large central cities nationally. Although the science scores in nearly all the participating districts were lower than the national average, when only the scores of students from low-income families were compared, there were fewer score differences among districts.

## Similar to or above large central cities, but below the nation

In all but three participating districts, average scores were higher than, or not significantly different from, the average score for large central city schools. When compared to public schools nationwide, however, fourth-graders in all but one of the 10 districts had lower average scores (figure 1).

All of the districts had students scoring in the *Proficient* achievement level and some students in the *Advanced* achievement level (figure 2)—that is, districts with low average scores also had students performing at higher levels.

Compared to public schools nationally, nearly all of the participating districts had lower percentages of students at or above *Basic* and at or above *Proficient*. In one-half of these districts, however, the percentages of students performing at or above the *Basic* level were about the same as or higher than the percentage in large central cities.

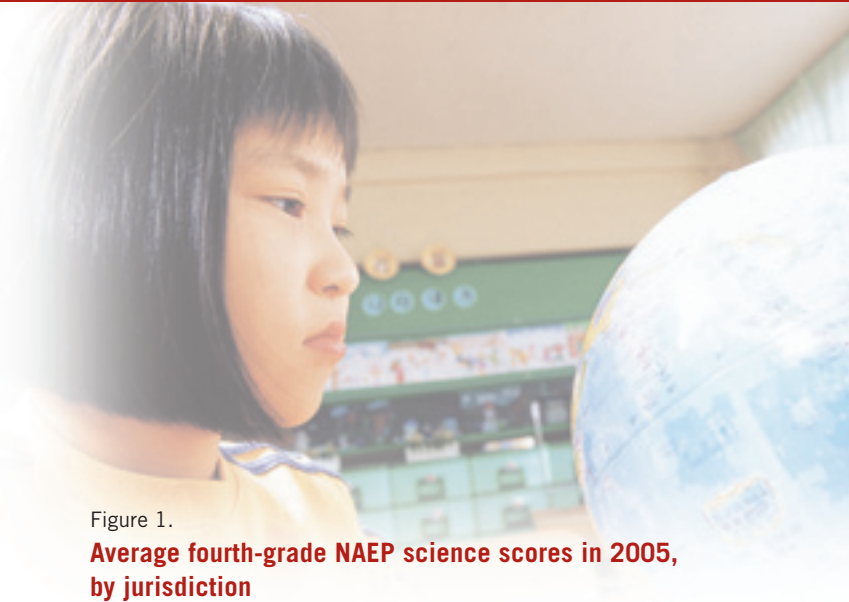


Figure 1. **Average fourth-grade NAEP science scores in 2005, by jurisdiction**

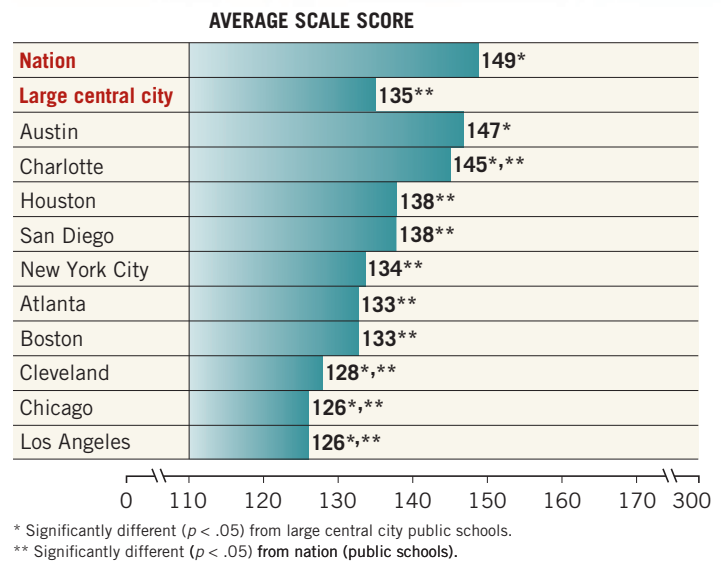
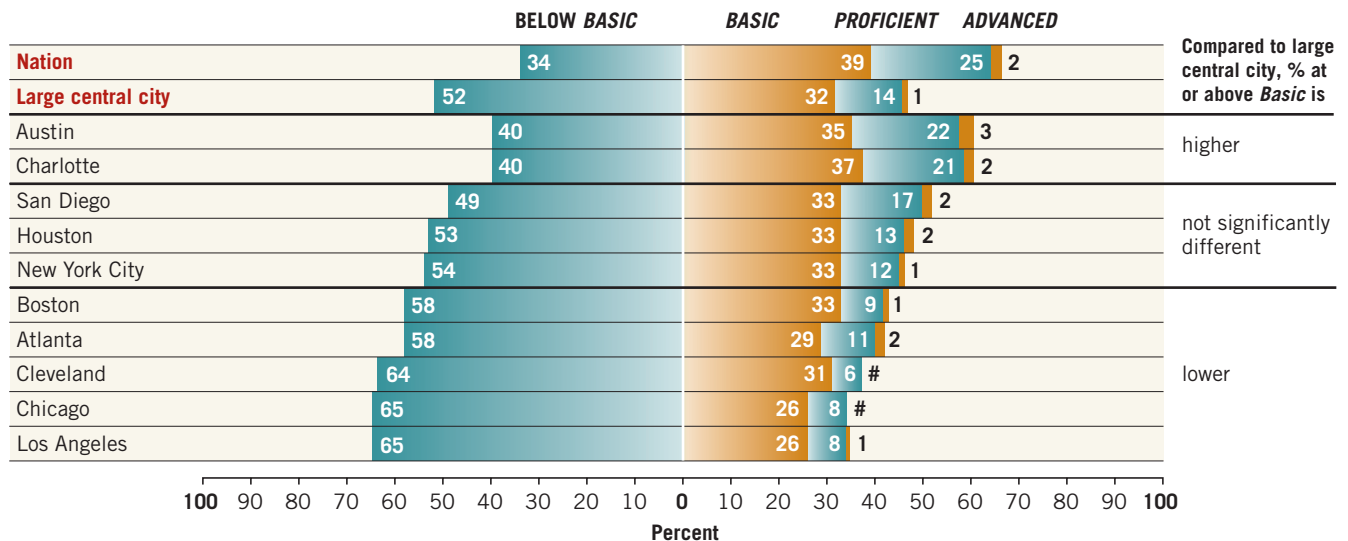


Figure 2. **Percentage of fourth-grade public school students, by NAEP science achievement level and jurisdiction in 2005**



## For low-income students, relative district performance differs from overall results

Figure 3 shows comparisons among districts based on all public school students. Austin and Charlotte were in the top tier, while Chicago and Los Angeles were in the lowest tier.

The participating districts typically have greater percentages of low-income students than public schools nationally. (See the demographic profiles in table 1 on page 24.) NAEP uses students' eligibility for free or reduced-price school lunch as an indicator of socioeconomic status.<sup>1</sup> Typically, eligible students are from low-income families and have average scores that are significantly below those of students from higher-income families.

The highest-scoring districts when all public school students are considered have some of the smallest percentages of low-income students. The lowest-performing districts, however, have some of the largest

percentages. This contrast helps in understanding why the overall average scores for most districts are below that of the nation.

Figure 4 shows the cross-district comparisons for only low-income students. Here, the ranking among districts differs from that for all students. For example, Houston, Boston, New York City, and Cleveland move up in the rankings, and fewer differences are seen in performance across districts.

<sup>1</sup>Under the guidelines of the National School Lunch Program, children from families with incomes below 130 percent of the poverty level are eligible for free meals. Those with incomes between 130 percent and 185 percent of the poverty level are eligible for reduced-price meals. (For the period July 1, 2004 through June 30, 2005, for a family of four, 130 percent of the poverty level was \$24,505, and 185 percent was \$34,873. See <http://www.fns.usda.gov/cnd/lunch> for more information.)

Read across each district's row to determine whether the average score of that district was higher than, not significantly different from, or lower than the jurisdiction in the column heading. The direction of the arrow indicates whether the jurisdiction in the row is higher than (up arrow), lower than (down arrow), or not significantly different from (no arrow) the district in the column heading.

Figure 3.

### Cross-district comparisons of average fourth-grade NAEP science scores for all public school students in 2005

DISTRICT (Average score)	Nation	Large central city	Austin	Charlotte	Houston	San Diego	New York City	Boston	Atlanta	Cleveland	Chicago	Los Angeles
Austin (147)	▲	▲			▲	▲	▲	▲	▲	▲	▲	▲
Charlotte (145)	▼	▲			▲	▲	▲	▲	▲	▲	▲	▲
Houston (138)	▼		▼	▼					▲	▲	▲	▲
San Diego (138)	▼		▼	▼					▲	▲	▲	▲
New York City (134)	▼		▼	▼							▲	▲
Boston (133)	▼		▼	▼							▲	▲
Atlanta (133)	▼		▼	▼	▼	▼					▲	▲
Cleveland (128)	▼	▼	▼	▼	▼	▼						
Chicago (126)	▼	▼	▼	▼	▼	▼	▼	▼	▼			
Los Angeles (126)	▼	▼	▼	▼	▼	▼	▼	▼	▼			

- ▲ ▲ District had higher average scale score than the district listed at the top of the column.
- No statistically significant difference detected from the district listed at the top of the column.
- ▼ ▼ District had lower average scale score than the district listed at the top of the column.

Figure 4.

### Cross-district comparisons of average fourth-grade NAEP science scores for low-income public school students in 2005

DISTRICT (Average score)	Nation	Large central city	Austin	Houston	Boston	New York City	Charlotte	Cleveland	San Diego	Atlanta	Chicago	Los Angeles
Austin (135)	▲	▲							▲	▲	▲	▲
Houston (131)	▼	▲								▲	▲	▲
Boston (130)	▼									▲	▲	▲
New York City (130)	▼	▲								▲	▲	▲
Charlotte (129)	▼										▲	▲
Cleveland (128)	▼											▲
San Diego (127)	▼		▼									▲
Atlanta (124)	▼	▼	▼	▼	▼	▼						
Chicago (122)	▼	▼	▼	▼	▼	▼	▼					
Los Angeles (121)	▼	▼	▼	▼	▼	▼	▼	▼	▼			

NOTE: The average score for all students in the nation was 149 and was 135 for low-income students. The average score for all students in large central cities was 135 and was 127 for low-income students. In NAEP, low-income students are students identified as eligible for free or reduced-price school lunch.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005 Trial Urban District Science Assessment.

## Nation – district gaps narrower for low-income students

Figure 5 below shows how the picture of district performance in comparison to the nation changes when looking at only low-income students. Gaps in average scores between the nation and the districts when all public school students are included range from 2 to 24 points (shown by the bars on the left side of the figure).

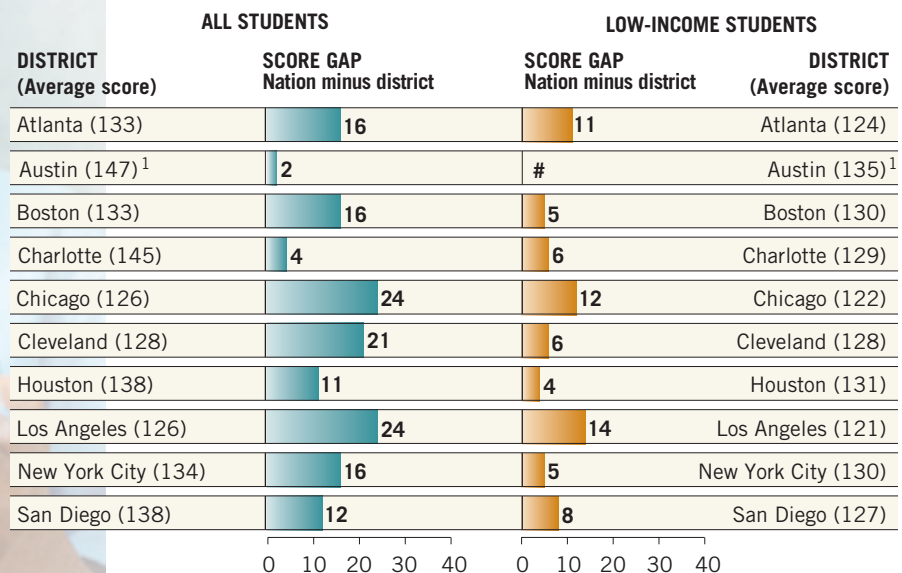
These gaps in overall scores may be related, in part, to the greater percentages of low-performing, low-income students in the districts. The right side of the figure

shows that the gaps between low-income students in the nation and in each district range from almost none to 14 points.

Using Cleveland (which identifies all of its students as low-income) as an example, the district's average score was 21 points lower than the national average. Cleveland's average score for low-income students, however, was 6 points lower than the average for low-income students nationally.

Figure 5.

### NAEP fourth-grade public school science score gaps between nation and districts for all students and for low-income students in 2005, by urban district



# The estimate rounds to zero.

<sup>1</sup> The score point difference between Austin and the nation was not statistically significant when comparing all students or when comparing low-income students.

NOTE: The average score for all students in the nation was 149 and was 135 for low-income students. In NAEP, low-income students are students identified as eligible for free or reduced-price school lunch. Score gaps are calculated based on differences between unrounded average scores.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005 Trial Urban District Science Assessment.



## District percentile rankings vary by demographic groups

Percentile ranks provide a comparative view of student performance at higher, middle, and lower levels on the NAEP science scale. Figure 6 displays the national percentile ranking of the TUDA districts and their subgroups, as well as that of the comparable groups in the nation and in large central cities. For example, the

average score for Black students in Austin was at the 29th percentile. This means that they performed as well as or better than 29 percent of all students nationwide, including their Black counterparts in large central cities whose average score was at the 21st percentile.

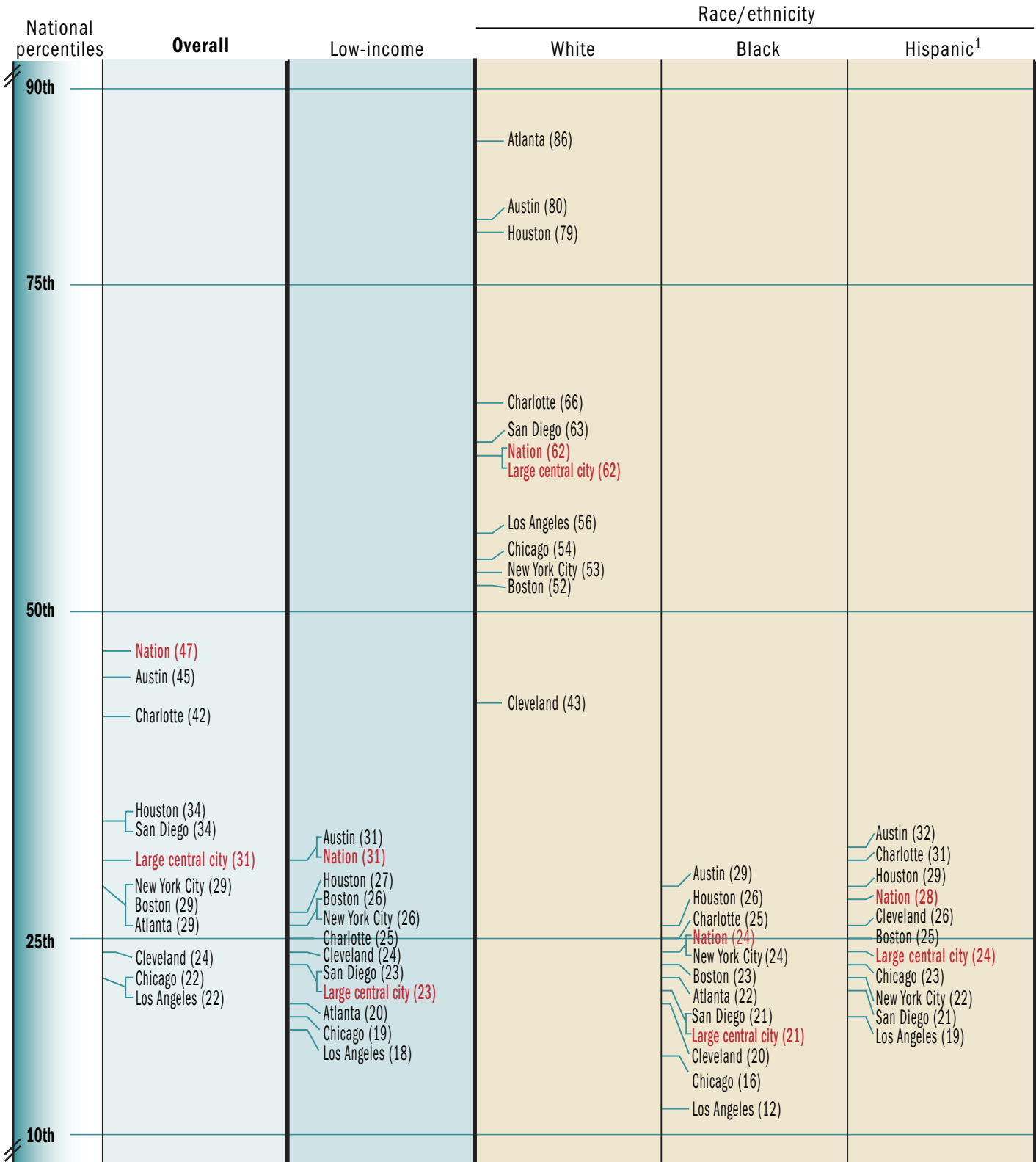


### A Note on Percentiles

The figure on the next page shows groups of students within each participating urban district ranked against the NAEP national public school percentiles. The average score for the group was used to determine its percentile rank compared with public schools nationally. A percentile indicates the percentage of students whose scores fell at or below a particular score. The 10th and 25th percentiles represent lower-scoring students, the 50th percentile represents middle-scoring students, and the 75th and 90th percentiles represent higher-scoring students.

Figure 6.

**National percentile rankings for districts based on average scores in NAEP fourth-grade science, by low-income status and race/ethnicity: 2005**



<sup>1</sup> Sample size is insufficient to permit a reliable estimate for Hispanic students in Atlanta.

NOTE: Groups not shown are included in overall. In NAEP, low-income students are students identified as eligible for free or reduced-price school lunch. Race categories exclude Hispanic origin. The 50th percentile represents the middle score in the distribution of scores for public school students nationally. The average score for these students, however, fell below that point at the 47th percentile because there was a greater concentration of scores toward the lower end of the scale compared to the higher end.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005 Trial Urban District Science Assessment.