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All But 3 Urban Districts Trail Nation on National Science Assessment

By Erik W. Robelen

Most of the 17 urban districts that took part in a prominent science exam fell below the national average, with the exception of the school systems in Austin, Texas; Charlotte, N.C.; and Jefferson County, Ky. Their 4th graders scored about the same as their peers across the country.

Even in those three, however, only about one-third of 4th graders were deemed "proficient" in science, according to **results released last week** on the National Assessment of Educational Progress.

At the other end of the spectrum, a scant 4 percent of 4th graders in Cleveland and Detroit, and 5 percent in Baltimore, were rated proficient.

Meanwhile, at the 8th grade level, only students in Austin had an average score that did not fall below the national level; it was not statistically different.Because of recent changes to update the framework guiding the NAEP in science, the new findings are not considered comparable with the results last reported, from 2005.

Alan J. Friedman, a member of the **National Assessment Governing Board**, which sets policy for NAEP, noted that the results come on the heels of what he terms the "lackluster" performance shown by the nation as a whole when the national results, as well as state-by-state data, came out in January. (**"Mastery of Science Eludes Most Students, NAEP Scores Indicate,"** Feb. 2, 2011.)

"The situation is worse in the big cities," said Mr. Friedman, a former director and chief executive officer of the **New York Hall of Science** in New York City, in a prepared statement. "And, unfortunately, the achievement deficit in the cities is considerably greater in science than it is in reading and math."

Overall, the average for all students in big-city public schools was about 14 percentile points behind the nation in science, compared with about 10 points behind the national average in recent results for reading

and math. In science, students are scored on a zero to 300 scale with a mean of 150.

'Basic Really Is Basic'

The science NAEP covers physical science, life science, and earth and space sciences. The results released Feb. 24 were for the **NAEP Trial Urban District Assessment**, which tested representative samples of 900 to 2,200 4th and 8th graders in each school system. The revised science framework incorporates new advances in the field, research on science learning, and components from international assessments.

Urban schools and districts on average have more racial and ethnic minority students and more children from low-income families than the nation. For example, 71 percent of 4th graders tested in big-city public schools were eligible for a free or reduced-price lunch, compared with 48 percent nationally.

Although the results are not directly comparable with the NAEP science data from 2005, the Austin and Charlotte-Mecklenburg districts were once again at the top of the pack. (Jefferson County, which includes Louisville, did not take part in the special study in 2005.) Those three districts also have some of the lowest student poverty rates among the 17 participants.

In most of the districts in the trial assessment, half or more of all 8th graders fell below the "basic" level. For example, 80 percent of 8th graders in Detroit and Baltimore were below basic, the two lowest performers.

That compares with 38 percent for the nation as a whole and 56 percent for all large cities.

"Basic really is basic," Mr. Friedman said in an interview. "Kids who don't reach that level ... are just notprepared to think about science and all the issues that they're going to face in their lives."

The below-basic numbers were somewhat more favorable at 4th grade, where eight of the 17 districts had more than half their students fall into that category.

Arthur Eisenkraft, a professor of science education at the University of Massachusetts Boston, expressed alarm at the most recent findings.

"The view is not pretty," he said in a statement. "The problems of science education have been identified before. It seems that we rediscover them on a regular basis."

Mr. Eisenkraft said that the NAEP science data show that "some schools and some students have found a way to thrive. We have to find these pockets of success and learn from them."

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