Summary of NAEP Science Scores Major Findings

Fewer than one-half of students perform at or above the *Proficient* level in science at all three grades

Students throughout the nation in grades 4, 8, and 12 participated in the 2009 National Assessment of Educational Progress (NAEP) in science. The assessment was updated in 2009 to keep the content current with key developments in science, curriculum standards, and research. To establish the baseline for future science assessments, the overall average score for each grade was set at 150 on a 0 to 300 scale.

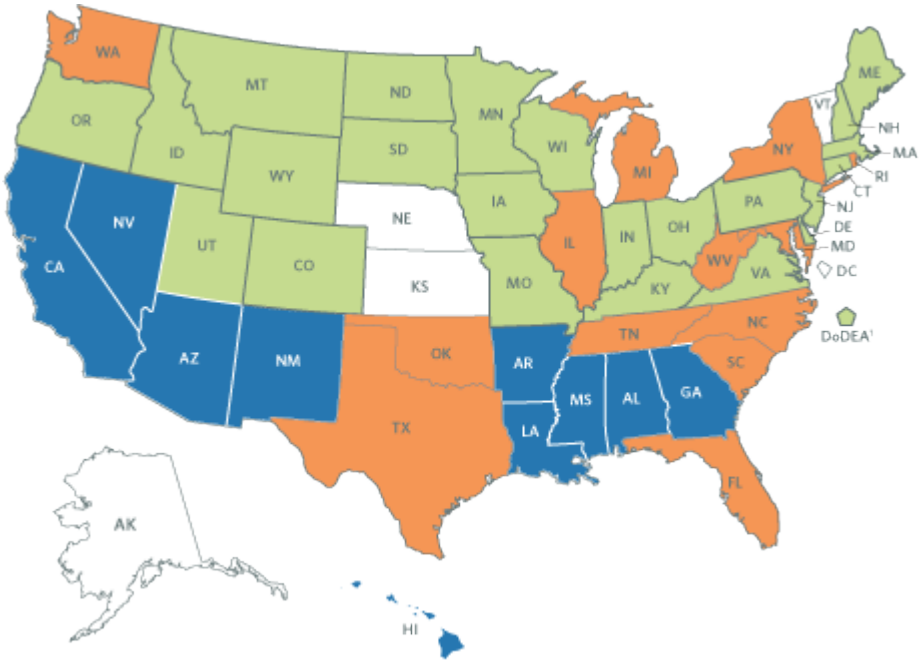
Thirty-four percent of fourth-graders, 30 percent of eighth-graders, and 21 percent of twelfth-graders performed at or above the *Proficient* level.
Seventy-two percent of fourth-graders, 63 percent of eighth-graders, and 60 percent of twelfth-graders performed at or above the *Basic* level.
One percent of fourth-graders, 2 percent of eighth-graders, and 1 percent of twelfth-graders performed at the *Advanced* level.
Scores were higher than the nation in 24 states/jurisdictions at fourth-grade and 25 states/jurisdictions at eighth-grade.
At grade 12, there was no significant difference in scores for White and Asian/Pacific Islander students, and both groups scored higher on average than other racial/ethnic groups.

Grade 4

Compared to the nation, average fourth-grade science scores were

higher in 24 states/jurisdictions,
lower in 10 states, and
not significantly different in 13 states.

State/jurisdiction did not meet participation guidelines for reporting.



[1] Department of Defense Education Activity (overseas and domestic schools).

Explore more national and state results.

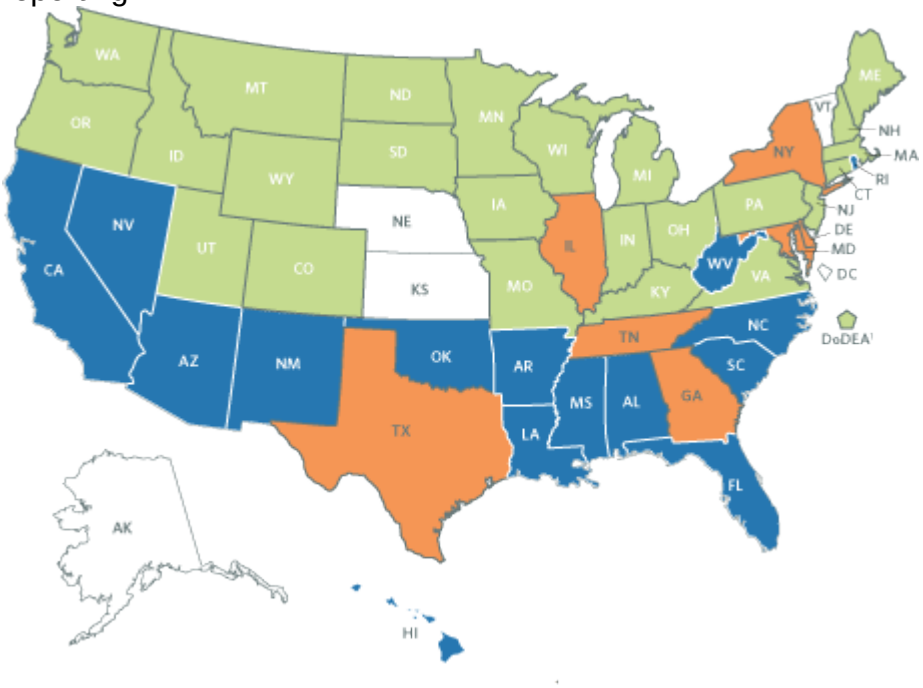
At each grade, students responded to questions designed to measure their knowledge and abilities in physical science, life science, and Earth and space sciences. Because of the changes to the assessment, results from 2009 cannot be compared to those from previous assessment years. Read about the new science framework and what the assessment measures.

Grade 8

Compared to the nation, average eighth-grade science scores were

- higher in 25 states/jurisdictions,
- lower in 15 states, and
- not significantly different in 7 states.

State/jurisdiction did not meet participation guidelines for reporting.



[1] Department of Defense Education Activity (overseas and domestic schools).

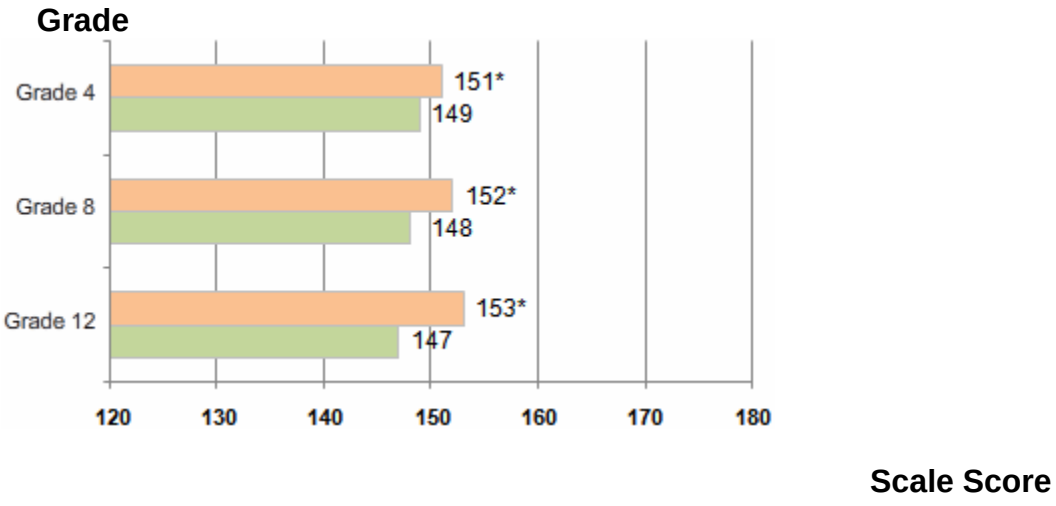
The science assessment was updated for 2009 to keep the content current with key developments in science, curriculum standards, and research. When compared to the nation, average fourth-grade scores in 2009 were higher in 24 states/jurisdictions at grade 4 and higher in 25 states/jurisdictions at grade 8.

Investigate science performance in 2009 by examining the gender gap within the NAEP racial/ethnic groups.

Gender gap for all students

Overall, male students scored higher on average than female students at all three grades in the 2009 NAEP science assessment.

This overall gender gap pattern shows more variations when results are examined by race/ethnicity.



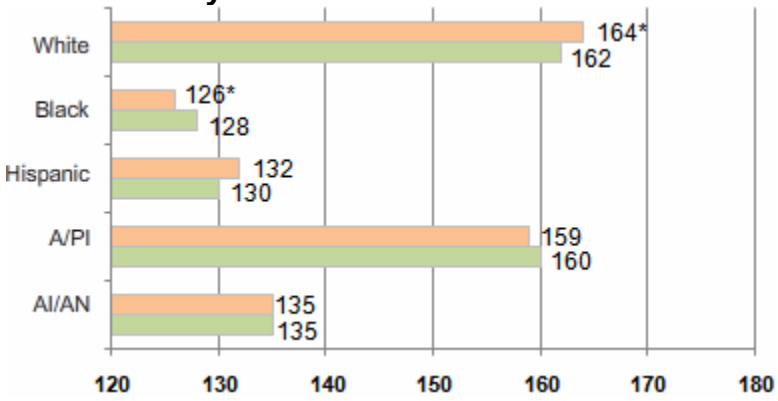
Key: Male Female

* Score for male students significantly different (*p* <.05) from score for female students.

Gender gaps by race/ethnicity, grade 4

While overall scores for male fourth-graders were higher than for their female classmates, this gender gap was not evident within all racial/ethnic groups. White males outscored White females, but Black females scored higher than Black males. Other apparent differences between male and female students within racial/ethnic groups were not significantly different.

Race/ethnicity



Scale Score

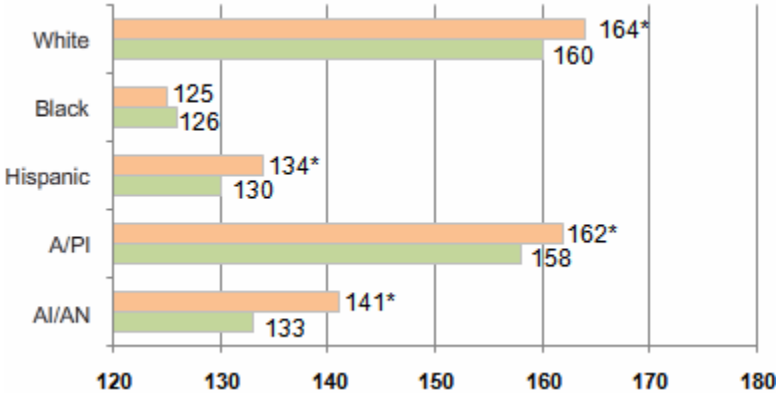
Key: Male Female

* Score for male students significantly different (*p* <.05) from score for female students.
NOTE: A/PI = Asian/Pacific Islander. AI/AN = American Indian/Alaska Native. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Gender gaps by race/ethnicity, grade 8

At grade 8, in 4 of the 5 racial/ethnic groups, male students scored higher than their female counterparts. There was no significant difference between the science scores for Black male and female students.

Race/ethnicity



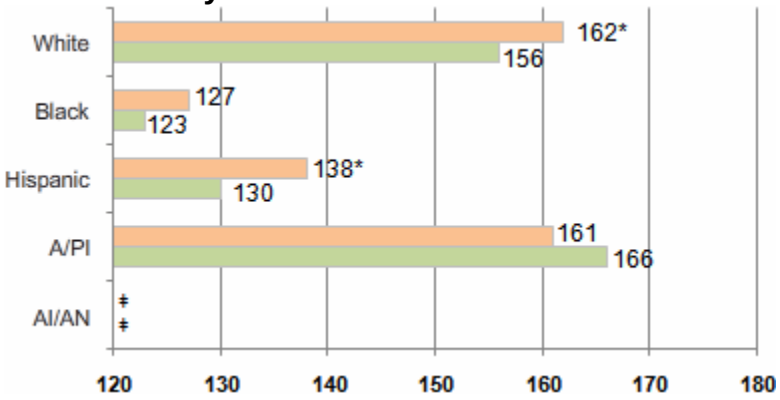
Key: Male Female

* Score for male students significantly different (p <.05) from score for female students.
NOTE: A/PI = Asian/Pacific Islander. AI/AN = American Indian/Alaska Native. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Gender gaps by race/ethnicity, grade 12

At grade 12, White and Hispanic males outscored their female counterparts, but other apparent differences between male and female students within
racial/ethnic groups were not significantly different.

Race/ethnicity



Scale Score

Key: Male Female

‡ Reporting standards not met.
* Score for male students significantly different (*p* <.05) from score for female students.
NOTE: A/PI = Asian/Pacific Islander. AI/AN = American Indian/Alaska Native. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Summary

The male-female gender gap in science was not evident across all racial/ethnic groups. White male students outscored their female peers at all three grade levels. Black females scored higher than their male counterparts at grade 4, but there were no significant differences in their scores at grades 8 and 12. Hispanic male students outscored their female peers at grades 8 and 12, and male Asian/Pacific Islander and American Indian/Alaska Native students outscored their female peers at grade 8.

Race/Ethnicity Gender Gap

Race/Ethnicity	Grade 4	Grade 8	Grade 12
White	▲	▲	▲
Black	▼	◆	◆
Hispanic	◆	▲	▲
Asian/Pacific Islander	◆	▲	◆
American Indian/Alaska Native	◆	▲	‡

NOTE: Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Key:

▲ Males scored higher than females.
▼ Males scored lower than females.
◆ No significant difference between males and females.
‡ Reporting standards not met.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Science Assessment.