2009 Science Assessment Content

Guided by a new framework, the NAEP science assessment was updated in 2009 to keep the content current with key developments in science, curriculum standards, assessments, and research. The 2009 framework organizes science content into three broad content areas.

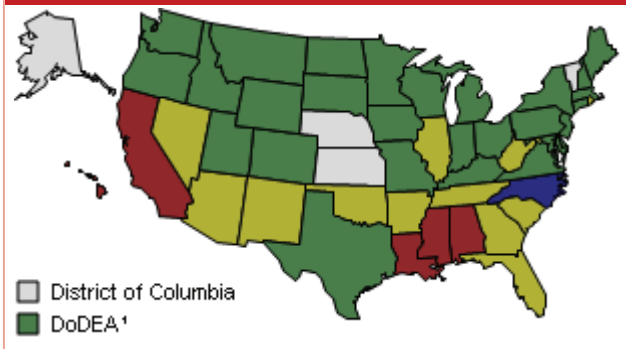
Physical science includes concepts related to properties and changes of matter, forms of energy, energy transfer and conservation, position and motion of objects, and forces affecting motion.

Life science includes concepts related to organization and development, matter and energy transformations, interdependence, heredity and reproduction, and evolution and diversity.

Earth and space sciences includes concepts related to objects in the universe, the history of the Earth, properties of Earth materials, tectonics, energy in Earth systems, climate and weather, and biogeochemical cycles.

The 2009 science assessment was composed of 143 questions at grade 4, 162 at grade 8, and 179 at grade 12. Students responded to only a portion of the questions, which included both multiple-choice questions and questions that required a written response.

Compare the Average Score in 2009 to Other States/Jurisdictions



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

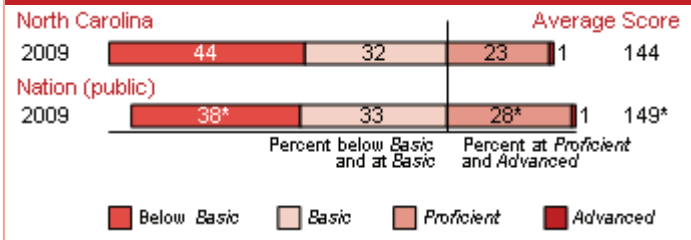
In 2009, the average score in **North Carolina** was

- lower than those in 29 states/jurisdictions
- higher than those in 5 states/jurisdictions
- not significantly different from those in 12 states/jurisdictions
- 5 states/jurisdictions did not participate

Overall Results

- In 2009, the average score of eighth-grade students in North Carolina was 144. This was lower than the average score of 149 for public school students in the nation.
- The percentage of students in North Carolina who performed at or above the NAEP *Proficient* level was 24 percent in 2009. This percentage was smaller than the nation (29 percent).
- The percentage of students in North Carolina who performed at or above the NAEP *Basic* level was 56 percent in 2009. This percentage was smaller than the nation (62 percent).

Achievement-Level Percentages and Average Score Results



* Significantly different ($p < .05$) from North Carolina. Significance tests were performed using unrounded numbers.

NOTE: Detail may not sum to totals because of rounding.

Results for Student Groups in 2009

Reporting Groups	Percent of students	Avg. score	Percentages at or above *Basic*	Percentages at or above *Proficient*	Percent at *Advanced*
Gender					
Male	51	145	57	25	2
Female	49	143	55	22	1
Race/Ethnicity					
White	55	158	73	36	2
Black	28	121	25	5	#
Hispanic	10	132	41	11	#
Asian/Pacific Islander	2	165	79	44	5
American Indian/Alaska Native	1	119	30	6	#
National School Lunch Program					
Eligible	44	129	37	10	#
Not eligible	55	156	71	35	2

Rounds to zero.

NOTE: Detail may not sum to totals because of rounding, and because the "Information not available" category for the National School Lunch Program, which provides free/reduced-price lunches, and the "Unclassified" category for race/ethnicity are not displayed.

Score Gaps for Student Groups

- In 2009, male students in North Carolina had an average score that was not significantly different from female students.
- In 2009, Black students had an average score that was 37 points lower than White students. This performance gap was not significantly different from the nation (36 points).
- In 2009, Hispanic students had an average score that was 26 points lower than White students. This performance gap was not significantly different from the nation (30 points).
- In 2009, students who were eligible for free/reduced-price school lunch, an indicator of low family income, had an average score that was 28 points lower than students who were not eligible for free/reduced-price school lunch. This performance gap was not significantly different from the nation (28 points).

NOTE: Statistical comparisons are calculated on the basis of unrounded scale scores or percentages.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Science Assessment.