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.

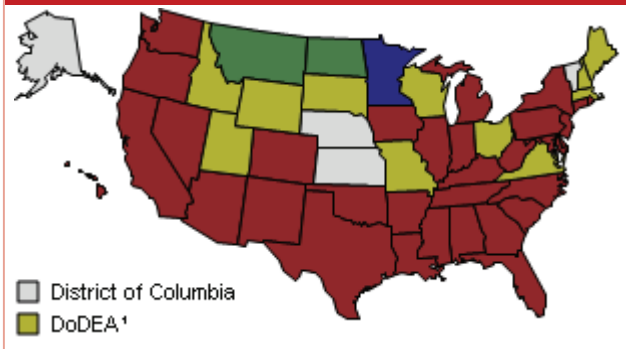
Physical science includes concepts related to properties and changes of matter, forms of energy, energy transfer and conservation, position and motion of objects, and forces affecting motion.

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).

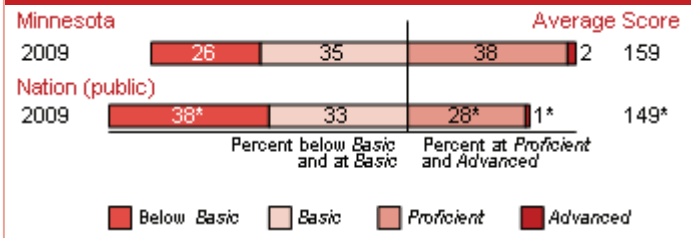
In 2009, the average score in **Minnesota** was

- lower than those in 2 states/jurisdictions
- higher than those in 32 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 Minnesota was 159. This was higher than the average score of 149 for public school students in the nation.
- The percentage of students in Minnesota who performed at or above the NAEP *Proficient* level was 40 percent in 2009. This percentage was greater than the nation (29 percent).
- The percentage of students in Minnesota who performed at or above the NAEP *Basic* level was 74 percent in 2009. This percentage was greater than the nation (62 percent).

Achievement-Level Percentages and Average Score Results



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

NOTE: The percentage at *Advanced* was lower in the Nation (1.40) than in Minnesota (2.05). 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	161	75	43	3
Female	49	157	74	36	1
Race/Ethnicity					
White	79	166	83	46	2
Black	7	128	36	11	#
Hispanic	5	132	40	14	#
Asian/Pacific Islander	6	141	50	23	2
American Indian/Alaska Native	2	141	56	14	#
National School Lunch Program					
Eligible	26	140	53	19	1
Not eligible	73	166	82	47	3

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 Minnesota 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 33 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 26 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.