

### 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.

### Overall Results

- In 2009, the average score of eighth-grade students in South Dakota was 161. This was higher than the average score of 149 for public school students in the nation.
- The percentage of students in South Dakota 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 South Dakota who performed at or above the NAEP *Basic* level was 77 percent in 2009. This percentage was greater than the nation (62 percent).

### Results for Student Groups in 2009

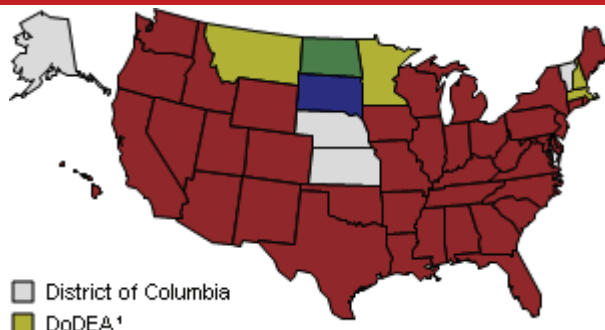
Reporting Groups	Percent of students	Avg. score	Percentages at or above		Percent at Advanced
			Basic	Proficient	
Gender					
Male	51	164	80	45	2
Female	49	157	75	35	1
Race/Ethnicity					
White	84	165	83	45	2
Black	2	141	55	24	1
Hispanic	2	135	45	10	1
Asian/Pacific Islander	1	†	†	†	†
American Indian/Alaska Native	11	137	48	16	#
National School Lunch Program					
Eligible	32	148	62	25	1
Not eligible	68	167	84	48	2

# Rounds to zero.

† Reporting standards not met.

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.

### Compare the Average Score in 2009 to Other States/Jurisdictions

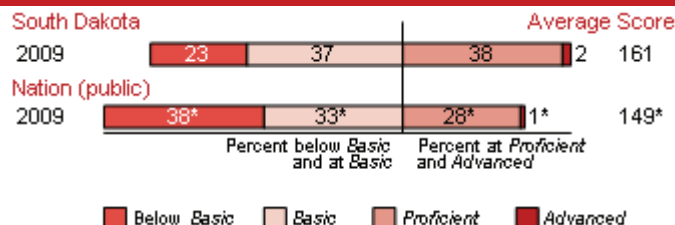


<sup>1</sup> Department of Defense Education Activity (overseas and domestic schools).

In 2009, the average score in **South Dakota** was

- lower than that in 1 state/jurisdiction
- higher than those in 40 states/jurisdictions
- not significantly different from those in 5 states/jurisdictions
- 5 states/jurisdictions did not participate

### Achievement-Level Percentages and Average Score Results



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

NOTE: The percentage at *Advanced* was lower in the Nation (1.40) than in South Dakota (1.94). Detail may not sum to totals because of rounding.

### Score Gaps for Student Groups

- In 2009, male students in South Dakota had an average score that was higher than female students.
- In 2009, Black students had an average score that was 24 points lower than White students. This performance gap was narrower than the nation (36 points).
- In 2009, Hispanic students had an average score that was 31 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 19 points lower than students who were not eligible for free/reduced-price school lunch. This performance gap was narrower than 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.