

Illinois

Grade 8 Public Schools



State Science 2011

This report provides selected results for Illinois' public school students at grade 8 from the National Assessment of Educational Progress (NAEP) assessment in science. Results are reported by average scale scores and by achievement levels (*Basic, Proficient, and Advanced*).

All 50 states, the District of Columbia, and the Department of Defense Education Activity schools (DoDEA) participated in the 2011 science assessment at grade 8.

For more information about the assessment, visit the NAEP website at <http://nces.ed.gov/nationsreportcard/> which contains

- *The Nation's Report Card: Science 2011*
- The full set of national and state results in an interactive database
- Released test questions, scoring guides, and question-level performance data

NAEP is a project of the National Center for Education Statistics (NCES), reporting on the academic achievement of elementary and secondary students in the United States.

KEY FINDINGS FOR 2011

Grade 8:

- In 2011, the average science score for eighth-grade students in Illinois was 147. This was lower than that of the nation's public schools (151).
- The average score for students in Illinois in 2011 (147) was not significantly different from that in 2009 (148).
- In 2011, the percentage of students in Illinois who performed at or above *Proficient* was 26 percent. This was smaller than that for the nation's public schools (31 percent).
- The percentage of students in Illinois who performed at or above *Proficient* in 2011 (26 percent) was not significantly different from that in 2009 (28 percent).
- In 2011, the percentage of students in Illinois who performed at or above *Basic* was 60 percent. This was smaller than that for the nation's public schools (64 percent).
- The percentage of students in Illinois who performed at or above *Basic* in 2011 (60 percent) was not significantly different from that in 2009 (61 percent).

The U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, and National Assessment of Educational Progress (NAEP) has provided software that generated user-selectable data, statistical significance test result statements, and technical descriptions of the NAEP assessments for this report. Content may be added or edited by states or other jurisdictions. This document, therefore, is not an official publication of the National Center for Education Statistics.

Introduction

What Was Assessed?

The content for each NAEP assessment is determined by the National Assessment Governing Board. The framework for each assessment documents the content and process areas to be measured and sets guidelines for the types of questions to be used. The development process for the science framework required the active participation of teachers, curriculum specialists, subject-matter specialists, local school administrators, parents, and other members of the general public. The current framework is available at the Governing Board's website at <http://nagb.org/publications/frameworks/science-2011.pdf>.

The 2009 NAEP science framework approved by the Governing Board replaced the framework used for the 1996, 2000, and 2005 science assessments. A variety of factors made it necessary to create a new framework to guide the assessment of science in 2009 and beyond: the publication of *National Standards* for science literacy, advances in both science and cognitive research, the growth in national and international science assessments, advances in innovative assessment approaches, and the need to fairly assess the widest possible range of students. The framework is unchanged for 2011.

Assessment Criteria

Each question in the 2011 science assessment was classified based on two criteria: *science content* and *science practices*. By considering these two criteria for each question, the framework ensures that NAEP assesses an appropriate balance of content along with a variety of ways of knowing and doing science.

SCIENCE CONTENT

The science content for the 2011 NAEP is defined by a series of statements that describe key facts, concepts, principles, laws, and theories in three broad areas:

- Physical Science
- Life Science
- Earth and Space Sciences

Physical Science deals with matter, energy, and motion; Life Science with structures and functions of living systems and changes in living systems; and Earth and Space Sciences with Earth in space and time, Earth structures, and Earth systems.

SCIENCE PRACTICES

The second aspect of the framework is defined by four science practices, which focus on what students should know and be able to do in science:

- Identifying Science Principles
- Using Science Principles
- Using Scientific Inquiry
- Using Technological Design

Assessment Design

The assessment design allowed for broad coverage of the three science content areas and four science practices, while minimizing the time burden for any one student. Each student in the state assessment was asked to complete two 25-minute sections. Each section contained between 14 and 18 questions depending on the balance between multiple-choice and constructed-response questions. Released NAEP science questions, along with student performance data by state, are available on the NAEP website at <http://nces.ed.gov/nationsreportcard/itmrls/>.

Who Was Assessed?

All 50 states, the District of Columbia, and the Department of Defense Education Activity schools participated in the 2011 science assessment at grade 8.

The overall participation rates for schools and students must meet guidelines established by the National Center for Education Statistics (NCES) and the National Assessment Governing Board for assessment results to be reported publicly. A participation rate of at least 85 percent for schools was required. Participation rates for the 2011 science assessment are available on the NAEP website at http://nationsreportcard.gov/science_2011/participation.asp.

The schools and students participating in NAEP assessments are selected to be representative both nationally and for public schools at the state level. The comparisons between national and state results in this report present the performance of public school students only. In the figures and tables shown in this report, the category "nation (public)" does not include private, Department of Defense Education Activity, or Bureau of Indian Education schools.

How Is Student Science Performance Reported?

The 2011 state results are compared to results from the nation at grade 8.

Average Scores: Student performance is reported as an average score based on the NAEP science scale, which ranges from 0 to 300. Because NAEP scales are developed independently for each subject and for each content area within a subject, the scores cannot be compared across subjects or across content areas within the same subject. Results are also reported at five percentiles (10th, 25th, 50th, 75th, and 90th) to show trends in performance for lower-, middle-, and higher-performing students.

Achievement Levels: Based on recommendations from policymakers, educators, and members of the general public, the Governing Board sets specific achievement levels for each subject area and grade. Achievement levels are performance standards indicating what students should know and be able to do. They provide another perspective with which to interpret student performance. NAEP results are reported in terms of three achievement levels—*Basic*, *Proficient*, and *Advanced*—and are expressed in terms of the percentage of students who attained each level. The three achievement levels are defined as follows:

- *Basic* denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade.
- *Proficient* represents solid academic performance for each grade assessed. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and appropriate analytical skills.
- *Advanced* represents superior performance.

The achievement levels are cumulative; therefore, students performing at the *Proficient* level also display the competencies associated with the *Basic* level, and students at the *Advanced* level also demonstrate the competencies associated with both the *Basic* and the *Proficient* levels.

As provided by law, NCES, upon review of congressionally mandated evaluations of NAEP, has determined that achievement levels are to be used on a trial basis and should be interpreted with caution. The NAEP achievement levels have been widely used by national and state officials. The science achievement-level descriptions are summarized in figure 1.

Figure 1	The Nation's Report Card 2011 State Assessment
	Descriptions of eighth-grade achievement levels for 2011 NAEP science assessment

Basic Level (141)	Students performing at the <i>Basic</i> level should be able to state or recognize correct science principles. They should be able to explain and predict observations of natural phenomena at multiple scales, from microscopic to global. They should be able to describe properties and common physical and chemical changes in materials; describe changes in potential and kinetic energy of moving objects; describe levels of organization of living systems—cells, multicellular organisms, and ecosystems; identify related organisms based on hereditary traits; describe a model of the solar system; and describe the processes of the water cycle. They should be able to design observational and experimental investigations employing appropriate tools for measuring variables. They should be able to propose and critique the scientific validity of alternative individual and local community responses to design problems.
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Science Practices: Students performing at the *Basic* level should be able to state or recognize correct science principles; explain and predict observations of natural phenomena at multiple scales, from microscopic to global, using evidence to support their explanations and predictions; design investigations employing appropriate tools for measuring variables; and propose and critique the scientific validity of alternative individual and local community responses to design problems.

In the physical sciences, students at the *Basic* level should be able to recognize a class of chemical compounds by its properties; design an investigation to show changes in properties of reactants and products in a chemical process such as burning or rusting; describe the changes in kinetic and potential energy of an object such as a swinging pendulum; describe and compare the motions of two objects moving at different speeds from a table of their position and time data; describe the direction of all forces acting on an object; and suggest an example of a system in which forces are acting on an object but the motion of the object does not change.

In the life sciences, students at the *Basic* level should be able to identify levels of organization within cells, multicellular organisms, and ecosystems; describe how changes in an environment relate to an organism's survival; describe types of interdependence in ecosystems; identify related organisms based on hereditary traits; discuss the needs of animals and plants to support growth and metabolism; and analyze and display data showing simple patterns in population growth.

In the Earth and space sciences, students at the *Basic* level should be able to describe a Sun-centered model of the solar system that illustrates how gravity keeps the objects in regular motion; describe how fossils and rock formations can be used as evidence to infer events in Earth's history; relate major geologic events, such as earthquakes, volcanoes, and mountain building to the movement of lithospheric plates; use weather data to identify major weather events; and describe the processes of the water cycle including changes in the physical state of water.

Proficient Level (170)	Students performing at the <i>Proficient</i> level should be able to demonstrate relationships among closely related science principles. They should be able to identify evidence of chemical changes; explain and predict motions of objects using position-time graphs; explain metabolism, growth, and reproduction in cells, organisms, and ecosystems; use observations of the Sun, Earth, and Moon to explain visible motions in the sky; and predict surface and groundwater movements in different regions of the world. They should be able to explain and predict observations of phenomena at multiple scales, from microscopic to macroscopic and local to global, and to suggest examples of observations that illustrate a science principle. They should be able to use evidence from investigations in arguments that accept, revise, or reject scientific models. They should be able to use scientific criteria to propose and critique alternative individual and local community responses to design problems.
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Science Practices: Students performing at the *Proficient* level should be able to demonstrate relationships among closely related science principles; explain and predict observations of phenomena at multiple scales, from microscopic to macroscopic and local to global, and suggest examples of observations that illustrate a science principle; design investigations requiring control of variables to test a simple model, employing appropriate sampling techniques and data quality review processes, and use the evidence to communicate an argument that accepts, revises, or rejects the model; and propose and critique solutions and predict the scientific validity of alternative individual and local community responses to design problems.

In the physical sciences, students at the *Proficient* level should be able to demonstrate the relationship between

the properties of chemical elements and their position on the periodic table; use empirical evidence to demonstrate that a chemical change has occurred; demonstrate the relationship of the motion of an object that experiences multiple forces with the representation of the motion on a position-time graph; predict the position of a moving object based on the position-time data presented in a table; and suggest examples of systems in which potential energy is converted into other forms of energy.

In the life sciences, students at the *Proficient* level should be able to explain metabolism, growth, and reproduction at multiple levels of living systems: cells, multicellular organisms, and ecosystems; predict the effects of heredity and environment on an organism's characteristics and survival; use sampling strategies to estimate population sizes in ecosystems; and suggest examples of sustainable systems for multiple organisms.

In the Earth and space sciences, students at the *Proficient* level should be able to explain how gravity accounts for the visible patterns of motion of the Earth, Sun, and Moon; explain how fossils and rock formations are used for relative dating; use models of Earth's interior to explain lithospheric plate movement; explain the formation of Earth's materials using the properties of rocks and soils; identify recurring patterns of weather phenomena; and predict surface and groundwater movement in different regions of the world.

Advanced Level (215)	Students performing at the <i>Advanced</i> level should be able to develop alternative representations of science principles and explanations of observations. They should be able to use information from the periodic table to compare families of elements; explain changes of state in terms of energy flow; trace matter and energy through living systems at multiple scales; predict changes in populations through natural selection and reproduction; use lithospheric plate movement to explain geological phenomena; and identify relationships among regional weather and atmospheric and ocean circulation patterns. They should be able to design and critique investigations involving sampling processes, data quality review processes, and control of variables. They should be able to propose and critique alternative solutions that reflect science-based trade-offs for addressing local and regional problems.
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Science Practices: Students performing at the *Advanced* level should be able to demonstrate relationships among different representations of science principles. They should be able to explain and predict observations of phenomena at multiple scales, from microscopic to macroscopic and local to global, and develop alternative explanations of observations, using evidence to support their thinking. They should be able to design control of variable investigations employing appropriate sampling techniques and data quality review processes that strengthen the evidence used to argue for one alternate model over another. They should be able to propose and critique alternative solutions that reflect science-based trade-offs for addressing local and regional problems.

In the physical sciences, students at the *Advanced* level should be able to interpret diagrams, graphs, and data to demonstrate the relationship between the particulate nature of matter and state changes (for instance, melting and freezing); demonstrate relationships between position on the periodic table and the characteristics of families of the chemical elements; explain changes of state in terms of energy flow in and out of a system; identify possible scientific trade-offs in making decisions on the design of an electrical energy power plant; suggest examples of systems in which objects are undergoing transitional, vibrational, and rotational motion; and suggest examples of systems in which forces are acting both through contact and at a distance.

In the life sciences, students at the *Advanced* level should be able to explain movement and transformations of matter and energy in living systems at cellular, organismal, and ecosystem levels; predict changes in populations through natural selection and reproduction; and describe an ecosystem's populations and propose an analysis for changes based on energy flow through the system.

In the Earth and space sciences, students at the *Advanced* level should be able to explain the seasons, Moon phases, and lunar and solar eclipses; illustrate how fossils and rock formations can provide evidence of changes in environmental conditions over time; use lithospheric plate movement to explain geological phenomena; identify relationships among regional weather and atmospheric and ocean circulation patterns; and use the water cycle to propose and critique ways for obtaining drinkable water.

NOTE: The scores in parentheses in the shaded boxes indicate the lowest point on the 0–300 scale at which the achievement-level range begins.

SOURCE: National Assessment Governing Board. (2010). *Science Framework for the 2011 National Assessment of Educational Progress*. Washington, DC: Author.

Assessing Students With Disabilities and/or English Language Learners

Testing accommodations, such as extra testing time or individual (rather than group) administration, are provided for students with disabilities (SD) and English language learners (ELL) who could not fairly and accurately demonstrate their abilities without modified test administration procedures. However, even with the availability of accommodations, some students may still be excluded from the NAEP assessment. Due to differences in policies and practices regarding the identification and inclusion of SD and ELL students, variations in exclusion and accommodation rates should be considered when comparing students' performance across states. The types of accommodations used in the 2011 NAEP science assessment are available on the NAEP website at http://nationsreportcard.gov/science_2011/type_accomm.asp

Interpreting Results

The scores and percentages in this report are estimates based on samples of students rather than on entire populations. In addition, the collection of questions used is only a sample of the many questions that could have been asked to assess the skills and abilities described in the NAEP framework. Comparisons between groups are based on statistical tests that consider both the size of the differences and the standard errors of the two statistics being compared. Standard errors are margins of error, and estimates based on smaller groups are likely to have larger margins of error. The size of the standard errors may also be influenced by other factors such as how representative the assessed students are of the entire population. Statistical tests that factor in these standard errors are used to determine whether the differences between average scores or percentages are significant. All differences were tested for statistical significance at the .05 level using unrounded numbers.

Differences between scores or between percentages are discussed in this report only when they are significant from a statistical perspective. Significant differences are marked with a notation (*) in the tables. Any differences in scores that are mentioned in the text as "higher," "lower," "greater," or "smaller" are statistically significant.

Score or percentage differences or gaps cited in this report are calculated based on differences between unrounded numbers. Therefore, the reader may find that the score or percentage difference cited in the text or tables may not be identical to the difference obtained from subtracting the rounded values shown in the accompanying tables or figures.

The reader is cautioned against making simple causal inferences between student performance and the other variables (e.g., race/ethnicity, gender, and type of school location) discussed in this report. A statistically significant relationship between a variable and measures of student performance does not imply that the variable causes differences in how well students perform. The relationship may be influenced by a number of other variables not accounted for in this report, such as family income, parental involvement, or student attitudes.

NAEP 2011 Science Overall Average Score and Achievement-Level Results for Public School Students

Overall science results for public school students from Illinois are reported in this section, as well as regional and national results. The regions defined by the U.S. Census Bureau are Northeast, South, Midwest, and West (<http://nces.ed.gov/nationsreportcard/hsts/tabulations/regions.asp>).

Overall Average Score Results

Student performance is reported as an average score based on the NAEP science scale, which ranges from 0 to 300.

Table 1 shows the overall performance results of grade 8 public school students in Illinois, the nation (public), and the region in which the jurisdiction is located. The first column of results presents the average score on the NAEP science scale. The remaining columns show the scores at selected percentiles. A percentile is a score point at or below which a certain percentage of students fall. For example, the 25th percentile demarks the cut point for the lowest 25 percent of students within the distribution of scale scores.

Grade 8 Scale Score Results

- In 2011, the average scale score for students in Illinois was 147. This was lower than that of students across the nation (151).
- In Illinois, the average scale score for students in 2011 was not significantly different from that in 2009 (148). However, the average scale score for students in public schools across the nation in 2011 was higher than that in 2009 (149).

**Table
1**

Average scale scores and selected percentile scores in NAEP science for eighth-grade public school students, by year and jurisdiction: 2009 and 2011

Year and jurisdiction		Average scale score	10th percentile	25th percentile	50th percentile	75th percentile	90th percentile
2009	Nation (public)	149 *	102 *	127 *	152 *	174 *	191
	Midwest ¹	154 *	109 *	134	158	178	194
	Illinois	148	100	126	151	173	190
2011	Nation (public)	151	105	129	154	175	192
	Midwest ¹	155	113	136	158	178	194
	Illinois	147	103	126	150	171	187

* Value is significantly different ($p < .05$) from the value for the same jurisdiction in 2011.

¹ Region in which jurisdiction is located.

NOTE: The NAEP grade 8 science scale ranges from 0 to 300. All differences were calculated and tested using unrounded numbers.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 and 2011 Science Assessments.

Overall Achievement-Level Results

Student results are reported as the percentages of students performing relative to performance standards set by the National Assessment Governing Board. These performance standards for what students should know and be able to do were based on the recommendations of broadly representative panels of educators and members of the public.

Table 2 shows the percentage of students at grade 8 who performed below *Basic*, at or above *Basic*, at or above *Proficient*, and at *Advanced*. Because the percentages are cumulative from *Basic* to *Proficient* to *Advanced*, they will sum to more than 100 percent. Only the percentage of students performing at or above *Basic* (which includes the students at *Proficient* and *Advanced*) plus the students below *Basic* will sum to 100 percent.

Grade 8 Achievement-Level Results

- In 2011, the percentage of Illinois' students who performed at or above *Proficient* was 26 percent. This was smaller than the percentage of the nation's public school students who performed at or above *Proficient* (31 percent).
- In Illinois, the percentage of students who performed at or above *Proficient* in 2011 was not significantly different from the percentage in 2009 (28). However, the percentage of students who performed at or above *Proficient* in the nation in 2011 was greater than the percentage in 2009 (29).
- In 2011, the percentage of Illinois' students who performed at or above *Basic* was 60 percent. This was smaller than the percentage of the nation's public school students who performed at or above *Basic* (64 percent).
- In Illinois, the percentage of students who performed at or above *Basic* in 2011 was not significantly different from the percentage in 2009 (61). However, the percentage of students who performed at or above *Basic* in the nation in 2011 was greater than the percentage in 2009 (62).

The Nation's Report Card 2011 State Assessment

**Table
2**

Percentage of eighth-grade public school students at or above NAEP science achievement levels, by year and jurisdiction: 2009 and 2011

Year and jurisdiction		Below Basic	At or above Basic	At or above Proficient	At Advanced
2009	Nation (public)	38 *	62 *	29 *	1
	Midwest ¹	31	69	34	2
	Illinois	39	61	28	1
2011	Nation (public)	36	64	31	2
	Midwest ¹	30	70	35	2
	Illinois	40	60	26	1

* Value is significantly different ($p < .05$) from the value for the same jurisdiction in 2011.

¹ Region in which jurisdiction is located.

NOTE: The NAEP grade 8 science scale ranges from 0 to 300. Achievement levels correspond to the following points on the NAEP science scales: below *Basic*, 140 or lower; *Basic*, 141–169; *Proficient*, 170–214; and *Advanced*, 215 and above. At or above *Basic* includes *Basic*, *Proficient*, and *Advanced*. At or above *Proficient* includes *Proficient* and *Advanced*. Detail may not sum to totals because of rounding. All differences were calculated and tested using unrounded numbers.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 and 2011 Science Assessments.

Comparisons Between Illinois, the Nation, and Participating States and Jurisdictions

All 50 states, the District of Columbia, and the Department of Defense Schools participated in the 2011 science assessment at grade 8. References to "jurisdictions" in the results statements may include states, the District of Columbia, and/or Department of Defense Schools.

Comparisons by Average Scores

Figure 2 compares Illinois' 2011 overall science average scores at grade 8 with those of public schools in the nation and all other participating states and jurisdictions. The different shadings indicate whether the average score of the nation (public), a state, or a jurisdiction was found to be higher than, not significantly different from, or lower than that of Illinois in the NAEP 2011 science assessment.

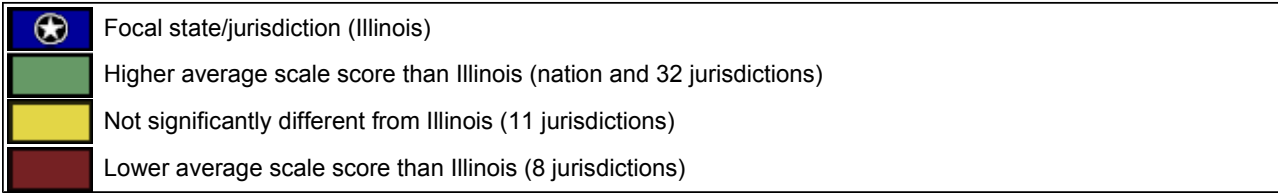
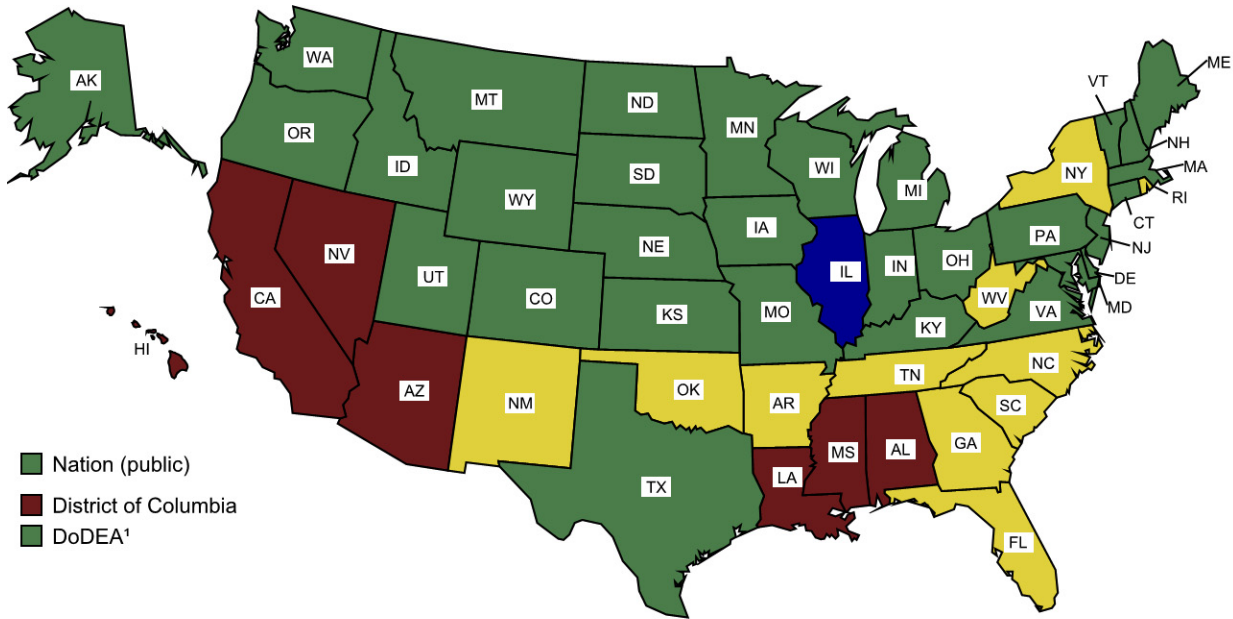
Grade 8 Scale Score Comparison Results

- The average score for students in Illinois was higher than 8 jurisdictions, not significantly different from 11 jurisdictions, and lower than 32 jurisdictions.

The Nation's Report Card 2011 State Assessment

Figure 2

Illinois' average scale score in NAEP science for eighth-grade public school students compared with scores for the nation and other participating jurisdictions: 2011



¹ Department of Defense Education Activity (overseas and domestic schools).
 NOTE: Significance tests used a multiple-comparison procedure based on all jurisdictions that participated.
 SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2011 Science Assessment.

Comparisons by Achievement Levels

Figure 3 permits comparisons of all jurisdictions (and the nation) participating in the NAEP 2011 science assessment in terms of percentages of grade 8 students performing at or above *Proficient*. The participating states and jurisdictions are grouped into categories reflecting whether the percentage of their students performing at or above *Proficient* (including *Advanced*) was found to be higher than, not significantly different from, or lower than the percentage in Illinois.

Note that the selected state is listed first in its category, and the other states and jurisdictions within each category are listed alphabetically; statistical comparisons among jurisdictions in each of the three categories are not included in this report. However, statistical comparisons among states by achievement level can be calculated online by using the NAEP Data Explorer at <http://nces.ed.gov/nationsreportcard/naepdata/>.

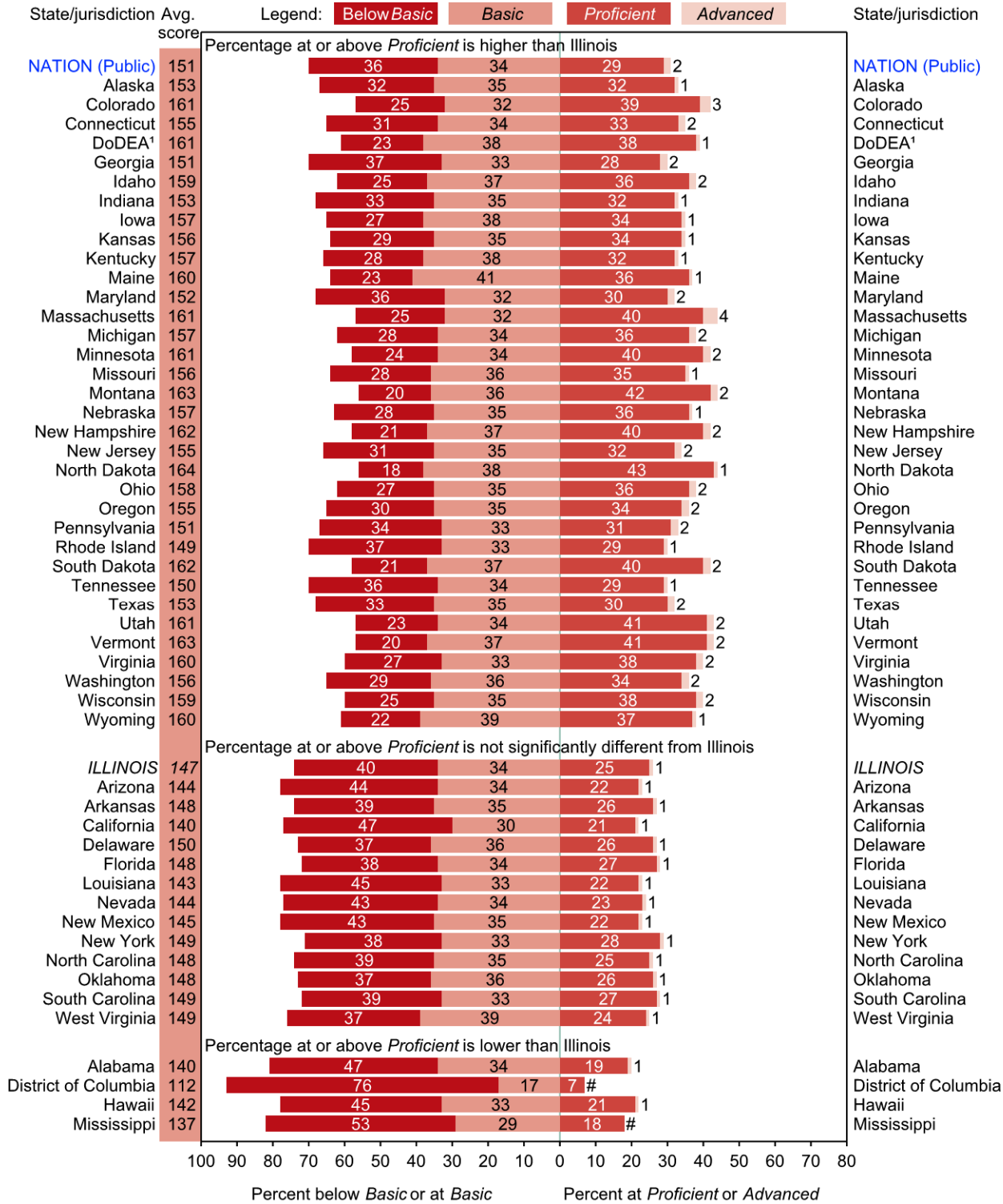
Grade 8 Achievement-Level Comparison Results

- The percentage of students performing at or above the *Proficient* level in Illinois was greater than the percentage in 4 jurisdictions, not significantly different from those in 13 jurisdictions, and smaller than those in 34 jurisdictions.
- The percentage of students performing at or above the *Basic* level in Illinois was greater than the percentage in 5 jurisdictions, not significantly different from those in 16 jurisdictions, and smaller than those in 30 jurisdictions (data not shown).

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Figure 3

Average scale scores in NAEP science for eighth-grade public school students, percentage within each achievement level, and Illinois' percentage at or above *Proficient* compared with the nation and other participating states/jurisdictions: 2011



Rounds to zero.

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

NOTE: The NAEP grade 8 science scale ranges from 0 to 300. Achievement levels correspond to the following points on the NAEP science scales: below *Basic*, 140 or lower; *Basic*, 141–169; *Proficient*, 170–214; and *Advanced*, 215 and above. The bars above contain percentages of students in each NAEP science achievement level. Achievement levels corresponding to each population of students are aligned at the point where the *Proficient* category begins, so that they may be compared at *Proficient* and above. Detail may not sum to totals because of rounding. All differences were calculated and tested using unrounded numbers. The shaded bars are graphed using unrounded numbers. Significance tests used a multiple-comparison procedure based on all jurisdictions that participated.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics,

Science Performance of Selected Student Groups

This section of the report presents trend results for public school students in Illinois and the nation by demographic characteristics. Student performance data are reported for

- race/ethnicity
- gender
- student eligibility for the National School Lunch Program
- type of location
- parents' highest level of education

Results for each of the variables are reported in tables that include the percentage of students in each group in the first column and the average scale score in the second column. The columns to the right show the percentage of students below *Basic* and at or above each achievement level.

Results by students' race/ethnicity and gender include statements about score point differences between student groups (e.g., between White and Black or White and Hispanic students, or between male and female students) in 2011 and in the first assessment year. Because these differences are calculated using unrounded values, they may differ slightly from what would be obtained by subtracting the rounded values that appear in the tables. Statements indicating a narrowing or widening of the gap in students' scores are only made if the change in the gap from the first assessment year to 2011 was found to be statistically significant.

The reader is cautioned against making causal inferences about group differences, as a complex mix of educational and socioeconomic factors may affect student performance. NAEP collects information on many additional variables, including school and home factors related to achievement. This information is in an interactive database available on the NAEP website at <http://nces.ed.gov/nationsreportcard/naepdata/>.

Race/Ethnicity

Prior to 2011, student race/ethnicity was obtained from school records and reported for the six mutually exclusive categories shown below:

- White
- Black
- Hispanic
- Asian/Pacific Islander
- American Indian/Alaska Native
- Unclassified (not shown in tables)

Students who identified with more than one of the other five categories were classified as "Other" and were included as part of the "Unclassified" category along with students who had a background other than the ones listed or whose race/ethnicity could not be determined.

In compliance with new standards from the U.S. Office of Management and Budget for collecting and reporting data on race/ethnicity, additional information was collected in 2011 so that results could be reported separately for Asian students, Native Hawaiian/Other Pacific Islander students, and students identifying with two or more races. Beginning in 2011, all of the students participating in NAEP were identified as one of the seven racial/ethnic categories listed below:

- White
- Black or African American
- Hispanic
- Asian
- American Indian/Alaska Native
- Native Hawaiian/Other Pacific Islander
- Two or more races

As in earlier years, students identified as Hispanic were classified as Hispanic in 2011 even if they were also identified with another racial/ethnic group. Students who identified with two or more of the other racial/ethnic groups (e.g., White and Black) would have been classified as "Other" and reported as part of the "Unclassified" category prior to 2011, and classified as "Two or more races" in 2011.

When comparing the results for racial/ethnic groups from 2011 to earlier assessment years, the 2011 data for Asian and Native Hawaiian/Other Pacific Islander students were combined into a single Asian/Pacific Islander category.

Table 3 shows average scale scores and percentage of students by achievement-level data for public school students at grade 8 in Illinois and the nation, by race/ethnicity.

Grade 8 Scale Score Results by Race/Ethnicity

- In 2011, White students in Illinois had an average scale score that was higher than the average scores of Black and Hispanic students, but not significantly different from the average score of Asian/Pacific Islander students.
- In 2011, the average scale scores of White, Black, Hispanic, and Asian/Pacific Islander students in Illinois were not significantly different from their respective score in 2009.
- In 2011, Black students in Illinois had an average score that was lower than that of White students by 41 points. In 2009, the average score for Black students was lower than that of White students by 44 points.
- In 2011, Hispanic students in Illinois had an average score that was lower than that of White students by 26 points. In 2009, the average score for Hispanic students was lower than that of White students by 30 points.

Grade 8 Achievement-Level Results by Race/Ethnicity

- In 2011 in Illinois, the percentage of White students performing at or above *Proficient* was greater than the corresponding percentages of Black and Hispanic students, but not significantly different from the percentage of Asian/Pacific Islander students.
- In 2011, the percentages of White, Black, Hispanic, and Asian/Pacific Islander students in Illinois performing at or above *Proficient* were not significantly different from the percentage in 2009.

The Nation's Report Card 2011 State Assessment

**Table
3**

Percentage of eighth-grade public school students, average scale score, and achievement-level results in NAEP science, by race/ethnicity, year, and jurisdiction: 2009 and 2011

Race/ethnicity, year, and jurisdiction	Percentage of students	Average scale score	Percent				
			Below Basic	At or above Basic	At or above Proficient	At Advanced	
White							
2009	Nation (public)	56*	161*	23*	77*	41*	2
	Illinois	58	162	21	79	41	2
2011	Nation (public)	54	163	21	79	43	2
	Illinois	51	161	22	78	39	2
Black							
2009	Nation (public)	16	125*	68*	32*	8*	#
	Illinois	19	118	77	23	4	#
2011	Nation (public)	16	128	64	36	9	#
	Illinois	18	120	75	25	4	#
Hispanic							
2009	Nation (public)	21*	131*	59*	41*	12*	#
	Illinois	18	131	60	40	10	#
2011	Nation (public)	22	136	52	48	16	#
	Illinois	23	135	56	44	11	#
Asian/Pacific Islander							
2009	Nation (public)	5	159	28	72	40	3
	Illinois	4	167	20	80	48	5
2011	Nation (public)	5	159	26	74	41	3
	Illinois	5	163	20	80	42	4
American Indian/Alaska Native							
2009	Nation (public)	1	138	51	49	18	#
	Illinois	#	‡	‡	‡	‡	‡
2011	Nation (public)	1	141	48	52	19	1
	Illinois	#	‡	‡	‡	‡	‡

Rounds to zero.

‡ Reporting standards not met.

* Value is significantly different ($p < .05$) from the value for the same jurisdiction and student group in 2011.

NOTE: The NAEP grade 8 science scale ranges from 0 to 300. Achievement levels correspond to the following points on the NAEP science scales: below *Basic*, 140 or lower; *Basic*, 141–169; *Proficient*, 170–214; and *Advanced*, 215 and above. At or above *Basic* includes *Basic*, *Proficient*, and *Advanced*. At or above *Proficient* includes *Proficient* and *Advanced*. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. Detail may not sum to totals because of rounding. All differences were calculated and tested using unrounded numbers.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 and 2011 Science Assessments.

Table 4 shows average scale scores and percentage of students by achievement-level data for the seven racial/ethnic categories used in 2011: White, Black, Hispanic, Asian, American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, and Two or more races at grade 8 in Illinois and the nation.

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**Table
4**

Percentage of eighth-grade public school students, average scale score, and achievement-level results in NAEP science, by race/ethnicity, year, and jurisdiction: 2011

Race/ethnicity, year, and jurisdiction	Percentage of students	Average scale score	Percent			
			Below Basic	At or above Basic	At or above Proficient	At Advanced
White						
2011 Nation (public)	54	163	21	79	43	2
Illinois	51	161	22	78	39	2
Black						
2011 Nation (public)	16	128*	64*	36*	9*	#
Illinois	18	120	75	25	4	#
Hispanic						
2011 Nation (public)	22	136	52	48	16*	#
Illinois	23	135	56	44	11	#
Asian						
2011 Nation (public)	5	160	25	75	42	3
Illinois	5	163	20	80	42	5
American Indian/Alaska Native						
2011 Nation (public)	1*	141	48	52	19	1
Illinois	#	‡	‡	‡	‡	‡
Native Hawaiian/Other Pacific Islander						
2011 Nation (public)	#	138	49	51	17	#
Illinois	#	‡	‡	‡	‡	‡
Two or more races						
2011 Nation (public)	2*	155	31	69	34	3
Illinois	2	‡	‡	‡	‡	‡

Rounds to zero.

‡ Reporting standards not met.

* Value is significantly different ($p < .05$) from the value for the same group in Illinois.

NOTE: The NAEP grade 8 science scale ranges from 0 to 300. Achievement levels correspond to the following points on the NAEP science scales: below *Basic*, 140 or lower; *Basic*, 141–169; *Proficient*, 170–214; and *Advanced*, 215 and above. At or above *Basic* includes *Basic*, *Proficient*, and *Advanced*. At or above *Proficient* includes *Proficient* and *Advanced*. Black includes African American and Hispanic includes Latino. Race categories exclude Hispanic origin. Detail may not sum to totals because of rounding. All differences were calculated and tested using unrounded numbers.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2011 Science Assessment.

Gender

Information on student gender is reported by the student's school when rosters of the students eligible to be assessed are submitted to NAEP.

Table 5 shows average scores and achievement-level data for public school students at grade 8 in Illinois and the nation, by gender.

Grade 8 Scale Score Results by Gender

- In 2011, male students in Illinois had an average score in science (150) that was higher than that of female students (144). In 2009, male students in Illinois had an average score in science (150) that was higher than that of female students (146).
- In 2011, male students in Illinois had an average scale score in science (150) that was lower than that of male students in public schools across the nation (153). Similarly, female students in Illinois had an average scale score (144) that was lower than that of female students across the nation (148).
- In Illinois, the average scale score of male students in 2011 was not significantly different from the score of male students in 2009.
- In Illinois, the average scale score of female students in 2011 was not significantly different from the score of female students in 2009.

Grade 8 Achievement-Level Results by Gender

- In the 2011 assessment, 30 percent of male students and 21 percent of female students performed at or above *Proficient* in Illinois. The difference between these percentages was statistically significant.
- The percentage of male students in Illinois' public schools who were at or above *Proficient* in 2011 (30 percent) was smaller than that of male students in the nation (34 percent).
- The percentage of female students in Illinois' public schools who were at or above *Proficient* in 2011 (21 percent) was smaller than that of female students in the nation (27 percent).
- In Illinois, the percentage of male students performing at or above *Proficient* in 2011 was not significantly different from the percentage of students in 2009.
- In Illinois, the percentage of female students performing at or above *Proficient* in 2011 was not significantly different from the percentage of students in 2009.

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**Table
5**

Percentage of eighth-grade public school students, average scale score, and achievement-level results in NAEP science, by gender, year, and jurisdiction: 2009 and 2011

Gender, year, and jurisdiction		Percentage of students	Average scale score	Percent			
				Below Basic	At or above Basic	At or above Proficient	At Advanced
Male							
2009	Nation (public)	51	151 *	36 *	64 *	32 *	2
	Illinois	51	150	36	64	32	2
2011	Nation (public)	51	153	34	66	34	2
	Illinois	51	150	37	63	30	2
Female							
2009	Nation (public)	49	147 *	40 *	60 *	26 *	1
	Illinois	49	146	42	58	25	1
2011	Nation (public)	49	148	38	62	27	1
	Illinois	49	144	43	57	21	1

* Value is significantly different ($p < .05$) from the value for the same jurisdiction and student group in 2011.

NOTE: The NAEP grade 8 science scale ranges from 0 to 300. Achievement levels correspond to the following points on the NAEP science scales: below *Basic*, 140 or lower; *Basic*, 141–169; *Proficient*, 170–214; and *Advanced*, 215 and above. At or above *Basic* includes *Basic*, *Proficient*, and *Advanced*. At or above *Proficient* includes *Proficient* and *Advanced*. Detail may not sum to totals because of rounding. All differences were calculated and tested using unrounded numbers.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 and 2011 Science Assessments.

Student Eligibility for the National School Lunch Program

NAEP collects data on eligibility for the federal program providing free or reduced-price school lunches. The free/reduced-price lunch component of the National School Lunch Program (NSLP) offered through the U.S. Department of Agriculture (USDA) is designed to ensure that children near or below the poverty line receive nourishing meals. Eligibility is determined through the USDA's Income Eligibility Guidelines, and results for this category of students are included as an indicator of lower family income.

Table 6 shows average scores and achievement-level data for public school students at grade 8 in Illinois and the nation, by student eligibility for the NSLP.

Grade 8 Scale Score Results by Free/Reduced-Price School Lunch Eligibility

- In 2011, students in Illinois eligible for free/reduced-price lunch had an average science scale score of 132. This was lower than that of students in Illinois not eligible for this program (162).
- In 2011, students in Illinois who were eligible for free/reduced-price school lunch had an average score that was lower than that of students who were not eligible by 30 points. In 2009, the average score for students in Illinois who were eligible for free/reduced-price school lunch was lower than the score of those not eligible by 34 points.
- Students in Illinois eligible for free/reduced-price lunch had an average scale score (132) in 2011 that was lower than that of students in the nation who were eligible (137).
- In Illinois, students eligible for free/reduced-price lunch had an average science scale score in 2011 that was higher than that of eligible students in 2009.

Grade 8 Achievement-Level Results by Free/Reduced-Price School Lunch Eligibility

- In Illinois, 10 percent of students who were eligible for free/reduced-price lunch and 41 percent of those who were not eligible for this program performed at or above *Proficient* in 2011. These percentages were significantly different from one another.
- For students in Illinois in 2011 who were eligible for free/reduced-price lunch, the percentage at or above *Proficient* (10 percent) was smaller than the corresponding percentage for their counterparts around the nation (16 percent).
- In Illinois, the percentage of students eligible for free/reduced-price lunch who performed at or above *Proficient* in 2011 was not significantly different from the percentage in 2009.

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**Table
6**

Percentage of eighth-grade public school students, average scale score, and achievement-level results in NAEP science, by National School Lunch Program eligibility status, year, and jurisdiction: 2009 and 2011

Eligibility status, year, and jurisdiction	Percentage of students	Average scale score	Percent				
			Below Basic	At or above Basic	At or above Proficient	At Advanced	
Eligible							
2009	Nation (public)	43 *	133 *	57 *	43 *	14 *	#
	Illinois	39 *	127 *	65	35	9	#
2011	Nation (public)	48	137	52	48	16	#
	Illinois	48	132	59	41	10	#
Not eligible							
2009	Nation (public)	56 *	161 *	24 *	76 *	41 *	2
	Illinois	61 *	161	22	78	41	2
2011	Nation (public)	52	164	20	80	44	3
	Illinois	52	162	22	78	41	2

See notes at end of table.

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**Table
6**

Percentage of eighth-grade public school students, average scale score, and achievement-level results in NAEP science, by National School Lunch Program eligibility status, year, and jurisdiction: 2009 and 2011—Continued

Eligibility status, year, and jurisdiction	Percentage of students	Average scale score	Percent				
			Below Basic	At or above Basic	At or above Proficient	At Advanced	
Information not available							
2009	Nation (public)	1 *	150	36	64	32	1
	Illinois	#	‡	‡	‡	‡	‡
2011	Nation (public)	#	143	46	54	22	1
	Illinois	#	‡	‡	‡	‡	‡

Rounds to zero.

‡ Reporting standards not met.

* Value is significantly different ($p < .05$) from the value for the same jurisdiction and student group in 2011.

NOTE: The NAEP grade 8 science scale ranges from 0 to 300. Achievement levels correspond to the following points on the NAEP science scales: below *Basic*, 140 or lower; *Basic*, 141–169; *Proficient*, 170–214; and *Advanced*, 215 and above. At or above *Basic* includes *Basic*, *Proficient*, and *Advanced*. At or above *Proficient* includes *Proficient* and *Advanced*. Detail may not sum to totals because of rounding. All differences were calculated and tested using unrounded numbers.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 and 2011 Science Assessments.

Type of Location

Schools that participated in the assessment were classified as being located in four mutually exclusive types of communities: city, suburb, town, and rural. These categories indicate the geographic locations of schools. "City" is a geographical term meaning the principal city of a U.S. Census Bureau-defined Core-Based Statistical Area and is not synonymous with "inner city." More detail on the classification of type of location is available at http://nces.ed.gov/ccd/Rural_Locales.asp.

Table 7 shows average scores and achievement-level data for public school students at grade 8 in Illinois and the nation, by type of location.

Grade 8 Scale Score Results by Type of Location

- In 2011, the average scale score of students in Illinois attending public schools in city locations was lower than the scores of students in suburban, town, and rural schools.
- In 2011, students attending public schools in city and suburban locations in Illinois had average scale scores that were lower than the average scale scores of students in city and suburban locations in the nation.
- In 2011, students attending public schools in town and rural locations in Illinois had average scale scores that were not significantly different from the average scale scores of students in town and rural locations in the nation.
- In 2011, students attending public schools in city, suburban, town, and rural locations in Illinois had average scale scores that were not significantly different from the average scale scores of students in city, suburban, town, and rural locations in 2009 in Illinois.

Grade 8 Achievement-Level Results by Type of Location

- In 2011, the percentage of students in Illinois' public schools in city locations who performed at or above *Proficient* was smaller than the corresponding percentages of students in suburban, town, and rural schools.
- The percentages of students in Illinois' public schools in city and suburban locations who performed at or above *Proficient* in 2011 were smaller than those of students in city and suburban locations in the nation.
- The percentages of students in Illinois' public schools in town and rural locations who performed at or above *Proficient* in 2011 were not significantly different from those of students in town and rural locations in the nation.
- The percentages of students in Illinois' public schools in city, suburban, town, and rural locations who performed at or above *Proficient* in 2011 were not significantly different from those of students in city, suburban, town, and rural locations in 2009 in Illinois.

**Table
7**

Percentage of eighth-grade public school students, average scale score, and achievement-level results in NAEP science, by type of location, year, and jurisdiction: 2009 and 2011

Type of location, year, and jurisdiction	Percentage of students	Average scale score	Percent				
			Below Basic	At or above Basic	At or above Proficient	At Advanced	
City							
2009	Nation (public)	27*	139*	50*	50*	21	1
	Illinois	27	133	58	42	17	1
2011	Nation (public)	29	142	47	53	23	1
	Illinois	30	136	54	46	17	1
Suburb							
2009	Nation (public)	37	152*	34*	66*	33	2
	Illinois	47	152	34	66	32	2
2011	Nation (public)	36	155	31	69	35	2
	Illinois	46	150	37	63	29	1
Town							
2009	Nation (public)	14	149*	37*	63*	28	1
	Illinois	10	152	33	67	31	#
2011	Nation (public)	13	152	34	66	30	1
	Illinois	11	152	33	67	25	#
Rural							
2009	Nation (public)	23	154*	31*	69*	33	1
	Illinois	15	160	24	76	38	2
2011	Nation (public)	23	156	29	71	35	1
	Illinois	13	159	23	77	36	1

Rounds to zero.

* Value is significantly different ($p < .05$) from the value for the same jurisdiction and student group in 2011.

NOTE: The NAEP grade 8 science scale ranges from 0 to 300. Achievement levels correspond to the following points on the NAEP science scales: below *Basic*, 140 or lower; *Basic*, 141–169; *Proficient*, 170–214; and *Advanced*, 215 and above. At or above *Basic* includes *Basic*, *Proficient*, and *Advanced*. At or above *Proficient* includes *Proficient* and *Advanced*. Detail may not sum to totals because of rounding. All differences were calculated and tested using unrounded numbers.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 and 2011 Science Assessments.

Parents' Highest Level of Education

Eighth-grade students who participated in the 2011 NAEP assessment were asked to indicate the highest level of education they thought their father and their mother had completed. Five response options—did not finish high school, graduated from high school, some education after high school, graduated from college, and "I don't know"—were offered. The highest level of education reported for either parent was used in the analysis.

The results by highest level of parental education are shown in table 8.

Grade 8 Scale Score Results by Parents' Highest Level of Education

- In 2011, students in Illinois who reported that a parent had graduated from college had an average scale score that was higher than the average scores of students with a parent in any of the following education categories: some education after high school, graduated from high school, and did not finish high school.
- In 2011, the average scale scores for students in Illinois who reported that a parent had graduated from college, had some education after high school, or had graduated from high school were lower than the corresponding scores of students in the nation.
- In 2011, the average scale score for students in Illinois who reported that a parent had not finished high school was not significantly different from the score of students in the nation.
- In 2011, the average scale scores for students in Illinois who reported that a parent had graduated from college, had some education after high school, had graduated from high school, or had not finished high school were not significantly different from the corresponding scores of students in 2009.

Grade 8 Achievement-Level Results by Parents' Highest Level of Education

- In 2011, the percentage of students performing at or above *Proficient* in Illinois who reported that a parent had graduated from college was greater than the percentage for students whose parents' highest level of education was in any of the following education categories: some education after high school, graduated from high school, and did not finish high school.
- In 2011, the percentages of students in Illinois reporting that a parent had some education after high school, had graduated from high school, or had not finished high school and who performed at or above *Proficient* were smaller than the corresponding percentages of students in the nation.
- In 2011, the percentage of students in Illinois reporting that a parent had graduated from college and who performed at or above *Proficient* was not significantly different from the percentage of students in the nation.
- In 2011 in Illinois, the respective percentages of students reporting that a parent had graduated from college, had some education after high school, had graduated from high school, or had not finished high school and who performed at or above *Proficient* were not significantly different from the corresponding percentages of students in 2009.

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Table
8

Percentage of eighth-grade public school students, average scale score, and achievement-level results in NAEP science, by highest parental education level, year, and jurisdiction: 2009 and 2011

Highest parental education level, year, and jurisdiction	Percentage of students	Average scale score	Percent				
			Below Basic	At or above Basic	At or above Proficient	At Advanced	
Did not finish high school							
2009	Nation (public)	8	131 *	59	41	11	#
	Illinois	6	131	61	39	10	#
2011	Nation (public)	8	133	57	43	12	#
	Illinois	8	130	61	39	6	#
Graduated from high school							
2009	Nation (public)	17	139 *	50	50	17	#
	Illinois	15	138	51	49	17	#
2011	Nation (public)	17	140	48	52	18	#
	Illinois	16	136	54	46	13	#
Some education after high school							
2009	Nation (public)	17 *	151 *	34 *	66 *	29	1
	Illinois	17	149	36	64	25	#
2011	Nation (public)	16	153	31	69	30	1
	Illinois	17	148	38	62	23	#
Graduated from college							
2009	Nation (public)	47	160 *	26 *	74 *	41 *	3
	Illinois	49	159	26	74	41	2
2011	Nation (public)	48	162	23	77	43	3
	Illinois	46	159	25	75	39	2
Unknown							
2009	Nation (public)	11	129 *	61 *	39 *	12 *	#
	Illinois	13	126	65	35	9	#
2011	Nation (public)	11	132	58	42	14	#
	Illinois	12	129	64	36	9	#

Rounds to zero.

* Value is significantly different ($p < .05$) from the value for the same jurisdiction and student group in 2011.NOTE: The NAEP grade 8 science scale ranges from 0 to 300. Achievement levels correspond to the following points on the NAEP science scales: below *Basic*, 140 or lower; *Basic*, 141–169; *Proficient*, 170–214; and *Advanced*, 215 and above. At or above *Basic* includes *Basic*, *Proficient*, and *Advanced*. At or above *Proficient* includes *Proficient* and *Advanced*. Detail may not sum to totals because of rounding. All differences were calculated and tested using unrounded numbers.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 and 2011 Science Assessments.

A More Inclusive NAEP: Students With Disabilities and English Language Learners

To ensure that the samples are representative, NAEP has established policies and procedures to maximize the inclusion of all students in its assessments. Every effort is made to ensure that all selected students who are capable of participating meaningfully in an assessment are assessed. While some students with disabilities (SD) and/or English language learners (ELL) can be assessed without any special procedures, others require accommodations to participate in NAEP. Still other SD and/or ELL students selected by NAEP may not be able to participate. Providing appropriate testing accommodations (e.g., providing extended time for some SD and/or ELL students to take the assessment) removes barriers that would otherwise prevent them from demonstrating their knowledge and skills. Local school staff who are familiar with these students are asked a series of questions to help them decide whether each student should participate in the assessment and whether the student needs accommodations.

In March 2010, the Governing Board adopted a new policy, NAEP Testing and Reporting on Students with Disabilities and English Language Learners. The policy defines specific inclusion goals for NAEP samples. At the national, state, and district levels, the goal is to include 95 percent of all students selected for the NAEP samples, and 85 percent of those in the NAEP sample who are identified as SD or ELL. See the National Assessment Governing Board's policy on NAEP Testing and Reporting on Students with Disabilities and English Language Learners at [http://www.nagb.org/policies/PoliciesPDFs/Reporting and Dissemination/naep_testandreport_studentswithdisabilities.pdf](http://www.nagb.org/policies/PoliciesPDFs/Reporting%20and%20Dissemination/naep_testandreport_studentswithdisabilities.pdf).

Table 9 displays data for eighth-grade students in Illinois who were identified as SD and/or ELL, by whether they were excluded, assessed with accommodations, or assessed under standard conditions, as a percent of all eighth-grade students in the state.

Table 10 shows the percentages of students assessed in Illinois by disability status and their performance on the NAEP assessment in terms of average scores and percentages performing below *Basic*, at or above *Basic*, at or above *Proficient*, and at *Advanced* for grade 8.

Table 11 presents the percentages of students assessed in Illinois by ELL status, their average scores, and their performance in terms of the percentages below *Basic*, at or above *Basic*, at or above *Proficient*, and at *Advanced* for grade 8.

Table 12 presents the total number of grade 8 students assessed in each of the participating states and the percentage of students sampled who were excluded.

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**Table
9**

Percentage of eighth-grade public school students identified as students with disabilities (SD) and/or English language learners (ELL) excluded and assessed in NAEP science as a percentage of all students, by assessment year and testing status: 2009 and 2011

Year and testing status	SD and/or ELL		SD		ELL		
	Illinois	Nation (public)	Illinois	Nation (public)	Illinois	Nation (public)	
2009	Identified	16	18	14	13	3	6
	Excluded	1	2	1	2	1	1
	Assessed without accommodations	3	5	2	2	1	3
	Assessed with accommodations	12	10	11	9	2	2
2011	Identified	17	18	14	13	4	6
	Excluded	1	2	1	2	#	#
	Assessed without accommodations	3	5	2	2	2	3
	Assessed with accommodations	12	11	11	9	2	2

Rounds to zero.

NOTE: Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 and 2011 Science Assessments.

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**Table
10**

Percentage of eighth-grade public school students, average scale score, and achievement-level results in NAEP science, by students with disabilities (SD) status, year, and jurisdiction: 2009 and 2011

SD status, year, and jurisdiction		Percentage of students	Average scale score	Percent			
				Below Basic	At or above Basic	At or above Proficient	At Advanced
SD							
2009	Nation (public)	11	122	67	33	11	#
	Illinois	13	120	68	32	12	#
2011	Nation (public)	11	124	66	34	11	#
	Illinois	13	123	68	32	10	#
Not SD							
2009	Nation (public)	89	152 *	34 *	66 *	31 *	2
	Illinois	87	152	35	65	31	1
2011	Nation (public)	89	154	32	68	33	2
	Illinois	87	151	36	64	28	1

Rounds to zero.

* Value is significantly different ($p < .05$) from the value for the same jurisdiction and student group in 2011.

NOTE: The NAEP grade 8 science scale ranges from 0 to 300. Achievement levels correspond to the following points on the NAEP science scales: below *Basic*, 140 or lower; *Basic*, 141–169; *Proficient*, 170–214; and *Advanced*, 215 and above. At or above *Basic* includes *Basic*, *Proficient*, and *Advanced*. At or above *Proficient* includes *Proficient* and *Advanced*. Performance comparisons may be affected by differences in exclusion rates for students with disabilities in the NAEP samples and by differences in sample sizes. Detail may not sum to totals because of rounding. All differences were calculated and tested using unrounded numbers.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 and 2011 Science Assessments.

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**Table
11**

Percentage of eighth-grade public school students, average scale score, and achievement-level results in NAEP science, by English language learner (ELL) status, year, and jurisdiction: 2009 and 2011

ELL status, year, and jurisdiction	Percentage of students	Average scale score	Percent				
			Below Basic	At or above Basic	At or above Proficient	At Advanced	
ELL							
2009	Nation (public)	5	103	86	14	2	#
	Illinois	3	102	88	12	1	#
2011	Nation (public)	6	106	83	17	2	#
	Illinois	4	103	90	10	1	#
Not ELL							
2009	Nation (public)	95	151*	35*	65*	31*	1
	Illinois	97	149	38	62	29	1
2011	Nation (public)	94	153	33	67	33	2
	Illinois	96	149	38	62	27	1

Rounds to zero.

* Value is significantly different ($p < .05$) from the value for the same jurisdiction and student group in 2011.

NOTE: The NAEP grade 8 science scale ranges from 0 to 300. Achievement levels correspond to the following points on the NAEP science scales: below *Basic*, 140 or lower; *Basic*, 141–169; *Proficient*, 170–214; and *Advanced*, 215 and above. At or above *Basic* includes *Basic*, *Proficient*, and *Advanced*. At or above *Proficient* includes *Proficient* and *Advanced*. Performance comparisons may be affected by differences in exclusion rates for English language learners in the NAEP samples and by differences in sample sizes. Detail may not sum to totals because of rounding. All differences were calculated and tested using unrounded numbers.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 and 2011 Science Assessments.

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**Table
12**

Number of eighth-grade public school students assessed in NAEP science and weighted percentage excluded, by state/jurisdiction: 2011

State/jurisdiction	Number assessed	Weighted percentage excluded
Nation (public)	119,600	2
Alabama	2,300	1
Alaska	2,100	1
Arizona	2,300	1
Arkansas	2,300	1
California	2,500	2
Colorado	1,900	1
Connecticut	2,200	1
Delaware	2,300	2
Florida	2,300	1
Georgia	2,400	2
Hawaii	2,400	2
Idaho	2,400	1
Illinois	3,500	1
Indiana	2,300	1
Iowa	2,200	1
Kansas	2,300	1
Kentucky	3,200	3
Louisiana	2,200	1
Maine	2,200	2
Maryland	2,300	2
Massachusetts	2,300	3
Michigan	2,200	3
Minnesota	2,500	2
Mississippi	2,100	1
Missouri	2,100	1
Montana	2,200	2
Nebraska	2,200	1
Nevada	2,300	1
New Hampshire	2,200	2
New Jersey	2,200	1
New Mexico	2,800	2
New York	3,400	1
North Carolina	2,600	2
North Dakota	1,900	3
Ohio	2,300	2
Oklahoma	2,100	3
Oregon	2,400	2
Pennsylvania	2,300	1
Rhode Island	2,300	1
South Carolina	2,300	1
South Dakota	2,600	1
Tennessee	2,400	1
Texas	2,700	2
Utah	2,400	2
Vermont	1,800	1
Virginia	2,300	3
Washington	2,600	2
West Virginia	2,300	2
Wisconsin	2,100	2
Wyoming	1,800	1
Other jurisdictions		
District of Columbia	2,500	1
DoDEA ¹	1,400	1

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

NOTE: The number of students assessed is rounded to the nearest hundred.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2011 Science Assessment.

Where to Find More Information

The NAEP Science Assessment

The latest news about the NAEP 2011 science assessment and the national results can be found on the NAEP website at <http://nces.ed.gov/nationsreportcard/science>. The individual snapshot reports for each participating state and other jurisdictions are also available in the state results section of the website at <http://nces.ed.gov/nationsreportcard/states/>.

The Nation's Report Card: Science 2011 may be ordered or downloaded at the NAEP website.

The *Science Framework for the 2011 National Assessment of Educational Progress*, on which this assessment is based, is available at the National Assessment Governing Board website at <http://www.nagb.org/publications/frameworks/science-2011.pdf>.

The NAEP Data Explorer (NDE)

The interactive database at <http://nces.ed.gov/nationsreportcard/naepdata/> includes student, teacher, and school variables for all participating states and other jurisdictions, the nation, and the other four regions. Data tables are also available for each jurisdiction, with all background questions cross-tabulated with the major demographic variables. Users can design and create tables and can perform tests of statistical significance at this website.

Technical Documentation on the Web (TDW)

The Technical documentation section of the NAEP website <http://nces.ed.gov/nationsreportcard/tdw/> contains information about the technical procedures and methods of NAEP. The TDW site is organized by topic (from Item Development through Analysis and Scaling) with subtopics, including information specific to a particular assessment. The content is written for researchers and assumes knowledge of educational measurement and testing.

Publications on the inclusion of students with disabilities and English language learners

References for a variety of research publications related to the assessment of students with special needs may be found at <http://nces.ed.gov/nationsreportcard/about/inclusion.asp#research>.

To order publications

Recent NAEP publications related to science are listed on the science page of the NAEP website and are available electronically. Publications can also be ordered from

Education Publications Center (ED Pubs)
U.S. Department of Education
P.O. Box 22207
Alexandria, VA 22304

Call toll free: 1-877-4ED-Pubs (1-877-433-7827)
TTY/TDD: 1-877-576-7734
FAX: 1-301-470-1244
Order online at: <http://www.edpubs.gov>.

The NAEP State Report Generator was developed for the NAEP 2011 reports by Phillip Leung, Bobby Rampey, Rebecca Moran, Shu-Kang Chen, Rick Hasney, and Ming Kuang.

What is the Nation's Report Card™?

The Nation's Report Card™ informs the public about the academic achievement of elementary and secondary students in the United States. Report cards communicate the findings of the National Assessment of Educational Progress (NAEP), a continuing and nationally representative measure of achievement in various subjects over time.

Since 1969, NAEP assessments have been conducted periodically in reading, mathematics, science, writing, U.S. history, civics, geography, and other subjects. NAEP collects and reports information on student performance at the national, state, and local levels, making the assessment an integral part of our nation's evaluation of the condition and progress of education. Only academic achievement data and related background information are collected. The privacy of individual students and their families is protected.

NAEP is a congressionally authorized project of the National Center for Education Statistics (NCES) within the Institute of Education Sciences of the U.S. Department of Education. The Commissioner of Education Statistics is responsible for carrying out the NAEP project. The National Assessment Governing Board oversees and sets policy for NAEP.

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