

Measure Up

Spring 2011

Assessment news for middle school teachers



Did you know?

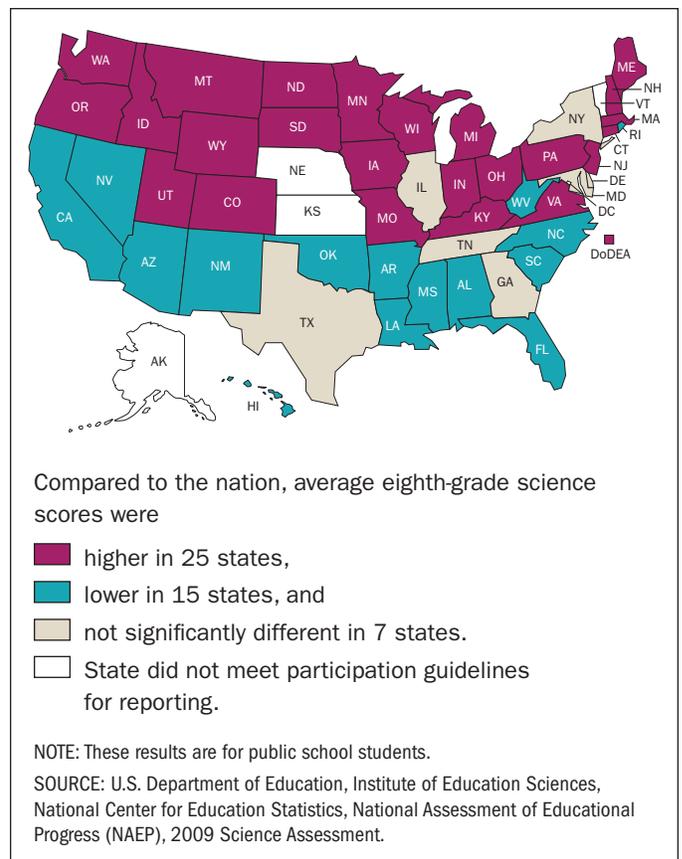
- About 8,200 grade 8 schools and 538,000 eighth-grade students participated in the NAEP 2011 assessment.
- NAEP 2012 will involve long-term trend assessments in mathematics and reading at ages 9, 13, and 17.

NAEP 2009 Science Results

Students throughout the nation in grades 4, 8, and 12 participated in the 2009 National Assessment of Educational Progress (NAEP) in science. New frameworks were developed in 2009 to keep the content current with key developments in science, curriculum standards, and research.

NAEP 2009 science results—also known as The Nation’s Report Card—show 30 percent of the nation’s eighth-graders are performing at or above the *Proficient* level in science.

Students responded to questions designed to measure their knowledge and abilities in physical science, life science, and Earth and space sciences. Because of the new framework, results from 2009 cannot be compared to those from previous assessment years.





NAEP in the Classroom

With the publication of NAEP results, select items from each assessment are released. Teachers can access the items, answer keys and scoring guides, sample student responses, and national performance results for eighth-grade students using the NAEP Questions Tool at <http://nces.ed.gov/nationsreportcard/itmrlsx>. The Questions Tool includes both multiple-choice and constructed-response questions for all NAEP subjects and grades. A sample item from a past NAEP science assessment follows. Additional information about this and other items can be found by using the Questions Tool.

Grade 8 Science Sample Item

Household appliances convert electricity into one or more different forms of energy. An electric fan can best be described as converting electricity into

- A. heat energy only
- B. heat energy and sound energy only
- C. heat energy, sound energy, and mechanical energy only
- D. heat energy, sound energy, mechanical energy, and chemical energy

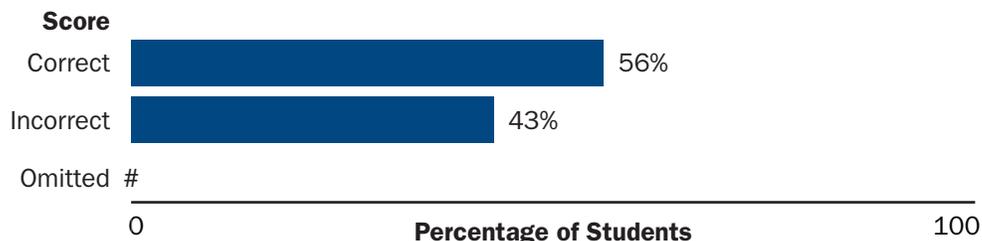
Fifty-six percent of eighth-graders answered the question correctly (Choice C).

To access the NAEP science framework, visit <http://www.nagb.org> and select "Publications."

The NAEP 2009 science assessment included paper-and-pencil questions, hands-on performance tasks, and interactive computer tasks.

NAEP national performance results in science at grade 8: 2005

Identify energy conversion in an electric fan



NOTE: These results are for public and private school students. Percentages may not add to 100 due to rounding.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005 Science Assessment.

NAEP 2009 Science Framework

The framework organizes science content into the following three broad areas reflecting the science curriculum students are generally exposed to across the K-12 curriculum.

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.

NAEP in the Classroom (continued)

NAEP 2012: The Long-Term Trend Assessment

The existence of the two national assessment programs—long-term trend NAEP and main NAEP—makes it possible to

- measure student progress over time, and
- develop new assessment instruments that reflect current educational content and assessment methodology as educational priorities change.

The NAEP long-term trend assessments were first administered in reading in 1971 and in mathematics in 1973. During the 2007-2008 school year, samples of 9-, 13-, and 17-year-old students throughout the nation participated in long-term trend assessments in reading and mathematics.

Although long-term trend and main NAEP both assess mathematics and reading, there are four main differences—the content assessed, the students selected (sampled), how often the assessment is administered, and the results reported. These differences mean that results from long-term trend and main NAEP cannot be compared directly, although comparisons of the patterns over time of the two assessments, especially for student demographic groups, may be informative, keeping in mind the content differences. A sample item from the 2008 long-term trend mathematics assessment at age 13 is shown below.



The NAEP long-term trend mathematics assessment was designed to measure students'

- **knowledge of basic facts,**
- **ability to carry out numerical algorithms using paper and pencil,**
- **knowledge of basic measurement formulas as they are applied in geometric settings, and**
- **ability to apply mathematics to daily living skills (such as those related to time and money).**

Long-Term Trend Mathematics Sample Item, Age 13

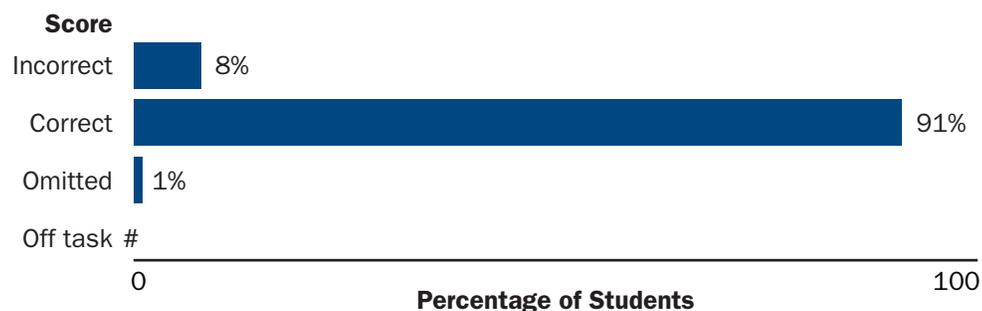
What value of b makes the following sentence TRUE?

$$26 \times b = 26$$

ANSWER: 1

National performance results

Solve for unknown in algebraic equation



Rounds to zero.

NOTE: These results are for public and private school students. Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2008 Long-Term Trend Mathematics Assessment.

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. By collecting and reporting information on student performance at the national, state, and local levels, NAEP is an integral part of our nation's evaluation of the condition and progress of education. Only information related to academic achievement and relevant variables is collected. The privacy of individual students and their families is protected, and the identities of participating schools are not released.

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If you want to...

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Learn more about NAEP results	The Nation's Report Card at http://nationsreportcard.gov
Learn about the NAEP long-term trend assessment	The Nation's Report Card at http://nationsreportcard.gov/ltt_2008/ltt0016.asp
View NAEP data for a particular state or contact your NAEP State Coordinator	The National Center for Education Statistics at http://nces.ed.gov/nationsreportcard/states
Access specific results for a grade level, subject, jurisdiction, and/or demographic groups	The NAEP Data Explorer at http://nces.ed.gov/nationsreportcard/naepdata
Find information regarding the types of questions used on NAEP assessments or view subject-specific questions	The NAEP Questions Tool at http://nces.ed.gov/nationsreportcard/itmrlsx
Download a Sample Questions booklet that contains sample test questions for the upcoming and previous assessments	The National Center for Education Statistics at http://nces.ed.gov/nationsreportcard/about/booklets.asp
Learn more about NAEP frameworks and how policy is drafted for each NAEP assessment	The National Center for Education Statistics at http://nces.ed.gov/nationsreportcard/frameworks.asp
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