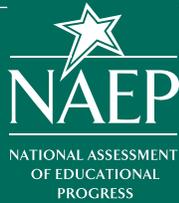


Measure Up

NAEP News for the School Community



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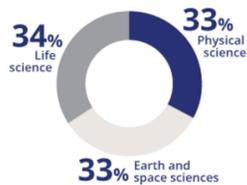
ABOUT | GRADE 4 | 2015

115,400 students from 7,650 schools participated in 2015

Results are reported for

- public and private school students in the nation
- public school students in 46 states
- Department of Defense schools

Percentage of assessment time per content area: 2015



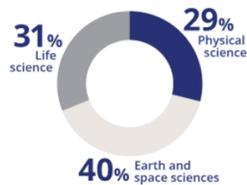
ABOUT | GRADE 8 | 2015

110,900 students from 6,050 schools participated in 2015

Results are reported for

- public and private school students in the nation
- public school students in 46 states
- Department of Defense schools

Percentage of assessment time per content area: 2015



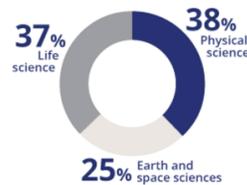
ABOUT | GRADE 12 | 2015

11,000 students from 730 schools participated in 2015

Results are reported for

- public and private school students in the nation

Percentage of assessment time per content area: 2015



What's Happening in the World of NAEP?

Winter 2017

- Assessment window: January 30-March 10, 2017
- Grades 4 and 8: [Mathematics](#), [reading](#), and [writing](#)
- Pilot assessments on tablets – Grades 4 and 8: [Civics](#), [geography](#), [mathematics](#), [reading](#), [U.S. history](#)

NAEP 2015 Science Assessment Results

In 2015, NAEP conducted a [science assessment](#) across the nation at grades 4, 8, and 12. Approximately 115,400 fourth-grade students, 110,900 eighth-grade students, and 11,000 twelfth-grade students participated in the science assessment. The assessment was designed to measure students' knowledge of [three broad content areas](#) – physical science, life science, and Earth and space sciences – and [four science practices](#) – identifying science principles, using science principles, using scientific inquiry, and using technological design.

[State results](#) are available for 46 states and the Department of Defense Education Activity (DoDEA) at grades 4 and 8. [Participation rate standards](#) established by the National Center for Education Statistics (NCES) and the National Assessment Governing Board require that the weighted school participation rates for initial school samples must be at least 85 percent for results to be reported. During the 2015 NAEP science assessment, forty-six states and one jurisdiction (DoDEA) met this participation rate requirement, with participation rates ranging from 93 to 100 percent. Five states and one jurisdiction did not meet the minimum participation requirement in the 2015 NAEP science assessment: Alaska, Colorado, Louisiana, Pennsylvania, and the District of Columbia. Therefore, data for these jurisdictions are not reported. [National results](#) are available at grade 12 only.

SOURCE: https://www.nationsreportcard.gov/science_2015/#about?grade=4

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), [2015 Science Assessment](#).



For more information about NAEP, visit:
<http://nces.ed.gov/nationsreportcard>

Find us on:



National Achievement Level

Achievement levels are performance standards showing what students should know and be able to do. Results are reported as percentages of students performing at or above three achievement levels (*Basic, Proficient, and Advanced*). Students performing at or above *Proficient* on NAEP assessments demonstrate solid academic performance and competency over the subject matter.

In 2015, results included the following:

- Thirty-eight percent of fourth-grade students performed at or above the *Proficient* level on the science assessment, which was 4 percentage points higher compared to 2009, the previous assessment year.
- Thirty-four percent of eighth-grade students performed at or above the *Proficient* level on the

science assessment, which was 2 percentage points higher compared to 2011, the previous assessment year. The percentage of eighth-grade students performing at or above the *Proficient* level in 2015 was 4 percentage points higher compared to 2009, the first assessment year.

- Twenty-two percent of twelfth-grade students performed at or above the *Proficient* level on the science assessment compared to 21 percent of students in 2009, the previous assessment year. This 1 percentage point difference was not statistically significant.

Additional information about the national achievement levels can be obtained by clicking on the graphic below.

National achievement levels

Percentages of students performing at or above *Proficient* increased at grades 4 and 8 compared to 2009; no significant change at grade 12

NATION | GRADE 4 | 2015



NATION | GRADE 8 | 2015



NATION | GRADE 12 | 2015



Students performing at or above the *Proficient* level are able to do the following:

Grade 4: Demonstrate relationships among related science concepts and principles, as well as analyze and propose alternative explanations or predictions.

Grade 8: Demonstrate relationships among related science principles, predict scientific observations, and develop alternative explanations of observations.

Grade 12: Demonstrate relationships as well as compare and use alternative models, predictions, and explanations.

SOURCE: https://www.nationsreportcard.gov/science_2015/#acl?grade=4

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2015 Science Assessment.

State Achievement Levels

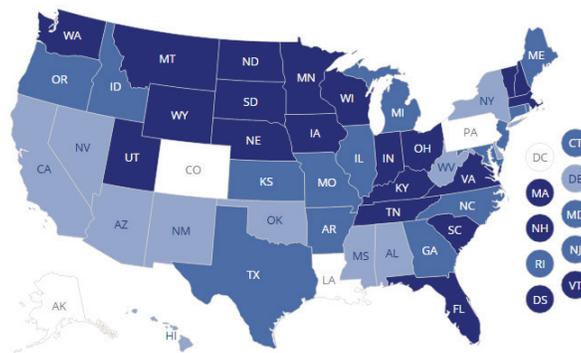
In 2015, the percentage of fourth-grade public school students performing at or above *Proficient* was 37 percent nationally. Across the states/jurisdictions, the percentage of public school fourth-graders performing at or above *Proficient* in science ranged from 23 to 51 percent. Click on the graphic map below for additional information on grade 4 achievement levels and to compare state/jurisdiction percentages of fourth-grade public school students.

Grade 4 Achievement Level Map

Comparison between states/jurisdictions and the nation of the percentages of fourth-grade public school students performing at or above *Proficient* in NAEP science: 2015



Click on any state to see the percentage of students at or above *Proficient* compared to the nation

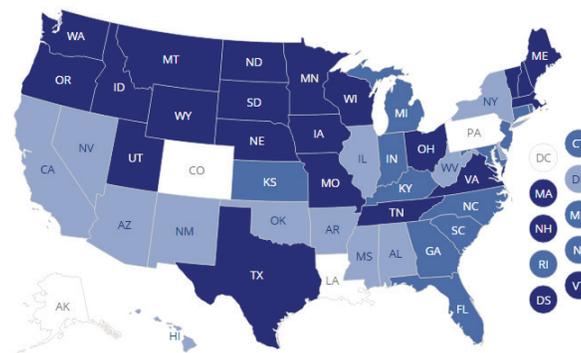


NOTE: DS = Department of Defense Education Activity (DoDEA), a federally-operated nonpublic school system responsible for educating children of military families. See more about DoDEA. Results are not available for Alaska, Colorado, the District of Columbia, Louisiana, and Pennsylvania for the 2015 NAEP science assessment.

In 2015, the percentage of eighth-grade public school students performing at or above *Proficient* was 33 percent nationally. This ranged across the states/jurisdictions from 20 to 50 percent of public school eighth-graders reaching the *Proficient* level in science. Click on the graphic map below for additional information on grade 8 achievement levels and to compare state/jurisdiction percentages of eighth-grade public school students.

Grade 8 Achievement Level Map

Comparison between states/jurisdictions and the nation of the percentages of eighth-grade public school students performing at or above *Proficient* in NAEP science: 2015



NOTE: DS = Department of Defense Education Activity (DoDEA), a federally-operated nonpublic school system responsible for educating children of military families. See more about DoDEA. Results are not available for Alaska, Colorado, the District of Columbia, Louisiana, and Pennsylvania for the 2015 NAEP science assessment.

SOURCE: https://www.nationsreportcard.gov/science_2015/#state/acl?grade=4

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2015 Science Assessment.

NAEP Survey Questionnaires

by Jonas Bertling, Educational Testing Service (ETS)

In addition to measuring student achievement, NAEP collects contextual information from students, teachers, and school administrators through NAEP survey questionnaires. Some questions, such as those related to socioeconomic status, are specifically mandated by law. Other questions provide important context for interpreting NAEP performance results.

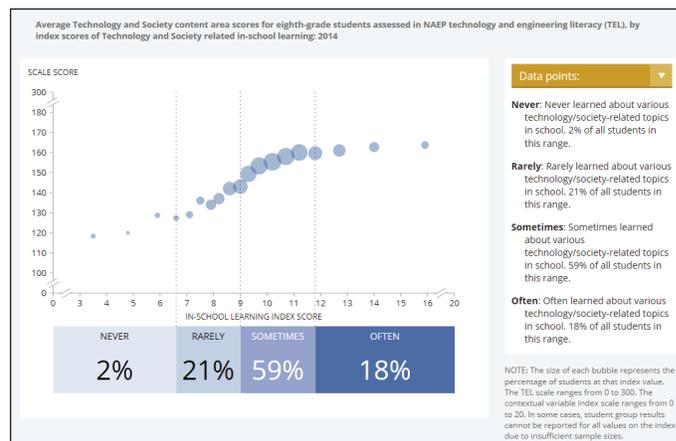
Students fill out the survey questionnaires after they have completed the assessment. The time allocated for the questionnaires is 15 minutes. Students may answer as many questions as they like and can skip any question they do not want to answer. Student names are never reported with their responses or with other information collected by NAEP.

Survey questionnaires also play a key role in reporting the assessment results. Student responses are combined to provide important information about learning opportunities and experiences in and out of school. Responses also identify differences between student groups such as between male and female students. Moreover, survey questionnaire data provide context to NAEP achievement results by identifying factors linked to student success. For example, students may be asked about access to and use of computers or the amount of reading they do for homework. The table below shows a question from the 2015 reading survey questionnaire, along with an example of the results.

Survey Question	Results
How often do you read for fun on your own time? A. Never or hardly ever B. Once or twice a month C. Once or twice a week D. Almost every day	Fourth-graders who reported reading for fun almost every day scored 18 points higher on NAEP than their peers who never or hardly ever read for fun.

Some survey questions appear in The Nation’s Report Card (a NAEP online report published by the National Center for Education Statistics) as stand-alone questions, like the example shown above. Other questions are aggregated together with other questions into questionnaire indices. Indices are created to provide information on broader topics that cannot be fully captured by a single question. NAEP uses a minimum of four questions to create a single index score for each of these broader topics. This approach is based on advanced statistical analyses and ensures greater depth when reporting NAEP results.

The following figure shows an example questionnaire index of in-school learning from the [2014 technology and engineering literacy \(TEL\) report card](#).



SOURCE: http://nationsreportcard.gov/tel_2014/#results/techsociety

The index is based on five items that asked students how often they have learned about or discussed connections between technology and society in school, such as how inventions change the way people live.

The graph illustrates the relationship between in-school learning and TEL scale scores. Each bubble represents a student group, based on the concentration of student responses. Larger bubbles indicate that more students landed at that level. With increased frequency of in-school learning, from “Never” to “Often” (represented by moving horizontally on the chart from index value 0 to index value 20), average scale scores tend to become higher. In addition, the graph shows the proportions of students in each of the four index categories. For example, 18 percent of students learned often about TEL topics in school, whereas 2 percent never learned about TEL topics. TEL learning in school cannot be captured with just one item; that’s why an index is needed to paint a comprehensive picture.

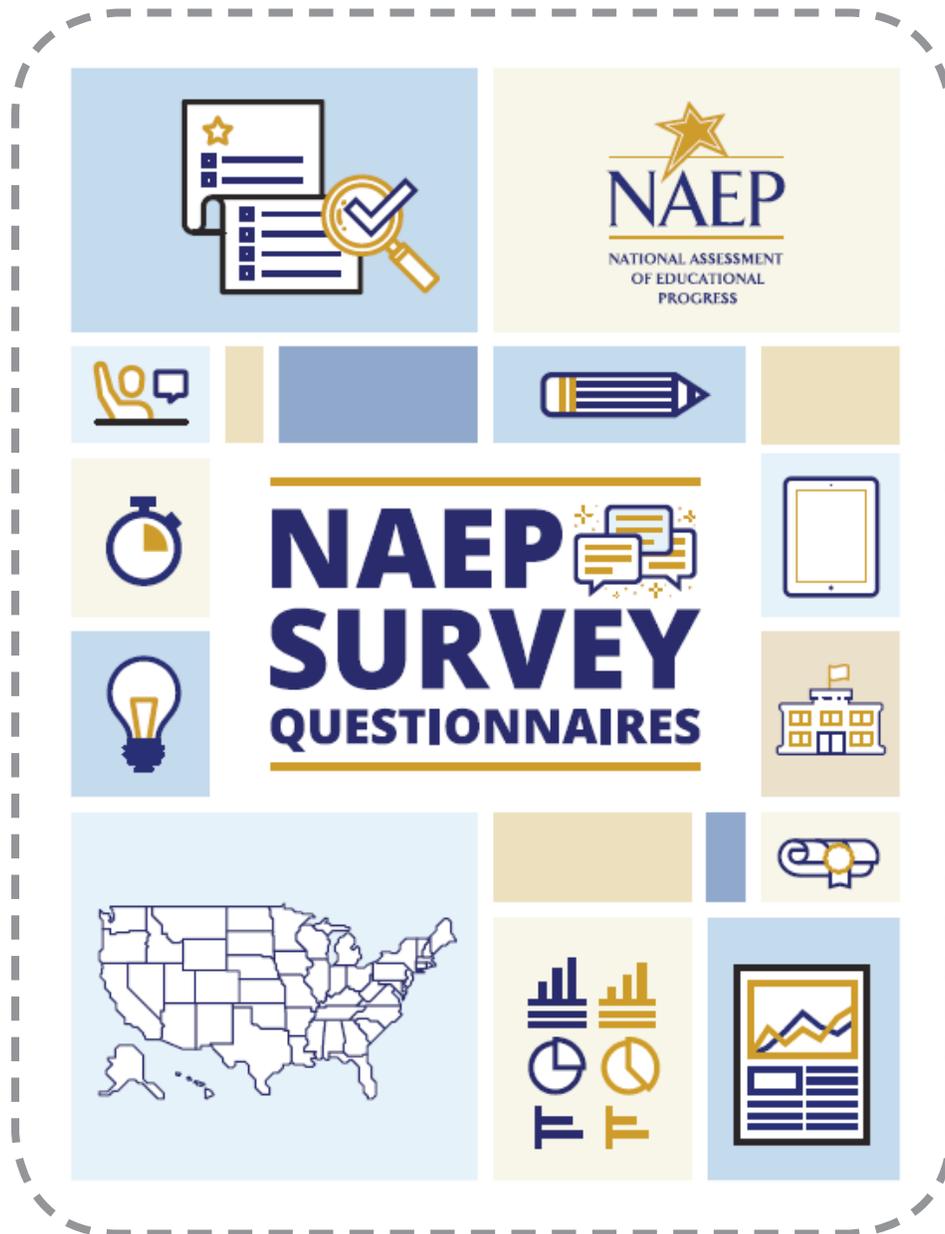
For the 2017 administration, NAEP has further refined survey questions to place NAEP results in the context of today’s challenges in our nation’s schools, ranging from familiarity with technology to school climate. Advanced survey methods that include improved question formats, response options, and multi-item indices help provide a more complete understanding of student performance and the skills needed in a 21st century global economy.

For more information:

<http://nces.ed.gov/nationsreportcard/educators/>
<http://nces.ed.gov/nationsreportcard/bgquest.aspx>

NAEP Survey Questionnaires Postcard

To better understand the National Assessment of Educational Progress (NAEP) and its survey questionnaires, this postcard provides essential information for teachers. Please refer to the postcard below, which can be printed double-sided on one page, when discussing NAEP survey questionnaires with parents and school administrators.



 *Trim on dotted line.*

NAEP Survey Questionnaires Postcard

NAEP SURVEY QUESTIONNAIRES



The National Assessment of Educational Progress (NAEP) is the largest nationally representative and continuing assessment of what students in the United States know and can do in various subjects. NAEP survey questionnaires are administered to students, teachers, and school administrators as part of the NAEP assessment and collect contextual information about students' opportunities to learn in and out of the classroom. Your students' participation has the opportunity to help teachers, principals, policymakers, and researchers develop ways to improve education in their classroom.

NAEP survey questionnaires gather student information on a variety of topics, including race, ethnicity, socioeconomic status, technology use, and school climate. In addition, approximately half of the questions reflect the subject of the NAEP assessment the student has completed.

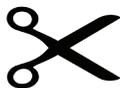
Students who participate in NAEP are also asked to complete NAEP survey questionnaires, which are given after the NAEP assessment and only require 15 minutes to complete. Participation is voluntary, and students may skip any question. All responses are confidential.

Responses to NAEP survey questionnaires help put student achievement results into context and allow for meaningful comparison between student groups.

While states have their own unique assessments with different content and standards, the same NAEP assessment is administered in every state, providing a common measure of student achievement across the country.

NAEP results are released as The Nation's Report Card and are available for the nation, your state, and in some cases, selected districts. NAEP is administered by the National Center for Education Statistics, located within the U.S. Department of Education's Institute of Education Sciences.

Learn more about NAEP at nces.ed.gov/nationsreportcard



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Interview With Jonas Bertling on NAEP Survey Questionnaires



In this interview, we talk with Jonas Bertling, Ph.D., the director of the NAEP survey questionnaires at Educational Testing Service (ETS), based in Princeton, New Jersey. One of Dr. Bertling's responsibilities is to lead the design of the NAEP survey questionnaires for students, teachers, and school administrators.

How long have you worked on survey questionnaires? What is your current role with NAEP survey questionnaires and what is the most satisfying part of your role?

I have worked on designing the NAEP survey questionnaires for about four years. I enjoy coming to work every day because I know that NAEP is of tremendous value in improving education for all students. What I find most satisfying is working with an incredible team of people at the National Center for Education Statistics (NCES), ETS, and our project partners. It is very rewarding to see that everyone on the NAEP project deeply cares about improving education in the United States and working together towards a shared goal.

Why are survey questionnaires the best way to provide context for student achievement?

The NAEP assessments measure what students know and can do in many subjects. The survey questionnaires place these achievement results into context. Based on these data we can describe how access to learning opportunities, such as computers and tablets for learning in school, or extracurricular activities differs across the nation, as well as which contextual factors relate strongest to achievement. Moreover, survey questionnaire data help inform how students in the nation are doing in terms of outcomes other than achievement, such as whether students are confident in what they know and can do, enjoy being in school, and demonstrate study habits that prepare them for success in life.

What is the survey question selection process?

First and foremost, we include questions that are clearly related to measuring student achievement, have a strong foundation in research, and align closely with the NAEP subject-area frameworks. Some questions are required by federal legislation, including questions on socioeconomic status. All questions have to pass several checkpoints before being used in NAEP, including reviews by content experts, fairness and sensitivity reviews, and reviews of actual data through several stages of pre-testing. Draft questions are tested first among small groups of students, teachers, and school administrators and then piloted in larger samples of participants before final selection. Only questions that pass all checkpoints are included in the final survey questionnaires.

What best practices does NCES follow to protect survey questionnaire data and the privacy of students?

NAEP is designed to ensure that no individual student can be identified based on his or her response and that no individual responses are reported. All participants in the NAEP assessment are assigned a unique identification number so that they cannot be linked to any personally identifiable information such as name or address.

If parents were to ask you how NAEP survey questionnaire data can help their child, how would you respond?

Every student who participates in NAEP makes an important contribution to the decision making process by educators and policymakers in improving education. NAEP survey questionnaire data help us understand the context in which students learn and monitor how educational opportunities differ across the nation. Each survey questionnaire response from every student is an important data point to paint that picture. The survey questionnaires also give students an opportunity to share feedback about the NAEP assessment, including whether they found it engaging or challenging. These student responses help our team of developers further improve future NAEP assessments.

What are key points you would like educators to know about the value of survey questionnaires?

First, we work very closely with leading researchers in the field as well as solicit feedback from key stakeholders and educators across the nation to ensure quality and relevance of questions. Second, all NAEP survey questions, including new questions that are piloted, are available for the general public on the web and can be viewed and downloaded even before the NAEP assessment window starts. The questions are part of the public domain and can be used for research. Third, data from the NAEP survey questionnaires also are available. The interactive report cards feature key findings for survey questionnaires and trends over time, and the [NAEP data explorer \(NDE\)](#) can be used as a tool to create custom tables and statistics to take a deeper dive into the NAEP achievement and survey questionnaire results.

What do you think is in the future for NAEP survey questionnaires and survey questionnaires?

Over the years we have implemented innovations to the NAEP survey questionnaires that broadly fall into two categories: question content and survey methods. We introduced new topics to shed light on current issues in education, such as access to digital technology. We have also improved the survey methods that we use on these topics. Key changes include the improvement of response options for more clarity and the creation of questionnaire indices that ensure greater depth when reporting NAEP results. [Learn more about response options in this edition's survey questionnaire article by Dr. Bertling.] These trends are likely to continue and evolve over time, and I hope that other large-scale assessments will adopt some of the innovations NAEP has introduced.

Online Resources

What's Happening in the World of NAEP?

Mathematics assessment	http://nces.ed.gov/nationsreportcard/mathematics
Reading assessment	http://nces.ed.gov/nationsreportcard/reading
Writing assessment	http://nces.ed.gov/nationsreportcard/writing
Civics assessment	http://nces.ed.gov/nationsreportcard/civics
Geography assessment	http://nces.ed.gov/nationsreportcard/geography
U.S. History assessment	http://nces.ed.gov/nationsreportcard/ushistory

NAEP 2015 Science Assessment Results

Science assessment	https://www.nationsreportcard.gov/science_2015/#?grade=4
Three content areas	https://www.nationsreportcard.gov/science_2015/#about?grade=4
Four science practices	https://www.nationsreportcard.gov/science_2015/#about?grade=4
State results	https://www.nationsreportcard.gov/science_2015/#state/acl?grade=4
Participation rate standards	https://nces.ed.gov/nationsreportcard/about/participates.aspx
National results	https://www.nationsreportcard.gov/science_2015/#scores?grade=4
About the 2015 science assessment	https://www.nationsreportcard.gov/science_2015/#about?grade=4
Nation's Report Card website	http://nces.ed.gov/nationsreportcard

National Achievement Level Results

Achievement levels	https://www.nationsreportcard.gov/science_2015/#acl?grade=4
Three achievement levels	http://nces.ed.gov/nationsreportcard/achievement.aspx
National achievement level results	https://www.nationsreportcard.gov/science_2015/#acl?grade=4

State Achievement Levels

State achievement level results	https://www.nationsreportcard.gov/science_2015/#state/acl?grade=4
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NAEP Survey Questionnaires

2014 technology & engineering literacy (TEL) student experiences	http://nationsreportcard.gov/tel_2014/#results/techsociety
Information for educators	http://nces.ed.gov/nationsreportcard/educators
Questionnaires for students, teachers, and schools	http://nces.ed.gov/nationsreportcard/bgquest.aspx
NAEP Data Explorer (NDE)	https://nces.ed.gov/nationsreportcard/naepdata/dataset.aspx