

FAQs: NAEP State Assessment Sample Design

How are schools and students selected for NAEP?

NAEP provides results on student achievement, instructional experiences, and school environment factors for the nation, states, and participating urban districts. Since NAEP is not designed to report results for individual students or schools, it is not necessary for every student in every school to take the assessment. Instead, an accurate picture of student performance is obtained by administering NAEP to a sample of students who represent the student population of the nation as a whole and of individual states and districts participating in TUDA.

To ensure that a representative sample of students is assessed, NAEP is given in a sample of schools whose students reflect the varying demographics of a specific jurisdiction, be it the nation, a state, or a district. Within each selected school and grade to be assessed, students are chosen at random to participate in NAEP. Every student has the same chance of being chosen—regardless of race/ethnicity, socioeconomic status, disability, status as an English language learner, or any other factors.

It is important that all selected schools and students participate in NAEP. Participation is vital for valid information about the performance of students across the country to be collected and shared. Elected officials, policymakers, and educators all use NAEP results to develop ways to improve education.

The following steps are used to select a sample of public schools and students in a year when NAEP reports state-level results. Private schools are not included in a state-level sample, which focuses solely on public schools.

1. Identify all potential schools in each state.

An initial list of all public schools in the nation is compiled using the U.S. Department of Education's most current public education system database. The national list is then divided into separate lists of schools within each state to begin the sampling process.



2. Classify schools into groups.

Using the list, schools within each state are classified into groups, first by type of location and then by the racial/ethnic composition of the schools within those locations. This step ensures that the sampling process takes into account the distribution of schools and students across rural, suburban, and urban areas, and the diversity of the student population in each state.



3. Within each group, order schools by student achievement.

In each sampled school, a list is compiled of all students within the grade to be assessed. From this list, a sample of students is randomly selected by NCES for participation in the assessment. Every student in a sampled school has an equal probability of being selected. After the sample is drawn, students are assigned a single subject area in which to answer questions. NAEP staff members work with the school to verify the accuracy of student demographic information.



4. Develop an ordered list for sampling.

The groupings of schools determined in steps 2 and 3 are then placed into a comprehensive ordered list for sampling, i.e. by type of location, race/ethnicity, and student achievement. The probability of a school being selected for the NAEP sample is calculated based on the size of its enrollment in relation to the size of the state's student population at the selected grade level and the number of schools needed for the assessment. Schools with large enrollments are more likely to be selected because their students represent a large proportion of the state's student population.



5. Select the school sample.

The sample of schools is drawn for NAEP participation with a systematic sampling procedure. The procedure ensures that each school has the correct selection probability, as calculated in Step 4. By proceeding systematically throughout the entire list, schools of different sizes and varying demographics are selected and a representative sample of students in the state will be chosen for the assessment.



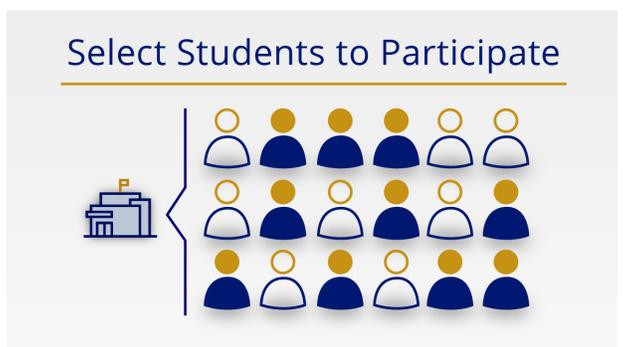
6. Confirm school eligibility.

The list of schools selected to participate is sent to each state department of education to verify that the schools are eligible for participation. Some factors that would make a school ineligible include school closure or if the school does not have students in the grade level being assessed.



7. Within sampled schools, select students to participate in NAEP.

The National Assessment of Educational Progress (NAEP) is the largest nationally representative and continuing assessment of what America's students know and can do in various subject areas. Paper-and-pencil assessments are conducted periodically in mathematics, reading, science, writing, the arts, civics, economics, geography, U.S. history, and in Technology and Engineering Literacy (TEL). Beginning in 2017, NAEP will begin administering digitally based assessments (DBA) for mathematics, reading, and writing, with additional subjects added in 2018 and 2019.



NAEP assessments are conducted across the nation, states, and in some cases, urban districts. National results are reported for all assessment subjects. Mathematics, reading, science, and writing are also assessed at the state level and for participating urban districts. For national assessments, students in both public and private schools are assessed. At the state level, only public school assessments are reported. Reports are never reported for individual students.

Why are some schools selected frequently?

The probability (or chance) of being selected for the NAEP state sample depends on the size of the student enrollment at each school. Generally, if a school is chosen frequently it is because the school's enrollment in the grade constitutes a relatively large proportion of the state's student population. Therefore, large schools are more likely to be selected than smaller ones. The sampling process is repeated each year that NAEP is administered, each time using the most recent data to account for changes in schools and shifts in student demographics across states and the nation.

For state assessments, NAEP selects for the sample around 100 public schools for each subject at each grade—each school represents about 1% of that state's public school students in the grade being assessed. If a school is chosen repeatedly, typically that is because their enrollment in the grade represents more than 1% of the state's enrollment in the grade. Other schools, with 0.5%-1% of the enrollment, are not always selected, but are selected

very frequently.

Are any schools or students targeted for oversampling?

For NAEP assessments based on state samples (mathematics, reading, science, and writing at grades 4 and 8), the samples within each state are designed (with one exception mentioned below) to be proportionately representative of all the different groups of students in the state. No students are targeted for oversampling based on their student characteristics. However, in a state that contains one or more districts that are participating in the Trial Urban District Assessment (TUDA), students from the districts involved are sampled at a greater rate than those in the remainder of the state. NAEP's weighting procedures ensure that the final results for the state are based on the correct proportional contribution from these TUDA districts despite this difference in sampling rates within the state. National samples for other subjects, for grade 12, and for private schools may require oversampling.

Why do the numbers of schools and students selected to participate vary from year to year?

The number of schools and students selected to participate in NAEP varies each year, depending on the number of subjects being assessed and the level of results to be reported (i.e., national, state, or district-level).

National Results: For NAEP results to be representative of the nation, far fewer schools and students need to participate than when results for states are being reported. Within each state, the number of schools selected to participate will vary depending on the size of its student population. For example, California has a much larger share of the student population, so it is much more likely to have schools in the sample than Wyoming.

State Results: In years when NAEP also reports state-level results, larger numbers of schools are needed to ensure that the results are representative of each state's student population. Approximately 3,000 public school students per subject and grade are assessed in each state.

District Results: The number of schools and students needed to represent the districts participating in TUDA varies, depending on the size of the district. Generally, in each district, approximately 1,500 public school students per subject and grade are assessed. These schools and students are added to and contribute to the state's sample. While TUDA districts have a large sample, their data are combined with the state's data proportionally so as not to over-represent the district in the overall state results.

On the Nation's Report Card website, you can see rounded numbers of the schools and students that participated in recent assessments.

How are private schools selected to participate in NAEP?

The process for private school selection is similar to the public school selection process, but depends on the U.S. Department of Education's private education system databases to create the initial list of all known private schools. Private schools are sampled to be representative of private schools nationwide. The results for private schools are not included in state-level results which are solely focused on public schools.

Can states choose which schools are sampled for NAEP?

No. NCES selects a sample of schools using the NAEP sampling process to ensure the validity of the results. States verify if the selected schools are eligible to participate. This process ensures that NAEP assesses the most representative sample of students as possible.

How do school response rates affect NAEP reporting?

The National Center for Education Statistics and the National Assessment Governing Board have established participation rate standards that states and jurisdictions are required to meet in order to have their results published. Beginning in 2003, if a state's school response rate is below 85%, the results will not be published by NAEP, regardless of the response rate after substitution. To read details about response rates for a particular assessment, see the section on weighting procedures in the technical documentation. From this page, look to the right, and choose the year you are interested in. On the weighting procedures page for the year selected, find the link "Quality Control..." on the right, and from the page that appears, click "Nonresponse Bias Analyses."

Are students with disabilities and English language learners included in the NAEP sample?

Yes. Students are randomly selected from a list of all students enrolled in the grade that is to be assessed in each school. NAEP's policy has always been to include as many sampled students as possible in the assessment so that results are representative of all students. NAEP offers a comprehensive array of research-based accommodations for students with disabilities, students with 504 plans, and English language learners to participate in the assessment.

How many students participate in each NAEP assessment?

For the most recent assessments, find out how many students participate in the FAQs on The Nation's Report card website. For assessments as early as 2000, to find numbers of schools and students as well as participation rates, go to NAEP technical documentation and explore the section on weighting procedures. From this page, look to the right, and choose the year you are interested in. On the weighting procedures page for the year selected, find the link "Quality Control..." on the right, and from the page that appears, click "Main Quality Control Findings of Interest."

How can I learn more about NAEP sampling?

For more technical information on NAEP sampling, explore NAEP Assessment Sample Design.
