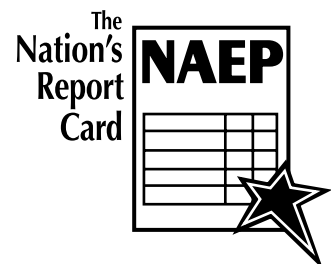


**NATIONAL ASSESSMENT OF
EDUCATIONAL PROGRESS (NAEP)**

**DEMONSTRATION
BOOKLET**

**AGES 9, 13, & 17
LONG-TERM TREND
READING AND MATHEMATICS
2003-2004**





Demonstration Booklet 2003-2004

Long-Term Trend Reading and Mathematics

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School Information

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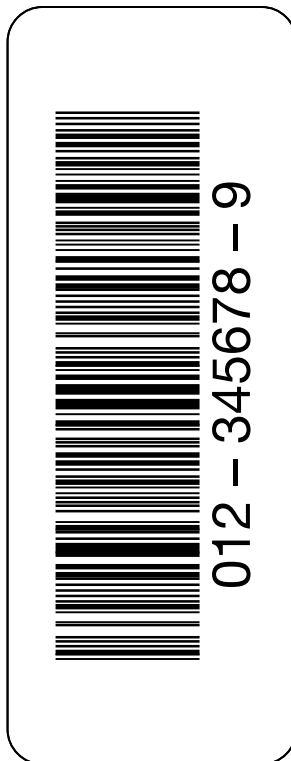
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A project of the Institute of Education Sciences.

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ABOUT THIS DEMONSTRATION BOOKLET

On behalf of the National Assessment of Educational Progress (NAEP) project team, I want to thank you and other members of your school team for agreeing to participate in the NAEP assessment. Your participation is essential and highly valued. The data that NAEP provides about student achievement in various subjects are widely used by parents, educators, and researchers throughout the nation.

Since 1969, national assessments have been conducted periodically in reading, mathematics, science, writing, U.S. history, civics, geography, and the arts. The 2003–2004 long-term trend assessments provide information on how well representative samples of age 9-, 13-, and 17-year old students can perform in reading and mathematics.

This demonstration booklet illustrates the kinds of background questions and tasks used in the 2003–2004 long-term trend assessment of student achievement in reading and mathematics. The assessment will require about 90 minutes of a student’s time and will include a background questionnaire. Students’ answers to all questions are confidential and students’ names are removed from all completed assessment materials.

This booklet is divided into four parts. Part one contains an overview of the long-term trend assessment. Part two describes the reading and mathematics components of the assessment. Part three provides the directions and questions for the long-term trend background questionnaire. The final part of the booklet, located on the back cover, presents general information about the NAEP program.

If you have any questions or comments regarding the NAEP program or this booklet, please refer to <http://nces.ed.gov/nationsreportcard>, or call Sherran Osborne of NCES at (202) 502–7420.

Peggy G. Carr, Associate Commissioner
Education Assessment
National Center for Education Statistics

INTRODUCTION TO THE LONG-TERM TREND ASSESSMENT

Since its inception in 1969, NAEP has served the important function of measuring our nation's educational progress by regularly administering various subject area assessments to nationally representative samples of students. The existence of the two national assessment programs—long-term trend NAEP and main NAEP—makes it possible to meet two important objectives: (1) measure student progress over time, and (2) as educational priorities change, develop new assessment instruments that reflect current educational content and assessment methodology. The long-term trend assessments have remained substantially the same since their first administration, and thus make it possible to meet the first objective of measuring progress over time. NAEP's main assessments are periodically revised or updated to remain current and to meet the second objective of addressing contemporary educational priorities.

Students in the long-term trend assessment are sampled by age—9, 13, and 17—throughout the school year. Age 13 students are assessed in the fall, age 9 students in the winter, and age 17 students in the spring of the academic year. The 2003–2004 long-term trend assessment includes reading and mathematics.

The long-term trend reading assessment measures students' reading skills and comprehension abilities, primarily with expository, narrative, and document texts. While some questions in the long-term trend assessment ask students to write out their own answer, the majority of questions are in a multiple-choice format. The long-term trend reading assessment is described in more detail on page 7 of this booklet.

The long-term trend mathematics assessment measures 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 the ability to apply mathematics to daily living skills (such as those related to time and money). The computational focus of the long-term trend assessment provides a unique opportunity to determine how students are performing in areas of computation and simple applications of mathematics. The long-term trend mathematics assessment is described in more detail on page 8 of this booklet.

In addition to assessing students' progress in reading and mathematics, the NAEP long-term trend assessments include background questions about students' home and school experiences that are thought to be related to educational achievement. For example, students are asked about the courses they have taken, activities in their classrooms, and the amount of time they spend on homework. Their responses to these questions provide an informative context for interpreting the assessment results. The long-term trend background questions are on pages 12 to 14.

A few students in your school may be randomly assigned a booklet for a special study involving test booklets from previous long-term trend assessments or test questions being developed for use in future assessments. Some schools will be asked to participate in a special mathematics study involving paced tape components which need to be conducted in separate sessions. Additional information about these studies may be obtained by contacting your state NAEP coordinator or the NAEP program office at the U.S. Department of Education.

A DESCRIPTION OF THE LONG-TERM TREND READING ASSESSMENT

The long-term trend reading assessment contains a range of reading materials, from simple narrative passages to complex articles on specialized topics. The selections include brief stories, poems, and passages from textbooks and other age-appropriate reading material. Students' comprehension of these materials is assessed with both multiple-choice questions and constructed-response questions, in which students are asked to provide a written response. In the long-term trend reading assessment, students are given selections in expository reading, narrative reading, and document reading. Each test booklet consists of three content blocks of 15 minutes each.

The expository reading selections in the assessment consist of passages ranging from 250 words to 500 words at age 9 or to 800 words at age 17, and short paragraphs of 50 to 150 words. Students read a passage, then answer multiple-choice or long-answer questions about it. The percentage of questions in the assessment allocated to expository reading varies from 54% to 61%.

Similarly, the narrative reading selections in the assessment consist of passages ranging from 250 words to 500 words at age 9 or to 800 words at age 17, and short paragraphs of 50 to 150 words. Students read a passage, then answer multiple-choice or long-answer questions about it. The narrative reading selections also include poetry passages of 50 to 150 words, followed by multiple-choice and long-answer questions. The percentage of questions in the assessment allocated to narrative reading varies from 14% to 23%.

The document reading selections in the assessment consist of materials that represent real life activities, such as a train schedule or a sale coupon. The percentage of questions in the assessment allocated to document reading varies from 17% to 24%.

A DESCRIPTION OF THE LONG-TERM TREND MATHEMATICS ASSESSMENT

The long-term trend mathematics assessment covers the following content topics: numbers and numeration; measurement; shape, size, and position; probability and statistics; variables and relationships; mathematical application; mathematical knowledge; mathematical skills; and mathematical understanding.

- *Numbers and Numeration*: These exercises deal with the ways numbers are used, processed, or written. Knowledge and understanding of numeration and number concepts are assessed for whole numbers, common fractions, decimal fractions, integers, and percents. Considerable emphasis is placed on operations. Number properties and order relations are also included.
- *Measurement*: These exercises cover appropriate units; equivalence relations; instrument reading; length, weight, capacity, time, temperature, perimeter, area, and volume; nonstandard units; and precision and interpolation. A substantial number of the measurement exercises require the use and understanding of metric units.
- *Shape, Size, and Position*: These exercises measure objectives related to school geometry and concern plane and solid shapes, congruence, similarity, properties of triangles, properties of quadrilaterals, constructions, sections of solids, basic theorems and relationships, and rotations and symmetry.
- *Probability and Statistics*: These exercises assess collecting data; organizing data with tables, charts, graphs; interpreting and analyzing data; drawing inferences; making generalizations; using basic statistics; predicting outcomes and determining combinations.
- *Variables and Relationships*: These exercises deal with the recognition of facts, definitions, and symbols of algebra; the solution of equations and inequalities; the use of variables to represent problem situations and elements of a number system; the evaluation and interpretation of functions and formulas; the graphing of points and lines in a coordinate system; the use of exponential and trigonometric functions, and logic. Most of these exercises are at the 17-year-old level, where students have had the opportunity to study algebra.
- *Mathematical Knowledge*: Mathematical knowledge refers to the recall and recognition of mathematical ideas expressed in words, symbols, or figures. Mathematical knowledge relies, for the most part, on memory processes. It does not ordinarily require any other more complex mental processes. Exercises that assess mathematical knowledge require that a student recall or recognize one or more items of information. An example of an exercise involving recall would be one that asks for a multiplication fact, such as the product of five and two.

- *Mathematical Skill*: These exercises require the performance of specified tasks, such as making measurements, multiplying two fractions, performing mental computations, graphing a linear equation, or reading a table.
- *Mathematical Understanding*: Exercises that assess mathematical understanding require that a student provide an explanation, an illustration for one or more items of knowledge, or the transformation of knowledge. They do not require the application of that knowledge to the solution of a problem. An example of an exercise involving explanation is one that asks why a certain graph is not the graph of a function.
- *Mathematical Application*: Mathematical application and problem solving refer to the use of mathematical knowledge, skill, and understanding in solving both routine and nonroutine problems. Exercises that assess mathematical application and problem solving require a sequence of processes that relate to the formulation, solution, and interpretation of problems. The processes may include recalling and recording knowledge, selecting and carrying out algorithms, making and testing conjectures, and evaluating arguments and results. Exercises assessing mathematical application may vary from routine textbook problems to exercises dealing with mathematical arguments.

For the three age levels tested—9, 13, and 17—the percentage of test questions from each content topic is distributed as follows:

Target Percentages by Age Level

	<i>Age 9</i>	<i>Age 13</i>	<i>Age 17</i>
Numbers and numeration	50%	50%	40%
Measurement	19%	19%	12%
Shape, size, and position	12.5%	12.5%	12%
Probability and statistics	6%	6%	12%
Variables and relationships	12.5%	12.5%	24%

STUDENT BACKGROUND QUESTIONNAIRE

DIRECTIONS

Your booklet has 4 sections. In each of Sections 1, 2 and 3, you will have 15 minutes to answer questions about a reading passage or answer questions about mathematics. Section 4 ask questions about you and your classes. There are many different booklets in this assessment, each containing different questions, and most of the students in the room with you have a booklet that is different from yours. Do not worry if the person sitting next to you is working on a page that doesn't look like the one you are working on. You will be told when to begin each section. Stop when you see this sign.



You should think carefully about your answers and answer every question. Use all the time available to complete each section. If you skip a question, go back and try to answer it before time is called.

Some of the questions ask you to choose the best answer and fill in the oval in your booklet. Example 1 shows a question like this. Read the question and fill in the oval beside the choice that you think is correct.

Example 1

How many minutes are there in an hour?

- (A) 12
- (B) 24
- (C) 30
- (D) 60

You should have filled in the oval for "60" because there are 60 minutes in an hour.

Other questions will ask you to write your answer on the blank line provided in your booklet. Now read Example 2 and write your answer on the blank line below.

Example 2

Add 32 and 14.

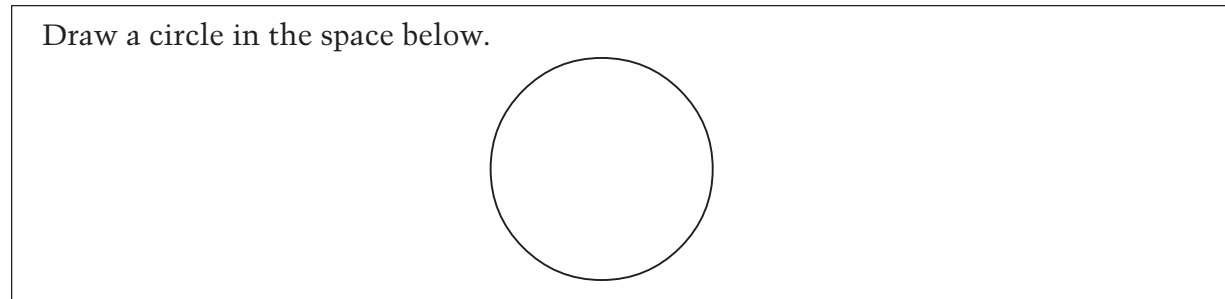
Answer _____

You should answer this question by writing 46 on the answer line provided.

Example 3

For some of the questions you may need to write or draw the answer. You can see how this is done in the example below.

Draw a circle in the space below.



Example 4

Some questions ask you to write a longer response. Each of these questions has special directions. Your answer should be written or printed on the blank lines following the question. Use as much of the space in your booklet as you need.


REMEMBER:

Read each question **CAREFULLY**.

Fill in only **ONE OVAL** for each question or write your answer in the space provided.

If you change your answer, **ERASE** your first answer **COMPLETELY**.

CHECK OVER your work if you finish a section early.

Do not go past the  sign at the end of each section until you are told to do so.



STUDENT BACKGROUND QUESTIONNAIRE
FOR LONG-TERM TREND READING AND MATHEMATICS
AT ALL AGE LEVELS

In this section, please tell us about yourself and your family. The section has 15 questions. Mark your answers in your booklet.

VB331330

1. Are you Hispanic or Latino? Fill in **one or more ovals**.
- Ⓐ No, I am not Hispanic or Latino.
 - Ⓑ Yes, I am Mexican, Mexican American, or Chicano.
 - Ⓒ Yes, I am Puerto Rican or Puerto Rican American.
 - Ⓓ Yes, I am Cuban or Cuban American.
 - Ⓔ Yes, I am from some other Hispanic or Latino background.

VB331331

2. Which of the following best describes you? Fill in **one or more ovals**.
- Ⓐ White
 - Ⓑ Black or African American
 - Ⓒ Asian
 - Ⓓ American Indian or Alaska Native
 - Ⓔ Native Hawaiian or other Pacific Islander

For the rest of the questions in this section, fill in only **one** oval for each question.

- VB331333
3. Does your family get a newspaper at least four times a week?
- (A) Yes
 - (B) No
 - (C) I don't know.

- VB331334
4. Does your family get any magazines regularly?
- (A) Yes
 - (B) No
 - (C) I don't know.

- VB331335
5. About how many books are there in your home?
- (A) Few (0–10)
 - (B) Enough to fill one shelf (11–25)
 - (C) Enough to fill one bookcase (26–100)
 - (D) Enough to fill several bookcases (more than 100)

- VB331336
6. Is there a computer at home that you use?
- (A) Yes
 - (B) No

- VB331337
7. Is there an encyclopedia in your home? It could be a set of books, or it could be on the computer.
- (A) Yes
 - (B) No
 - (C) I don't know.

- TB001101
8. About how many pages a day do you have to read in school and for homework?
- (A) 5 or fewer
 - (B) 6–10
 - (C) 11–15
 - (D) 16–20
 - (E) More than 20

- B001200
9. How much time did you spend on homework yesterday?
- (A) No homework was assigned.
 - (B) I had homework but didn't do it.
 - (C) Less than 1 hour
 - (D) 1 to 2 hours
 - (E) More than 2 hours

10. How often do you talk about things you have studied in school with someone in your family?
VB331339
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day
11. How many days were you absent from school in the last month?
VB331447
- Ⓐ None
 - Ⓑ 1 or 2 days
 - Ⓒ 3 or 4 days
 - Ⓓ 5 to 10 days
 - Ⓔ More than 10 days
12. How far in school did your mother go?
VB330870
- Ⓐ She did not finish high school.
 - Ⓑ She graduated from high school.
 - Ⓒ She had some education after high school.
 - Ⓓ She graduated from college.
 - Ⓔ I don't know.
13. How far in school did your father go?
VB330871
- Ⓐ He did not finish high school.
 - Ⓑ He graduated from high school.
 - Ⓒ He had some education after high school.
 - Ⓓ He graduated from college.
 - Ⓔ I don't know.
14. How often do people in your home talk to each other in a language other than English?
VB331451
- Ⓐ Never
 - Ⓑ Once in a while
 - Ⓒ About half of the time
 - Ⓓ All or most of the time
15. Which of the following best describes your high school program?
HE002549
- Ⓐ General
 - Ⓑ Academic or college preparatory
 - Ⓒ Vocational or technical

[This question is not given at age 9]

[This question is not given at age 9]

[This question is given only at age 17]



NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS
2003–2004 ASSESSMENTS
LONG-TERM TREND

PROJECT MISSION. NAEP is administered by the U.S. Department of Education to report on the achievement of American students in key academic subjects. For more information about the NAEP program, visit the NAEP Web site at <http://nces.ed.gov/nationsreportcard> or call 202–502–7420.

PARTICIPATION. States and districts that receive Title I funds are required to participate in biennial NAEP reading and mathematics assessments at grades 4 and 8. Teacher and student participation is always voluntary. Contact your school’s NAEP coordinator for more information.

NAEP CONTENT. The National Assessment Governing Board (NAGB) develops frameworks detailing what students reasonably might be expected to know and do for each subject assessed by NAEP. For additional information on framework development, see the NAGB Web site at <http://nagb.org>.

SAMPLE NAEP QUESTIONS. For each assessment, some of the test questions, along with performance data, are made available to the public to provide concrete samples of NAEP contents and results. For every assessment, NAEP distributes to participating schools demonstration booklets that provide more detailed information about the assessment design and questions. Released NAEP questions and student performance data may be viewed on and downloaded from the NCES Web site at <http://nces.ed.gov/nationsreportcard>.

SECURE NAEP QUESTIONS. On written request, adults may review NAEP questions and instruments still in use. These arrangements must be made in advance, and persons reviewing the assessment may not remove the booklets from the room, copy them, or take notes. Contact your school’s NAEP coordinator for more information.

NAEP REPORTS. NAEP publications can be searched and downloaded from the NAEP Web site at <http://nces.ed.gov/nationsreportcard>.

FOR FURTHER INFORMATION. For prompt field staff support on these or other matters, call the NAEP Help Desk at 800–283–6237.

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