

GRADE 4 | GRADE 12

SCIENCE

Sample Questions

General Information About The Nation's Report Card

2014

National Assessment of Educational Progress

2014 Sample Questions Booklet

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I. About This Sample Questions Booklet

On behalf of the National Assessment of Educational Progress (NAEP), I want to thank you for your participation in this essential measure of student achievement in the United States. NAEP tells us what students in our country know and can do. In the coming year, fourth- and twelfth-graders will participate in NAEP and will be assessed in science as part of a pilot study. It will take about 90 minutes for most students to participate in the pilot. Results will not be released, but will be used to inform future NAEP science assessments. The test booklet contains 50 minutes of test questions and brief student questionnaires.

NAEP is voluntary and individual student scores are not reported. Answers to all student questions are confidential, and student names are removed from all pilot materials before the materials leave the school.

The pilot results allow NAEP to study the proficiencies (or scores) and gain information about student experience, the school environment, and learning opportunities available to students. The questionnaires provide educators and policymakers with contextual information for future assessments, as well as information about factors that may be related to students' learning. This booklet includes these questionnaires to promote understanding of the assessment.

If you have any questions or comments regarding NAEP or would like to view previous report cards, please visit the NAEP website at <http://nces.ed.gov/nationsreportcard>. Also available through the website is the NAEP Questions Tool (<http://nces.ed.gov/nationsreportcard/itmrlsx>), which allows you to review additional sample questions with correct answers.

Peggy G. Carr, Ph.D.
Associate Commissioner for Assessment
National Center for Education Statistics
Institute of Education Sciences

The Science Pilot Study

The 2014 NAEP pilot in science for grades 4 and 12 contains multiple-choice questions, as well as short and extended constructed-response exercises. At least 50 percent of the pilot time is devoted to constructed-response exercises. These questions measure students’ knowledge of facts, ability to integrate this knowledge into larger constructs, and capacity to use the tools, procedures, and reasoning processes of science to develop an increased understanding of the natural world.

The 2014 NAEP science pilot is organized according to science content and practices. For more information regarding the framework used to design the pilot, please visit the National Assessment Governing Board’s website at <http://nagb.org/publications/frameworks.htm>.

Science Content

Physical Science (30%)*	Life Science (30%)	Earth and Space Science (40%)
<p>Matter</p> <ul style="list-style-type: none"> • Properties of Matter • Changes in Matter <p>Energy</p> <ul style="list-style-type: none"> • Forms of Energy • Energy Transfer • Conservation <p>Motion</p> <ul style="list-style-type: none"> • Motion at the Macroscopic Level • Forces Affecting Motion 	<p>Structures and Functions of Living Systems</p> <ul style="list-style-type: none"> • Organization and Development • Matter and Energy Transformations • Interdependence <p>Changes in Living Systems</p> <ul style="list-style-type: none"> • Heredity and Reproduction • Evolution and Diversity 	<p>Earth in Space and Time</p> <ul style="list-style-type: none"> • Objects in the Universe • History of the Earth <p>Earth Structures</p> <ul style="list-style-type: none"> • Properties of Earth Materials • Tectonics <p>Earth Systems</p> <ul style="list-style-type: none"> • Energy in Earth Systems • Climate and Weather • Biogeochemical Cycles

* Item distribution for the content areas is measured by percentage of student response time.

Science Practices

The frameworks reflect these four science practices:

- Identifying Science Principles (25%)**
- Using Science Principles (35%)
- Using Scientific Inquiry (30%)
- Using Technological Design (10%)

** Item distribution for the science practices is measured by percentage of student response time.

Science Booklet Directions

In each of sections 1 and 2, you will have 25 minutes to answer a series of questions about science.

You will be asked to respond to several different types of questions. Some of the questions will require you to choose the best answer and fill in the oval for that answer in your booklet. On questions like this, be sure to mark your answers clearly and darken the oval completely. If you make a mistake or want to change your answer, be sure to erase any unwanted marks. Here is an example of a question that requires you to fill in an oval.

How hot is it on the surface of the Sun?

- Ⓐ Not quite as hot as boiling water
- Ⓑ About as hot as fire
- Ⓒ About 100°F
- Ⓓ Much hotter than almost anything on Earth

Example 1

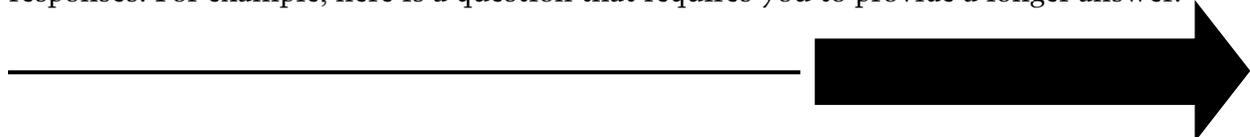
For some questions, you will be asked to write short answers on the blank lines provided in your booklet. Here is an example of a question that requires you to provide a short answer.

Describe one important difference between plants and animals.

Most plants make their
own food, while animals
eat plants and other
animals for food.

Example 2

Also, you will be asked to answer some questions by writing longer, more detailed responses. For example, here is a question that requires you to provide a longer answer.



Describe three things that animals do to survive in areas that have cold winters.

Some animals store a lot of fat so that they can go into a deep sleep all winter.
Some animals grow a thick coat of fur to keep them warm. Some birds and butterflies fly away from a cold area and spend the winter in a place that is warm and has a lot of food.

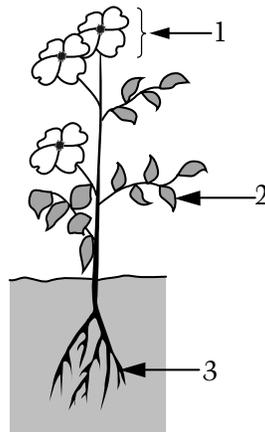
Example 3

When you are asked to write your response be sure that your handwriting is clear. Think carefully about each question and make your answers as complete as possible, using as many lines as you need. If you finish a section before time is called, you may go back and check your work on that section only.

Finally, in some questions you may be asked to draw a diagram or fill in a table.

Sample Science Questions

Grade 4



HE001777

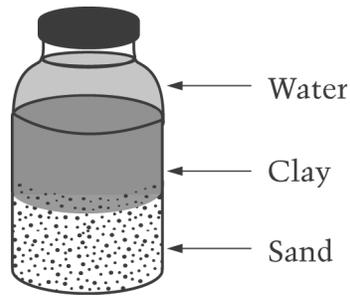
1. Name the parts of the plant above that are labeled 1, 2, and 3. Explain the function of each part.

	<u>Name of Part</u>	<u>Function</u>
1.	_____	_____
2.	_____	_____
3.	_____	_____

HE001462

2. On steep slopes along the sides of new roads, highway department workers often grow plants to prevent the soil from being eroded. Describe two ways that these plants keep the soil from eroding.

GO ON TO THE NEXT PAGE 



VB508131

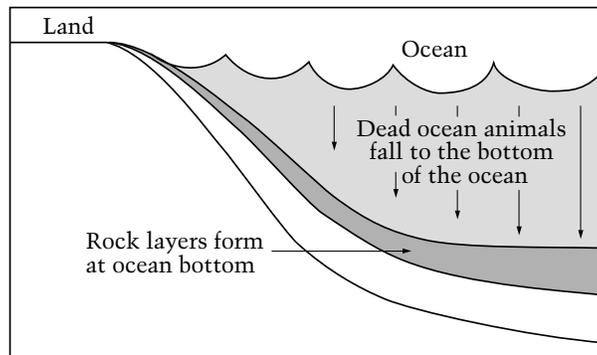
3. A student put some sand, clay, and water into a bottle and shook the bottle. Then he put the bottle down.

After two hours, the bottle looked like the drawing above. What can the student conclude based on what he sees in the bottle?

- Ⓐ The water is heavier than the grains of clay and the grains of sand.
- Ⓑ The grains of clay are heavier than the grains of sand and the water
- The grains of sand are heavier than the water and the grains of clay
- Ⓓ The water, grains of clay, and grains of sand are all of equal weight.

HE001463

4. The picture below shows how a type of rock forms at the bottom of the ocean. What type of rock is this?



- Ⓐ Lava
- Ⓑ Igneous
- Sedimentary
- Ⓓ Metamorphic



Sample Science Questions

Grade 12

HE001887

1. A newspaper article reported that a fossil was found that was 200,000 years old according to generally accepted radioactive dating procedures. A letter to the editor of the newspaper disputed the accuracy of the age determination because the fossil was found closer to the Earth's surface than were previously discovered fossils of the same age.

Which of the following would be an appropriate argument against the letter writer's claim?

- Ⓐ Older rock layers commonly lie deeper underground than younger ones.
- Ⓑ Older rock layers may be pushed closer to the surface by geologic processes.
- Ⓒ The age of a rock layer can often help in determining the age of the fossils it contains.
- Ⓓ Fossils form only under certain conditions.

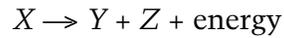
JL001149

2. When very small particles in a dish of water are examined with a powerful microscope, the particles often appear to move in a rapid, random motion. Explain what causes this movement of the particles.



GO ON TO THE NEXT PAGE

HE001668



3. The equation above represents a nuclear decay, in which nucleus X decays into particle Y and nucleus Z and releases energy. Which of the following can explain why energy is released in the decay?
- Ⓐ The mass of X is less than the sum of the masses of Y and Z .
 - Ⓑ The mass of X is less than the difference between the masses of Y and Z .
 - The mass of X is greater than the sum of the masses of Y and Z .
 - Ⓓ The mass of X is greater than the difference between the masses of Y and Z .



III. Student Questionnaires

Grade 4

In this section, please tell us about yourself and your family. Please answer questions about your home based on where you live most of the time during the school year. The section has 10 questions. Mark your answers in your booklet. Fill in only **one** oval for each question except where instructed otherwise.

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

3. About how many books are there in your home? VB331335
- Ⓐ Few (0–10)
 - Ⓑ Enough to fill one shelf (11–25)
 - Ⓒ Enough to fill one bookcase (26–100)
 - Ⓓ Enough to fill several bookcases (more than 100)
4. Is there a computer at home that you use? VB331336
- Ⓐ Yes
 - Ⓑ No
5. Do you have the following in your home? Fill in ovals for **all** that apply. VF098664
- Ⓐ Access to the Internet
 - Ⓑ Clothes dryer just for your family
 - Ⓒ Dishwasher
 - Ⓓ More than one bathroom
 - Ⓔ Your own bedroom
6. About how many pages a day do you have to read in school and for homework? TB001101
- Ⓐ 5 or fewer
 - Ⓑ 6–10
 - Ⓒ 11–15
 - Ⓓ 16–20
 - Ⓔ More than 20
7. 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
8. 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

VB331451

9. How often do people in your home talk to each other in a language other than English?

- Ⓐ Never
- Ⓑ Once in a while
- Ⓒ About half of the time
- Ⓓ All or most of the time

VF095730

10. Do the following people live in your home? Fill in ovals for **all** that apply.

- Ⓐ Mother
- Ⓑ Stepmother
- Ⓒ Foster mother or other female legal guardian
- Ⓓ Father
- Ⓔ Stepfather
- Ⓕ Foster father or other male legal guardian



Student Questionnaires

Grade 12

In this section, please tell us about yourself and your family. Please answer questions about your home based on where you live most of the time during the school year. The section has 15 questions. Mark your answers in your booklet. Fill in only **one** oval for each question except where instructed otherwise.

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

3. About how many books are there in your home? VB331335
- Ⓐ Few (0–10)
 - Ⓑ Enough to fill one shelf (11–25)
 - Ⓒ Enough to fill one bookcase (26–100)
 - Ⓓ Enough to fill several bookcases (more than 100)
4. Is there a computer at home that you use? VB331336
- Ⓐ Yes
 - Ⓑ No
5. Do you have the following in your home? Fill in ovals for **all** that apply. VF098664
- Ⓐ Access to the Internet
 - Ⓑ Clothes dryer just for your family
 - Ⓒ Dishwasher
 - Ⓓ More than one bathroom
 - Ⓔ Your own bedroom
6. About how many pages a day do you have to read in school and for homework? TB001101
- Ⓐ 5 or fewer
 - Ⓑ 6–10
 - Ⓒ 11–15
 - Ⓓ 16–20
 - Ⓔ More than 20
7. 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
8. 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

VB330870

9. How far in school did your mother go?

- Ⓐ 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.

VB330871

10. How far in school did your father go?

- Ⓐ 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.

VB331451

11. How often do people in your home talk to each other in a language other than English?

- Ⓐ Never
- Ⓑ Once in a while
- Ⓒ About half of the time
- Ⓓ All or most of the time

VF095730

12. Do the following people live in your home? Fill in ovals for **all** that apply.

- Ⓐ Mother
- Ⓑ Stepmother
- Ⓒ Foster mother or other female legal guardian
- Ⓓ Father
- Ⓔ Stepfather
- Ⓕ Foster father or other male legal guardian

VF291224

13. During this school year, which of the following have you done? Fill in ovals for **all** that apply.
- Ⓐ Taken the SAT or ACT College Entrance Exams
 - Ⓑ Submitted the Free Application for Federal Student Aid (FAFSA)
 - Ⓒ Applied to a 2-year college
 - Ⓓ Been accepted to a 2-year college
 - Ⓔ Applied to a 4-year college
 - Ⓕ Been accepted to a 4-year college
 - Ⓖ Applied to a certificate or diploma program at a school that provides occupational training (such as electrician, beautician, mechanic, computer programmer, etc.)
 - Ⓗ Been accepted to a technical training program
 - Ⓙ Talked with a military recruiter
 - Ⓚ Enlisted in the military
 - Ⓛ Applied for a full-time job
 - Ⓜ Been interviewed for a full-time job
 - Ⓝ None of the above

HE002549

14. Which of the following best describes your high school program?
- Ⓐ General
 - Ⓑ Academic or college preparatory
 - Ⓒ Vocational or technical

VE102537

15. Write the ZIP code of your home address in the boxes.

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IV. Science Subject Questionnaires

Grade 4

This section has 32 questions. Mark your answers in your booklet. Fill in only **one** oval for each question.

1. In this school year, how often have you done activities or projects in science? VC315287
- Ⓐ Never or hardly ever
- Ⓑ Once every few weeks
- Ⓒ About once a week
- Ⓓ Two or three times a week
- Ⓔ Every day or almost every day
2. In this school year, how often have you done activities or projects to learn about living things (for example, plants, animals, bacteria)? VC315208
- Ⓐ Never or hardly ever
- Ⓑ Once every few weeks
- Ⓒ About once a week
- Ⓓ Two or three times a week
- Ⓔ Every day or almost every day
3. In this school year, how often have you done activities or projects to learn about electricity (for example, circuits, batteries, and light bulbs)? VF633040
- Ⓐ Never or hardly ever
- Ⓑ Once every few weeks
- Ⓒ About once a week
- Ⓓ Two or three times a week
- Ⓔ Every day or almost every day
4. In this school year, how often have you done activities or projects to learn about chemicals (for example, mixing sugar or salt in water)? VC315219
- Ⓐ Never or hardly ever
- Ⓑ Once every few weeks
- Ⓒ About once a week
- Ⓓ Two or three times a week
- Ⓔ Every day or almost every day

5. In this school year, how often have you done activities or projects to learn about rocks or minerals (for example, looking at different rocks)?
VC315221
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day
6. In this school year, how often have you done science activities using scientific tools?
VF633155
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day
7. In this school year, how often have you read a science textbook?
VC315232
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day
8. In this school year, how often have you read a book or magazine about science?
VC315239
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day
9. In this school year, how often have you read about science on the computer?
VC519400
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day
10. In this school year, how often have you watched a movie, video, or DVD about science?
VC315248
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day

11. In this school year, how often have you discussed news stories about science?
VC315249
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day
12. In this school year, how often have you worked with other students on a science activity or project?
VC315270
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day
13. In this school year, how often have you presented what you learned about science to your class?
VC315259
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day
14. In this school year, how often have you taken a science test or quiz?
VC315256
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day
15. In this school year, how often have you talked about measurements or results from your science activities or projects?
VC315288
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day
16. In this school year, how often have you been asked to write about your science activities or projects (such as reports, science journals, or lab write-ups)?
VF633162
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day

17. In this school year, how often have you been asked to write long answers to questions on tests or assignments for science?
VC315289
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day
18. In this school year, how often have you talked with your teacher about how you are doing in science?
VC546453
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day
19. In this school year, how often have you used your school library resources for science (such as books, magazines, computers, and audio-video materials)?
VF653623
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day
20. In this school year, how often have you used computers for science?
VC546463
- Ⓐ Never or hardly ever
 - Ⓑ Once every few weeks
 - Ⓒ About once a week
 - Ⓓ Two or three times a week
 - Ⓔ Every day or almost every day
21. How often do you do science activities that are not for schoolwork?
VC315410
- Ⓐ Never or hardly ever
 - Ⓑ Sometimes
 - Ⓒ Often
 - Ⓓ Always or almost always
22. How often do you feel you can understand what the teacher talks about in science class?
VC315291
- Ⓐ Never or hardly ever
 - Ⓑ Sometimes
 - Ⓒ Often
 - Ⓓ Always or almost always

23. How often do you feel you can do a good job on your science tests?
VC315292
- Ⓐ Never or hardly ever
 - Ⓑ Sometimes
 - Ⓒ Often
 - Ⓓ Always or almost always
24. How often do you feel you can do a good job on your science assignments?
VC315294
- Ⓐ Never or hardly ever
 - Ⓑ Sometimes
 - Ⓒ Often
 - Ⓓ Always or almost always
25. How much do you like studying science?
VC315299
- Ⓐ Very little
 - Ⓑ Some
 - Ⓒ Quite a bit
 - Ⓓ Very much
26. How often do you feel science is one of your favorite subjects?
VC315302
- Ⓐ Never or hardly ever
 - Ⓑ Sometimes
 - Ⓒ Often
 - Ⓓ Always or almost always
27. In this school year, have you participated in a science club, a science fair, or a science competition?
VF640468
- Ⓐ Yes
 - Ⓑ No
28. In this school year, have you visited a museum, zoo, or aquarium to learn about science on a school trip?
VF633304
- Ⓐ Yes
 - Ⓑ No
29. In this school year, have you visited a museum, zoo, or aquarium to learn about science that was **not** on a school trip?
VF633276
- Ⓐ Yes
 - Ⓑ No
30. How hard was this test compared to most other tests you have taken this year in school?
VB595182
- Ⓐ Easier than other tests
 - Ⓑ About as hard as other tests
 - Ⓒ Harder than other tests
 - Ⓓ Much harder than other tests

VC034559

31. How hard did you try on this test compared to how hard you tried on most other tests you have taken this year in school?

- Ⓐ Not as hard as on other tests
- Ⓑ About as hard as on other tests
- Ⓒ Harder than on other tests
- Ⓓ Much harder than on other tests

VB595184

32. How important was it to you to do well on this test?

- Ⓐ Not very important
- Ⓑ Somewhat important
- Ⓒ Important
- Ⓓ Very important



Science Subject Questionnaires

Grade 12

This section has 20 questions. Mark your answers in your booklet. Fill in only **one** oval for each question except where instructed otherwise.

VC305768

1. Which courses have you taken from eighth grade to the present? If you have taken a course more than once, give the most recent year you took it. Fill in **one** oval on each line. **INCLUDE** courses taken in summer school, but **DO NOT INCLUDE** topics that were only taught as part of a longer course.

	Course not taken	I took this course in Grade 8	I took this course in Grade 9	I took this course in Grade 10	I took this course in Grade 11	I am taking or have taken this course in Grade 12	
a. Earth and space science	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input type="radio"/> F	VC305813
b. Life science (other than biology)	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input type="radio"/> F	VC305814
c. Physical science (other than chemistry or physics)	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input type="radio"/> F	VC305815
d. General science	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input type="radio"/> F	VC305817
e. First-year biology	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input type="radio"/> F	VC305819
f. Second-year biology	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input type="radio"/> F	VC305820
g. First-year chemistry	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input type="radio"/> F	VC305821
h. Second-year chemistry	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input type="radio"/> F	VC305822
i. First-year physics	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input type="radio"/> F	VC305823
j. Second-year physics	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input type="radio"/> F	VC305825
k. Engineering and technology	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input type="radio"/> F	VC305826
l. Other science course	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input type="radio"/> F	VC305829

ID110276

2. Are you currently enrolled in or have you taken International Baccalaureate® courses in science?

- A Yes
- B No

VC304768

3. Are you currently enrolled in or have you taken any online science courses for high school or college credit?

- A Yes
- B No

ID110275

4. Are you currently enrolled in or have you taken an Advanced Placement course in science? Fill in ovals for **all** that apply.

- A Yes, I am enrolled in or have taken Advanced Placement Biology.
- B Yes, I am enrolled in or have taken Advanced Placement Environmental Science.
- C Yes, I am enrolled in or have taken Advanced Placement Chemistry.
- D Yes, I am enrolled in or have taken Advanced Placement Physics B or C.
- E Yes, I am enrolled in or have taken Advanced Placement Computer Science A or AB.
- F No, I have never taken an Advanced Placement science course.

VC305330

5. Please indicate how much you DISAGREE or AGREE with the following statements about science. Fill in **one** oval on each line.

	Strongly disagree	Disagree	Agree	Strongly agree	
a. I do science-related activities that are not for schoolwork.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC305348
b. I like science.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC305350
c. Science is one of my favorite subjects.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC305351
d. I take science only because I have to.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC305352
e. I take science only because it will help me in the future.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC305353
f. When I graduate from high school, I would like to have a job related to science.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC720596

VC720597

6. Are you currently taking a science course?

- Ⓐ Yes → *Go to Question 7.*
- Ⓑ No → *Skip to Question 18.*



VF633079

7. In your science class this year, how often have you done hands-on activities or projects with any of the following? Fill in **one** oval on each line.

	Never	Rarely	Sometimes	Often	
a. Living things (for example, plants, animals, bacteria)	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	VF633080
b. Electricity (for example, circuits and energy)	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	VF654209
c. Chemicals (for example, mixing or dissolving sugar or salt in water)	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	VF633082
d. Rocks or minerals (for example, identifying types)	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	VF633087
e. Simple machines (for example, pulleys and levers)	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	VF633086
f. Magnifying glass or microscope (for looking at small things)	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	VF633084
g. Thermometer or barometer (for making measurements)	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	VF633085

VC305292

8. In your science class this year, how often do you do each of the following? Fill in **one** oval on each line.

	Never or hardly ever	Once every few weeks	About once a week	Two or three times a week	Every day or almost every day	
a. Read a science textbook, in class or at home	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	VC546510
b. Read a book or magazine about science topics	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	VF633095
c. Use the Internet to learn about science topics	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	VF633097
d. Watch a movie, video, or DVD about science topics	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	VF633099

VC304769

9. In your science class this year, how often do you do each of the following? Fill in **one** oval on each line.

	Never or hardly ever	Once every few weeks	About once a week	Two or three times a week	Every day or almost every day	
a. Discuss events in the news that are related to what you are learning in science class	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC304771
b. Work with other students on a science project or activity	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC304772
c. Present what you learned about science to your class	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC304778
d. Take a science test or quiz	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC720564



VC720622

10. In your science class this year, how often do you do each of the following? Fill in **one** oval on each line.

	Never or hardly ever	Once every few weeks	About once a week	Two or three times a week	Every day or almost every day	
a. Identify questions that can be addressed through science experiments	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC720623
b. Design a science experiment	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC720634
c. Talk about measurements you took for your science project or activity	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC720635
d. Talk about the results of your science project or activity	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC720636
e. Watch your teacher do a science experiment or activity	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC720638
f. Make graphs or charts of the results from your science project or activity	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC720639
g. Write about your science activities or projects (such as reports, science journals, or lab write-ups)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VF633111

VC315289

11. In this school year, how often have you been asked to write long answers to questions on tests or assignments for science?

- Ⓐ Never or hardly ever
- Ⓑ Once every few weeks
- Ⓒ About once a week
- Ⓓ Two or three times a week
- Ⓔ Every day or almost every day

VF653623

13. In this school year, how often have you used your school library resources for science (such as books, magazines, computers, and audio-video materials)?

- Ⓐ Never or hardly ever
- Ⓑ Once every few weeks
- Ⓒ About once a week
- Ⓓ Two or three times a week
- Ⓔ Every day or almost every day

VC546453

12. In this school year, how often have you talked with your teacher about how you are doing in science?

- Ⓐ Never or hardly ever
- Ⓑ Once every few weeks
- Ⓒ About once a week
- Ⓓ Two or three times a week
- Ⓔ Every day or almost every day

VC546463

14. In this school year, how often have you used computers for science?

- Ⓐ Never or hardly ever
- Ⓑ Once every few weeks
- Ⓒ About once a week
- Ⓓ Two or three times a week
- Ⓔ Every day or almost every day

VF633128

15. In this school year, have you participated in any of the following activities? Fill in **one** oval on each line.

	Yes	No	
a. Science fair	<input type="radio"/> Ⓐ	<input type="radio"/> Ⓑ	VF633132
b. Science club	<input type="radio"/> Ⓐ	<input type="radio"/> Ⓑ	VF633134
c. Science competition	<input type="radio"/> Ⓐ	<input type="radio"/> Ⓑ	VF633135



VF633304

16. In this school year, have you visited a museum, zoo, or aquarium to learn about science on a school trip?

- Ⓐ Yes
- Ⓑ No

VF633276

17. In this school year, have you visited a museum, zoo, or aquarium to learn about science that was **not** on a school trip?

- Ⓐ Yes
- Ⓑ No

VB595182

18. How hard was this test compared to most other tests you have taken this year in school?

- Ⓐ Easier than other tests
- Ⓑ About as hard as other tests
- Ⓒ Harder than other tests
- Ⓓ Much harder than other tests

VC034559

19. How hard did you try on this test compared to how hard you tried on most other tests you have taken this year in school?

- Ⓐ Not as hard as on other tests
- Ⓑ About as hard as on other tests
- Ⓒ Harder than on other tests
- Ⓓ Much harder than on other tests

VB595184

20. How important was it to you to do well on this test?

- Ⓐ Not very important
- Ⓑ Somewhat important
- Ⓒ Important
- Ⓓ Very important



V. NAEP Questions Tool

Introduction

After every assessment cycle, NAEP releases a portion of the assessment to the public. The NAEP Questions Tool (NQT) allows users to search for questions by subject, grade, difficulty, and other characteristics. You can also view scoring guides, keys, national performance data, demographic group data, and student responses (for constructed-response questions only). The tool also allows users to create customized reports and to print selected questions and all relevant information. The purpose of the NQT is to provide teachers, researchers, educators, and the public with greater access to NAEP assessment exercises.

How do I access the NAEP Questions Tool?

The NQT is available at <http://nces.ed.gov/nationsreportcard/itmrlsx>. The tool can also be accessed by clicking the “Sample Questions” link on The Nation’s Report Card home page.

How do I learn to use the NAEP Questions Tool?

View a short video showing the features of the NQT and how to use them, a more detailed tutorial, and a Quick Reference Guide at <http://nces.ed.gov/nationsreportcard/about/naeptools.asp#qrg>. There is also a “What can I do here?” link and a “Help” button on every page of the NQT.

Where can I find more information about the subjects NAEP assesses?

The NAEP website contains a wealth of information about the subjects NAEP assesses and can be accessed at <http://nces.ed.gov/nationsreportcard>.

How can I get additional help?

For more help with features on the NAEP website, click “Help” in the side panel.

For additional assistance, write to us via Contact Us at <http://nces.ed.gov/nationsreportcard/contactus.aspx>, or email Sherran.Osborne@ed.gov.

VI. About NAEP

NAEP OVERVIEW. NAEP is the largest continuing and nationally representative assessment of what our nation's students know and can do in various academic subjects. NAEP is administered by the National Center for Education Statistics within the Institute of Education Sciences of the U.S. Department of Education. For more information about the NAEP program, visit the NAEP website 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. Student participation is always voluntary. Contact your school's NAEP coordinator for more information.

NAEP CONTENT. The National Assessment Governing Board sets policy for NAEP and oversees the creation of the NAEP frameworks, which describe the specific knowledge and skills that should be assessed. For additional information on framework development, visit the Governing Board's website at <http://www.nagb.org/publications/frameworks.htm>.

NAEP SAMPLE 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 sample questions booklets to participating schools that provide more detailed information about the assessment design and questions. Released questions and student performance data may be viewed and downloaded from the NCES website at <http://nces.ed.gov/nationsreportcard/itmrlsx>.

NAEP SECURE 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 PUBLICATIONS. NAEP reports and brochures can be searched and downloaded from the NAEP website 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.