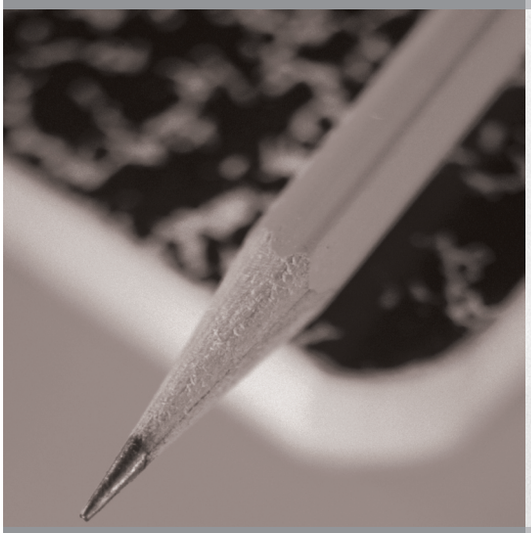
NAEP

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

Sample Questions

General Information about The Nation's Report Card™



Grade 12

2009

Mathematics
Reading
Science

2009-Op-Gr12-MRS.indb 1 10/3/2008 1:27:27 PM

Untitled-1 1

8/4/2008 4:24:02 PM

NAEP

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

2009 Grade 12

SECTION	
1	S6
2	S9
3	D1
4	SB1

Science Book

S231

School Information

SCHOOL #

Planning Code (Col. N)

Admin. Code (Col. Q)

If Code 2 or 3, complete the box below.

Accommodations Offered in Regular or Separate Session (Code All That Apply)

- Y BDR
- N/A BIB
- Y BID
- Y REA
- Y BRL
- Y LRG
- Y MAG
- Y SCR
- Y SMG
- Y ONE
- Y SSA
- Y EXT
- Y BRK
- Y OTH

If Extended Time (EXT) is coded above, enter the total time used below.

DO NOT USE

PLACE LABEL HERE

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is **1850-0790**. The time required to complete this information collection is estimated to average 75 minutes per booket, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. **If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to:** U.S. Department of Education, Washington, D.C. 20202-4651. **If you have comments or concerns regarding the status of your individual submission of this form, write directly to:** NAEP/NCES, U.S. Department of Education, 1990 K Street N.W., Washington, D.C. 20006-5651.

A project of the Institute of Education Sciences.
This report is authorized by law (P.L.107-110, 20 U.S.C. §9010). While your participation is voluntary, your cooperation is needed to make the results of the survey comprehensive, accurate, and timely. The information you provide is being collected for research purposes only and will be kept strictly confidential.
OMB No. 1850-0790 • Approval Expires XX/XX/20XX
Mark Reflex® forms by Pearson NCS EM-17XXXX-001:654321
Printed in U.S.A.

Untitled-1 1

8/4/2008 4:24:02 PM

National Assessment of Educational Progress

2009 Sample Questions Booklet

I. About This Sample Questions Booklet 4
II. The Assessments
The Mathematics Assessment. 5
Mathematics Booklet Directions 6
Sample Mathematics Questions 7
The Reading Assessment 9
Reading Booklet Directions 10
Sample Reading Questions 12
The Science Assessment 18
Science Booklet Directions 19
Sample Science Questions 21
III. Student Background Questionnaires
General Directions for Grade 12 23
Student Background Questionnaire. 24
Mathematics Background Questionnaire 27
Reading Background Questionnaire 36
Science Background Questionnaire. 41
IV. NAEP Questions Tool. 49

Information About National Assessment of Educational Progress . . . . . Back Cover

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 America. NAEP tells us what students in our country know and can do. In the coming year, fourth-, eighth- and twelfth-graders will participate in NAEP. Twelfth-graders will participate in assessments for mathematics, reading, and science.

Assessments require about 90 minutes of a student's time, and each student answers questions in only one subject. The test booklet contains 50 minutes of test questions and a brief section of background questions.

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

Results of the assessments will be released in *The Nation's Report Card*™ in mathematics in the fall of 2009, and reading and science in early 2010. Assessment results are widely discussed in the press and are used by policymakers, educators, and researchers to make decisions about education policy and funding.

The usefulness of the national assessment results increases when parents, educators, and policymakers are able to study the proficiencies (or scores) along with information about student experience, the school environment, and opportunities for students to learn. Included in this booklet are all of the general student background questions for mathematics, reading, and science. The student background questions provide educators and policymakers with valuable insight into the conditions and factors that influence student learning so that decisions can be made that may maximize achievement for all students. Also included in this booklet are sample questions and selected responses to help provide a better understanding of what the assessment is like.

If you have any questions or comments regarding NAEP or would like to view previous Nation's Report Cards, please visit the NAEP website at http://nces.ed.gov/nationsreportcard. Also available through the website is a Questions Tool (http://nces.ed.gov/nationsreportcard/itmrls) which allows you to review additional sample questions with sample answers.

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

NAEP is administered by the National Center for Education Statistics, a principal component of the U.S. Department of Education's Institute of Education Sciences. Policy for the assessment, including its content and standards, is set by the independent, bipartisan National Assessment Governing Board (www.nagb.org).

The Mathematics Assessment

The NAEP mathematics assessment measures students' ability to solve problems in five mathematics content strands: Number Properties and Operations; Measurement; Geometry; Data Analysis, Statistics, and Probability; and Algebra. Within each of these five content strands, students are asked questions that involve low, moderate, and high mathematical complexity. Mathematical complexity deals with what the students are asked to do in a task.

The mathematics assessment includes multiple-choice questions, short-answer constructed-response questions, and extended constructed-response questions. The extended exercises allow students to communicate their ideas and demonstrate the reasoning they used to solve problems. The short-answer and extended-response questions make up approximately 50 percent of student assessment time. The assessment also incorporates the use of calculators, rulers, protractors, and ancillary materials such as spinners and geometric shapes in some parts of the assessment, but not all.

Scientific calculator use is permitted on approximately one-third of the test questions. At grade 12, students may use their own scientific or graphing calculators. These items are designed so that students who bring their own graphing calculator are not at an advantage compared to students who use the scientific calculator provided. For more information regarding the mathematics assessment framework, please visit http://www.nagb.org.

NAEP Mathematics Framework
Distribution of Questions Across Content Strands

Number Properties and Operations	10%
Measurement	30%
Geometry	
Data Analysis, Statistics, and Probability	25%
Algebra	35%

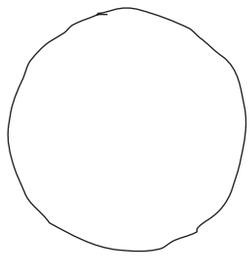
Mathematics Booklet Directions

This assessment uses many different booklets. Each booklet has different questions. Do not worry if the person next to you is working on questions that do not look like those you are working on.

Read each question carefully and answer it as well as you can. Do not spend too much time on any one question.

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.



You may be permitted to use a calculator for at least one part of your booklet. You may use either your own calculator or the calculator provided by NAEP. If you are permitted to use a calculator, you will have to decide when to use it in each section where its use is permitted. For some questions using the calculator is helpful, but for other questions the calculator may not be helpful.

If you are using the calculator provided by NAEP, make sure you know how to use it. There are instructions on the back cover of this booklet to help you. If the calculator does not work or if you do not know how to use it, raise your hand and ask for help.

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.

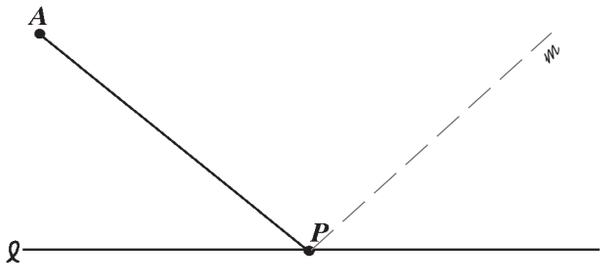
CHECK OVER your work if you finish a section early.

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

STOP

Sample Mathematics Questions
Grade 12

1. In the figure below, use the protractor to draw a line m through point P perpendicular to segment AP. In the answer space provided, give the measure of the smaller angle formed by lines ℓ and m.



Answer: _____

2. A certain machine produces 300 nails per minute. At this rate, how long will it take the machine to produce enough nails to fill 5 boxes of nails if each box will contain 250 nails?

   (A) 4 min
   (B) 4 min 6 sec
   ● 4 min 10 sec
   (D) 4 min 50 sec
   (E) 5 min

GO ON TO THE NEXT PAGE

This question requires you to show your work and explain your reasoning. You may use drawings, words, and numbers in your explanation. Your answer should be clear enough so that another person could read it and understand your thinking. It is important that you show all of your work.

3. The table below shows the daily attendance at two movie theaters for 5 days and the mean (average) and the median attendance.

	Theater A	Theater B
Day 1	100	72
Day 2	87	97
Day 3	90	70
Day 4	10	71
Day 5	91	100
Mean (average)	75.6	82
Median	90	72

(a) Which statistic, the mean or the median, would you use to describe the typical daily attendance for the 5 days at Theater A? Justify your answer.

(b) Which statistic, the mean or the median, would you use to describe the typical daily attendance for the 5 days at Theater B? Justify your answer.

STOP

The Reading Assessment

The NAEP reading assessment measures students' ability to understand, to interpret, and to think critically about different types of texts. Recognizing that readers vary their approach according to the demands of different types of text, the NAEP framework specifies the assessment of reading in two distinct types of text — literary and informational text. The assessment includes reading materials selected from publications and other resources typically available to students in and out of school.

The framework for the 2009 NAEP Reading Assessment replaces a framework that was first developed for the 1992 assessment. The 2009 framework honors many aspects of the previous framework but also introduces some changes that can lead to better measurement and more precise reporting of assessment results. Changes featured in the 2009 NAEP Reading Framework include

- an assessment design based on current scientific reading research,
- consistency with the No Child Left Behind legislation,
- use of international reading assessments to inform the NAEP Framework,
- a more focused measurement of vocabulary,
- measurements of reading behaviors (cognitive targets) in a more objective manner, and
- distinction of cognitive targets relevant to literary and informational text.

The NAEP reading assessment contains multiple-choice questions, as well as short and extended constructed-response questions. Students spend approximately 50 to 60 percent of their assessment time providing written answers to constructed-response questions. For more information regarding the reading assessment framework, please visit http://www.nagb.org.

NAEP Reading Framework
Distribution of Question Pool Across Reading Contexts

	Grade 12
Literary Text	30%
Informational Text	70%

Reading Booklet Directions

In each of the next two sections, you will have 25 minutes to read one or two passages and to answer questions about what you have read.

You will be asked to respond to two types of questions. The first type of question requires you to choose the best answer and fill in the oval for that answer in your booklet. Some questions of this type will ask you about the meaning of a word as it is used in the passage.

The other type of question requires you to write your answer on the blank lines in your booklet. Some questions of this type will ask you to write a short answer and some questions will ask you to write a longer answer.

Here is an example of a question that requires you to write a short answer.

Do you think "Summer Adventure" was a good title for the story? Explain why or why not using details from the story.

I think "Summer Adventure" was a good title for the story because the main character, Joe, got to go on a trip to Alaska where he saw Mt. McKinley.

GO ON TO THE NEXT PAGE

Here is an example of a question that requires you to write a longer, more detailed answer.

Joe has different feelings during his trip in Alaska. Describe two different feelings Joe had and explain what caused him to have those feelings.

Joe was lonely when he first arrived in Alaska because he was missing his friends back home, but then he met Jerry and Pat and felt better.

When Jerry's parents took them all to Portage Lake, Joe felt excited because they went on a boat ride across a lake filled with icebergs to see the blue glacier.

Think carefully about each question. When you are writing your response, make your answer as complete as possible. Be sure your handwriting is clear. Use as many lines as you need.

You may go back to the passage when answering the questions.

If you finish before time is called, read over your work to be sure you have provided your best answer.

STOP

Sample Reading Questions
Grade 12

Days of Oaks, Years of Salt

LUCIENNE S. BLOCH

My grandmother walked most of the way from a little town near Graz, in Austria, to London. She was twenty, green-limbed and raw, and so was this century: both of them restless, unshackled, upheaved from an ancient order of things into a world whose recent peace was more tentative than convincing.

Of course she did not walk alone; there were, still, vestigial proprieties in operation. Her brother, senior by a couple of significant years, accompanied her: two dark-eyed travelers seeking roomier futures than the ones they stood to inherit at home. Leaving behind three younger sisters and a widowed mother, they strolled toward the possibilities that an uncle, well settled in a woolens business in London, might provide. They carried everything on their backs, food and shoes and such, the goodbyes. At night they slept in fields, in barns when the weather turned. They picked up crumbs of new languages, mouthfuls to get by on. There is no record of this legendary journey apart from the remembered and recounted one; no documentary diaries, no franked passports, no railway or steamship ticket stubs, no hotel bills, no souvenir photographs or trinkets, no many-creased maps. Did it happen, as told? I believe so. I always believed so, although I knew the reports had been altered by the time they reached me, embroidered, translated, aggrandized, I supposed. Even so, I swallowed them whole, lured and hooked like a trout by a glitteringly fabulous fly. The adventure of it!

Taking a southerly route—longer, warmer, certainly more picturesque—my grandmother and her brother climbed into Italy through the Carnic Alps where frontiers weren't as strict as they could have been. They walked across the top of Italy, each step lighter than the one before it, springier, down to Genoa, where they followed the seductive curve of the Riviera to Marseilles, then made their way across the bottom of France to Bordeaux to board a ship for the final leg of their leisurely journey.

Upon seeing the Mediterranean and its shores for the first time, my grandmother was so amazed she took to singing, in the streets particularly. She didn't sing for money; they had all the cash they needed wrapped in handkerchiefs in their rucksacks. She sang for the pure joy of adding her note to those that hovered, purling and trilling, in the pellucid sea air. Making a musical offering to gods whose existence she hadn't even suspected, she sang folk songs in the dialect of her girlhood. Her voice, small, untrained, may have

GO ON TO THE NEXT PAGE

moved a heart or two. In Antibes, singing on a boulevard planted with flowering laurels, she was sketched by a man sitting on the terrace of a cafe. It could have been Matisse, we like to think; the dates and place are right. The man showed her the sketch but he did not give it to her.

My grandmother arrived in London about seven months after she commenced walking. Her cheeks were flushed, tomato-red, despite the rough Channel crossing. Long ropy muscles snaked down her legs to her narrow feet. Between them, she and her brother had gone through five pairs of what they claimed were sturdy boots, and through something less tangible, not measurable in distance covered or time elapsed. "Why did you walk? Why didn't you go on trains?" I asked her once when I was nine or so and liked the mechanics of events to be fleshed out so I could grasp them more tightly.

"I was too beauty for men in irons," she answered. "Only stars could have my shining." She was said to be 'somewhat' senile, a vague qualifier for an already vague condition. But I could usually catch the drift of her scattered words. She caught my more regular ones. We understood each other.

Soon after reaching London, my grandmother made what must be seen as a brilliant match, acquiescing to arrangements set in motion by her uncle prior to her arrival. Was this match to her liking? Did her likings matter? These are conjectures. The fact appears to be that a future was perceived and undertaken by a woman whose legs may have been stronger than her spirit and whose song, it is possible, was silenced. I know what she told me, repeatedly.

"I was my dream under a lock of petals," she used to say, pointing to her wedding portrait in the snapshot album we looked at together week after week on the Saturday afternoons of my childhood; pictures were the safety net for what fell from her memory's difficult trapeze act. "Seven times I swanned around my stranger, then the glass broke awake to weeping. Salt in the mouth was my sadness to come."

Sadness? Was that the destination of her high adventure or only a stopping place, a marriage's way station?

There was no sadness in my grandmother when I saw her weekly. Or else I was too young to recognize what I saw, a fadedness of sorts, but one I felt was due to a lack of color rather than of cheer. The three rooms of her apartment were done in a variety of whites. Alabaster, ivory, off-white, cream-white, and eggshell puddled into custards on the walls and upholstery, at the silk-swagged windows, on the painted tables and bureaus and kitchen cupboards. Even the rugs on the floors were pallid, washed over the years into what was no more than a thin reminder of beiges and blues. She was blanched too: snowy hair, chalky powdered face, starched white lace and linen blouses, pearly teeth she constantly took out of her soft oystery mouth to amuse me, herself also. She'd hand me the wet dentures and say something like, "Jewels to be is on the tongue. Try me on." We laughed and laughed as I tried to clamp her false teeth

GO ON TO THE NEXT PAGE

between my lips like Halloween vampire fangs. All that whiteness she lived in wasn't cold, wasn't bleak; it didn't chill our times together. We played cards. We baked cupcakes. We knitted wispy mohair mufflers for the entire family. We studied the single photo album she brought to this country, and she told me stories prompted by the pictures. "In the days of oaks," she'd begin; that was her habitual opening phrase.

In my own days of oaks, Granny, there were questions I might have asked you but didn't think of then. One, especially one question haunts me now, about the one photograph you kept on your bedside table to look at all the time, not just once a week when I came to visit you and we pored over the album for clues to remembering. The photograph I want to know about, the one you didn't hide between the tooled leather covers of a book that was further hidden in a drawer between layers of your silky white underwear, is of a person you seldom mentioned to me, a man I never knew because he died in the blitz before I was born.

My grandfather struts on a seaside esplanade, straw-hatted, wearing a snappy striped blazer. His stance is jaunty. He looks extremely pleased, although there isn't a smile below his mustache. His chin points toward his left shoulder, a birdlike tilt of the head. One hand grips a silver-headed walking stick, the other is tucked into the pocket of his white flannel pants. He is a tall slim man casting a sharp pencil-slim shadow on the paved promenade. At a distance behind him, behind a wrought-iron railing, a pier stretches across the pebbled beach and stilts into the sea. There is some kind of pavilion at the end of the pier above the water, a roofed but open-sided structure. It could have been Brighton, in August perhaps. The picture must have been taken very early in the morning, given the look and angle of his shadow. There aren't any other people in the picture, no other strollers on the broad esplanade, no children squatting at the sea's curly edge. Even in the old and faded photograph, the summer morning light is so splendid and immense it fills the image and its subject with bright importance.

What I want to know is this, Granny: Where were you? Why aren't you on his arm as in all the other vacation snaps in the album, smiling at the photographer approaching and inviting you both to pose, please? What was it about this picture you're not in that made you keep it out? Did it remind you of something you wouldn't talk about even when I asked you the questions I could then? Was that your salty sadness: his self-importance? Did he shine so sharply, absolutely, right in your eyes, dazzling you into arranging for a conspicuous absence of yourself, paling your intense promising colors until they were out of season for you? Did he white you out even then?

Dying, my grandmother's determination was vivid again; her courage as fresh as young grass. I hadn't ever seen her so lofty, almost imperious; death was a dirty penny she wouldn't stoop for. I was summoned from college

GO ON TO THE NEXT PAGE

to her sickroom, at home, to collect what she insisted on passing to me in person, making a physical gesture that resonated far louder and clearer than any testamental paper bell could. We had already said some of our farewells a month earlier when I was home on Christmas break, but certain matters had to be postponed until the last possible minute. She was in bed dozing, waiting for me, face powdered and cheeks rouged as though for a pleasanter outing. My kiss woke her. I couldn't see the sickness below her skin, the sly cells chewing through bone, excavating an insidious one-way tunnel. She still looked intact to me; only her dark eyes were worn, sunk deep in their sockets like eight balls dropping for end shots. I plumped up her pillows, propped her to a sitting position, and sat down on the edge of her bed. My mother left the room to take a nap, make some coffee or calls, go for a walk, get away from her mother-in-law's deathbed for the short time I was there to spell her.

"Eyes, darling eyes," my grandmother greeted me, "don't water me now, I'm for drying. Don't fear such dust. I'm keeping. I'm keeping in the eyes of your time."

I wasn't afraid, but I was crying.

She opened the drawer of her night table, took out a handful of jewelry, almost flung it in my lap, dismissing it disdainfully, such absurd little things: two gold necklaces, a diamond-studded wrist-watch, a string of yellowed pearls, two rings that will never fit my thicker fingers. I thanked her. "Bauble me not!" she commanded.

Then we got down to business. She reached into the drawer for the snapshot album we passed so many afternoons with and presented it to me delicately, reverently, her thin arm floating like a ballet dancer's toward a partner, her proud head nodding up and down: yes, yes. I moved to her side, leaned back on the pillows with her, our knees bent up to form a book rest. Then we did what we'd always done, turned the pages one by one. Only this time we did it in silence because, she said, "the words cooked away before me."

Slowly, slowly, we turned the pages until she fell asleep. I sat in a chair by her bed for a while, holding my album, listening to her breathe, listening for the small song her bones, hollowed by disease, were whistling again.

WO000909

Broadcast on "The Sound of Writing," a production of the Syndicated Fiction Project and National Public Radio: reprinted from *The Sound of Writing* (Doubleday © 1991) by permission of the author.

GO ON TO THE NEXT PAGE

WO000916

1. Explain the narrator's feelings about the grandmother.

WO000910

2. What was the grandmother seeking in going to London, and did she find it? Support your answer using information from the story.

WO000911

3. Soon after the grandmother arrived in London, her uncle persuaded her to

   Ⓐ emigrate to the United States

   ● marry someone he had chosen

   Ⓒ become a professional singer

   Ⓓ work as an artist's model

GO ON TO THE NEXT PAGE

WO000912

4. Explain what you think the grandmother was trying to communicate to the narrator by the gift of the photo album.

WO000919

5. How does the description of the grandmother's apartment contribute to an understanding of her life?

STOP

The Science Assessment

The 2009 NAEP assessment in science for grade 12 contains multiple-choice questions, as well as short and extended constructed-response exercises. At least 50% of the assessment 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 2009 NAEP science assessment is organized according to science content and practices.

Science Content

Physical Science	Life Science	Earth and Space Science
Matter • Properties of Matter • Changes in Matter **Energy** • Forms of Energy • Energy Transfer • Conservation **Motion** • Motion at the Macroscopic Level • Forces Affecting Motion	**Structures and Functions of Living Systems** • Organization and Development • Matter and Energy Transformations • Interdependence **Changes in Living Systems** • Heredity and Reproduction • Evolution and Diversity	**Earth in Space and Time** • Objects in the Universe • History of the Earth **Earth Structures** • Properties of Earth Materials • Tectonics **Earth Systems** • Energy in Earth Systems • Climate and Weather • Biogeochemical Cycles

Science Practices

The frameworks reflect these four science practices:

- Identifying Science Principles
- Using Science Principles
- Using Scientific Inquiry
- Using Technological Design

The greatest emphasis is in Identifying and Using Science Principles.

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.

Example 1

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

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.

Example 2

Describe one important difference between plants and animals.

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

GO ON TO THE NEXT PAGE

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.

Example 3

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.

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.

STOP

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

$$X \longrightarrow Y + Z + \text{energy}$$

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?

   (A) The mass of X is less than the sum of the masses of Y and Z.

   (B) 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.

   (D) The mass of X is greater than the difference between the masses of Y and Z.

STOP

Student Background Questionnaires

General Directions for Grade 12

In the next two sections, you will be asked questions about yourself and your education. The choices for some questions will be written across the page as shown. Fill in the oval for the best answer.

Example 1

	Never or hardly ever	Once or twice a month	Once or twice a week	Almost every day
1. How often do you watch movies on TV?	Ⓐ	Ⓑ	Ⓒ	Ⓓ

You should have filled in the oval below the answer that best tells how often you watch movies on TV.

The choices for some questions will be written down the page as shown. Now read Example 2 and indicate your answer.

Example 2

2. Which event would you prefer to attend?
   - Ⓐ basketball game
   - Ⓑ car show
   - Ⓒ concert
   - Ⓓ play

Make your answer mark clear and dark in the oval. If you make a mistake or want to change your answer, be sure to completely erase any unwanted marks.

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

If you finish before time is called, go back and check your work on that section only. Use your time carefully. Do as much as you can in each section.

STOP

Student Background Questionnaire

Grade 12

In this section, please tell us about yourself and your family. The section has 14 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?

   Ⓐ Yes

   Ⓑ No

   Ⓒ I don't know.

VB331334

4. Does your family get any magazines regularly?

   Ⓐ Yes

   Ⓑ No

   Ⓒ I don't know.

VB331335

5. About how many books are there in your home?

   Ⓐ 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)

GO ON TO THE NEXT PAGE

VB331336

6. Is there a computer at home that you use?

Ⓐ Yes

Ⓑ No

VB331337

7. Is there an encyclopedia in your home? It could be a set of books, or it could be on the computer.

Ⓐ Yes

Ⓑ No

Ⓒ I don't know.

TB001101

8. About how many pages a day do you have to read in school and for homework?

Ⓐ 5 or fewer

Ⓑ 6–10

Ⓒ 11–15

Ⓓ 16–20

Ⓔ More than 20

VB331339

9. How often do you talk about things you have studied in school with someone in your family?

Ⓐ Never or hardly ever

Ⓑ Once every few weeks

Ⓒ About once a week

Ⓓ Two or three times a week

Ⓔ Every day

VB331447

10. How many days were you absent from school in the last month?

Ⓐ None

Ⓑ 1 or 2 days

Ⓒ 3 or 4 days

Ⓓ 5 to 10 days

Ⓔ More than 10 days

VB330870

11. 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.

GO ON TO THE NEXT PAGE

VB330871

12. 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

13. 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

HE002549

14. Which of the following best describes your high school program?

Ⓐ General

Ⓑ Academic or college preparatory

Ⓒ Vocational or technical

Mathematics Background Questionnaire

Grade 12

This section has 26 questions. Mark your answers in your booklet. Unless directed otherwise, fill in only **one** oval for each question.

VC298762

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 (such as trigonometry taught in drafting class or computer programming taught in Algebra II).

	I have never taken this course	I took this course in or before Grade 8	I took this course in Grade 9	I took this course in Grade 10	I took this course in Grade 11	I took this course in Grade 12	
a. **Basic** or **general** mathematics course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VC543280
b. **Tech-prep** mathematics, **business** mathematics, **consumer** mathematics, or other **applied mathematics** course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VB543281
c. **Introduction to algebra** or **pre-algebra** course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VB543282
d. **Algebra I** course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VB543283
e. **Geometry** course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VB543285
f. **Algebra II** course, **with or without trigonometry**	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VB543286
g. **Trigonometry** (as a separate course)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VB543287
h. **Pre-calculus** course (also called third-year algebra or elementary functions and analysis)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VB543288
i. **Unified**, **integrated**, **or sequential** mathematics course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VB543289
j. **Probability or statistics** course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VB543290
k. **Calculus** course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VB543292
l. **Discrete or finite** mathematics course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VB543291
m. **Other** mathematics course	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VB543293
n. **Computer programming** course (such as C++, Pascal, Visual Basic, etc.)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	VB543294

GO ON TO THE NEXT PAGE

VB543295

2. Are you currently enrolled in or have you taken an Advanced Placement (AP) course in mathematics? Fill in **one or more** ovals.

   Ⓐ Yes, I am enrolled in or have taken Advanced Placement (AP) Calculus AB.

   Ⓑ Yes, I am enrolled in or have taken Advanced Placement (AP) Calculus BC.

   Ⓒ Yes, I am enrolled in or have taken Advanced Placement (AP) Statistics.

   Ⓓ No, I have never taken an Advanced Placement (AP) mathematics course.

VB543297

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

   Ⓐ Yes

   Ⓑ No

QK070703

4. Are you currently enrolled in or have you taken International Baccalaureate courses in mathematics?

   Ⓐ Yes

   Ⓑ No

VC288225

5. Was there a mathematics course that you would have liked to have taken this school year but did not?

   Ⓐ Yes, but my school does not offer the course.

   Ⓑ Yes, but the course was full.

   Ⓒ Yes, but I did not have the necessary prerequisites.

   Ⓓ Yes, but my schedule was full.

   Ⓔ No, there was no other course that I wanted to take.

GO ON TO THE NEXT PAGE

VC189706

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

	Strongly disagree	Disagree	Agree	Strongly agree	
a. Because mathematics is fun, I wouldn't want to give it up.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC189707
b. I like mathematics.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC189710
c. Mathematics is one of my favorite subjects.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC189711

VB543267

7. What kind of **calculator** do you usually use when you are **not in mathematics class**?

Ⓐ None

Ⓑ Basic four-function (addition, subtraction, multiplication, division)

Ⓒ Scientific (not graphing)

Ⓓ Graphing

VC299327

8. Did you bring your own calculator for this test?

Ⓐ Yes

Ⓑ No

VC299329

9. What kind of calculator do you have available for this test?

Ⓐ Don't know (NAEP provided)

Ⓑ Basic four-function (addition, subtraction, multiplication, division)

Ⓒ Scientific (not graphing)

Ⓓ Graphing

VC189591

10. Do you use the Internet at home?

Ⓐ Yes

Ⓑ No

GO ON TO THE NEXT PAGE

VB517284

11. Are you currently taking a mathematics course?

Ⓐ Yes → *Go to Question 12*

Ⓑ No → *Skip to Question 22*

VC290281

12. Do you study or do work for mathematics at an after-school or tutoring program?

Ⓐ Yes

Ⓑ No

VC720647

13. How often do you feel the following way in your mathematics class? Fill in **one** oval on each line.

	Never or hardly ever	Sometimes	Often	Always or almost always	
a. I have a clear understanding of what my mathematics teacher is asking me to do.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC720650
b. The mathematics work is too easy.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC720651
c. The mathematics work is challenging.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC720652
d. The mathematics work is engaging and interesting.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC720653
e. I am learning.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC720655

GO ON TO THE NEXT PAGE

VB517159

14. How often do you use these different types of calculators in your mathematics class? Fill in **one** oval on each line.

	Never use	Sometimes, but not often	Usually use	
a. Basic four-function (addition, subtraction, multiplication, division)	Ⓐ	Ⓑ	Ⓒ	VB517160
b. Scientific (not graphing)	Ⓐ	Ⓑ	Ⓒ	VB517161
c. Graphing	Ⓐ	Ⓑ	Ⓒ	VB517282

VB517158

15. When you take a mathematics test or quiz, how often do you use a calculator?

Ⓐ Never

Ⓑ Sometimes

Ⓒ Always

VB543269

16. For each of the following activities, how often do you use a **calculator?** 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. To check your work on mathematics homework assignments	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VB543270
b. To calculate the answers to mathematics homework problems	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VB543271
c. To work in class on mathematics lessons led by your teacher	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VB543272

GO ON TO THE NEXT PAGE

VB525162

17. How often do you use a computer for mathematics at school?

Ⓐ Never or hardly ever

Ⓑ Once every few weeks

Ⓒ About once a week

Ⓓ Two or three times a week

Ⓔ Every day or almost every day

VC189586

18. Do you use a computer for mathematics homework at home?

Ⓐ Yes

Ⓑ No

VB543148

19. On a typical day, how much time do you spend doing work for mathematics class on a computer? Include work you do in class and for homework.

Ⓐ None

Ⓑ Half an hour or less

Ⓒ About 1 hour

Ⓓ About 2 hours

Ⓔ More than 2 hours

GO ON TO THE NEXT PAGE

VB543155

20. When you are doing mathematics for school or homework, how often do you use these **different types of computer programs**? 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. A spreadsheet program for mathematics class assignments	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VB543157
b. A program to practice or drill on mathematics facts (addition, subtraction, multiplication, division)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VB543158
c. A program that presents new mathematics lessons with problems to solve	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VB543160
d. The Internet to learn things for mathematics class	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VB543159
e. A calculator program on the computer to solve or check problems for mathematics class	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VB543161
f. A graphing program on the computer to make charts or graphs for mathematics class	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VB543262
g. A statistical program to calculate patterns such as correlations or cross tabulations	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VB517157
h. A word processing program to write papers for mathematics class	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VB543156
i. A program to work with geometric shapes for mathematics class	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VB543263

GO ON TO THE NEXT PAGE

VC189613

21. How often do you use e-mail, instant messages, blogs, or text messages to do any 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. Talk online with friends about mathematics work (VC299268)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
b. Get help with mathematics from someone other than your teacher, family, classmates, or friends (VC189627)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ

VB595182

22. 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

23. 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

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

Ⓐ Not very important

Ⓑ Somewhat important

Ⓒ Important

Ⓓ Very important

QK070697

25. How much education do you think you will complete?

Ⓐ I will not finish high school.

Ⓑ I will graduate from high school.

Ⓒ I will have some education after high school.

Ⓓ I will graduate from college.

Ⓔ I will go to graduate school.

Ⓕ I don't know.

GO ON TO THE NEXT PAGE

VC101417

26. What do you expect that your main activity will be in the year after you leave high school?

Ⓐ Working full time

Ⓑ Attending a vocational, technical, or business school

Ⓒ Attending a two-year college

Ⓓ Attending a four-year college, service academy, or university

Ⓔ Serving in the military

Ⓕ Other

STOP

Reading Background Questionnaire

Grade 12

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

VC345622

1. Please indicate how much you DISAGREE or AGREE with the following statements about reading and writing. Fill in **one** oval on each line.

	Strongly disagree	Disagree	Agree	Strongly agree	
a. When I read books, I learn a lot.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VB345623
b. Reading is one of my favorite activities.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VB345624

VB379288

2. How often do you do each of the following? Fill in **one** oval on each line.

	Never or hardly ever	Once or twice a month	Once or twice a week	Almost every day	
a. Read for fun on your own time	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VB379289
b. Talk with your friends or family about something you have read	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VB379290

VB345644

3. Now think about reading and writing you do for school. For your **English** class this year, how often do you do each of the following? Fill in **one** oval on each line.

	Never or hardly ever	A few times a year	Once or twice a month	At least once a week	
a. Have a class discussion about something that the whole class has read	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VB345645
b. Work in pairs or small groups to talk about something that you have read	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VB345646

GO ON TO THE NEXT PAGE

VB345648

4. For your **English** class so far this year, how many times have you done each of the following? Fill in **one** oval on each line.

	Never	Once	2 or 3 times	4 or 5 times	6 or more times
a. Made a presentation to the class about something that you have read	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
b. Done a project about something that you have read (for example, written a play, created a website)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ

VB345650

VB345651

VC503833

5. How often do you use either the school library or the public library to get information for a school project or homework?

Ⓐ Never or hardly ever

Ⓑ Once or twice a month

Ⓒ Once or twice a week

Ⓓ Every day or almost every day

VC503834

6. How often do you use either the school library or the public library to get information for your own use?

Ⓐ Never or hardly ever

Ⓑ Once or twice a month

Ⓒ Once or twice a week

Ⓓ Every day or almost every day

VC503875

7. Do you study or do work for English/language arts at an after-school or tutoring program?

Ⓐ Yes

Ⓑ No

VC504012

8. In your school, do you participate in extracurricular activities such as book clubs, competitions, fairs, or exhibits for reading?

Ⓐ Yes

Ⓑ No

VB345715

9. For school this year, how often have you been asked to write long answers to questions on tests or assignments that involved reading?

Ⓐ Never

Ⓑ Once or twice this year

Ⓒ Once or twice a month

Ⓓ At least once a week

GO ON TO THE NEXT PAGE

VC504013

10. In your English/language arts class this year, how often does your class do each of the following? Fill in **one** oval on each line.

	Never or hardly ever	Once or twice a month	Once or twice a week	Every day or almost every day	
a. Read aloud	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504014
b. Read silently	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504015
c. Discuss new or difficult vocabulary	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504016
d. Explain what we have read	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504017
e. Do a group activity or project about what we have read	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504018
f. Read books we have chosen ourselves	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504019
g. Write something about what we have read	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504020
h. Discuss different interpretations of what we have read	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504021

GO ON TO THE NEXT PAGE

VC504022

11. In your English/language arts class this year, when reading a story, article, or other passage, how often does your teacher ask you to do the following? Fill in **one** oval on each line.

	Never or hardly ever	Once or twice a month	Once or twice a week	Every day or almost every day	
a. Summarize the passage	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504023
b. Interpret the meaning of the passage	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504024
c. Question the motives or feelings of the characters	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504025
d. Identify the main themes of the passage	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504026

VC504027

12. In your English/language arts class this year, how often do you use a computer to do each of the following? Fill in **one** oval on each line.

	Never or hardly ever	Once or twice a month	Once or twice a week	Every day or almost every day	
a. Learn and practice vocabulary	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504028
b. Practice spelling and grammar	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504029
c. Write stories or reports	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504030
d. Produce multimedia reports/projects	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504031
e. Access reading-related websites (for example, websites with book reviews and lists of recommended books)	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504033
f. Conduct research for reading and writing projects	Ⓐ	Ⓑ	Ⓒ	Ⓓ	VC504034

VB595182

13. 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

14. 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

GO ON TO THE NEXT PAGE

VB595184

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

Ⓐ Not very important

Ⓑ Somewhat important

Ⓒ Important

Ⓓ Very important

VC293363

16. Are you currently enrolled in or have you taken International Baccalaureate courses in English/language arts?

Ⓐ Yes

Ⓑ No

VC293355

17. Are you currently enrolled in or have you taken an Advanced Placement course in English/language arts? Fill in ovals for **all** that apply.

Ⓐ Yes, I am enrolled in or have taken Advanced Placement English Language

Ⓑ Yes, I am enrolled in or have taken Advanced Placement English Literature

Ⓒ No, I have never taken an Advanced Placement English/ language arts course

VC293008

18. Are you currently enrolled in or have you taken any online English/language arts courses for high school or college credit?

Ⓐ Yes

Ⓑ No

QK070697

19. How much education do you think you will complete?

Ⓐ I will not finish high school.

Ⓑ I will graduate from high school.

Ⓒ I will have some education after high school.

Ⓓ I will graduate from college.

Ⓔ I will go to graduate school.

Ⓕ I don't know.

VC101417

20. What do you expect that your main activity will be in the year after you leave high school?

Ⓐ Working full time

Ⓑ Attending a vocational, technical, or business school

Ⓒ Attending a two-year college

Ⓓ Attending a four-year college, service academy, or university

Ⓔ Serving in the military

Ⓕ Other

Science Background Questionnaire

Grade 12

This section has 19 questions. Mark your answers in your booklet. Unless directed otherwise, fill in only **one** oval for each question.

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.

	Couse 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	A	B	C	D	E	F	VC305813
b. Life science (other than biology)	A	B	C	D	E	F	VC305814
c. Physical science (other than chemistry or physics)	A	B	C	D	E	F	VC305815
d. General science	A	B	C	D	E	F	VC305817
e. First-year biology	A	B	C	D	E	F	VC305819
f. Second-year biology	A	B	C	D	E	F	VC305820
g. First-year chemistry	A	B	C	D	E	F	VC305821
h. Second-year chemistry	A	B	C	D	E	F	VC305822
i. First-year physics	A	B	C	D	E	F	VC305823
j. Second-year physics	A	B	C	D	E	F	VC305826
k. Engineering and technology	A	B	C	D	E	F	VC305826
l. Other science course	A	B	C	D	E	F	VC305829

GO ON TO THE NEXT PAGE

ID110276

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

   Ⓐ Yes

   Ⓑ No

VC304768

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

   Ⓐ Yes

   Ⓑ 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.

   Ⓐ Yes, I am enrolled in or have taken Advanced Placement Biology.

   Ⓑ Yes, I am enrolled in or have taken Advanced Placement Environmental Science

   Ⓒ Yes, I am enrolled in or have taken Advanced Placement Chemistry.

   Ⓓ Yes, I am enrolled in or have taken Advanced Placement Physics B or C.

   Ⓔ Yes, I am enrolled in or have taken Advanced Placement Computer Science A or AB.

   Ⓕ No, I have never taken an Advanced Placement science course.

GO ON TO THE NEXT PAGE

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
VC720594 a. I do science-related activities that are not for schoolwork.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
VC305350 b. I like science.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
VC305351 c. Science is one of my favorite subjects.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
VC305352 d. I take science only because I have to.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
VC305353 e. I take science only because it will help me in the future.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
VC720596 f. When I graduate from high school, I would like to have a job related to science.	Ⓐ	Ⓑ	Ⓒ	Ⓓ

VC720597

6. Are you currently taking a science course?

Ⓐ Yes → *Go to Question 7.*
Ⓑ No → *Skip to Question 15.*

GO ON TO THE NEXT PAGE

VC304986

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

	Yes	No	
a. Living things (for example, plants, animals, bacteria)	Ⓐ	Ⓑ	VC304988
b. Electricity (for example, batteries and light)	Ⓐ	Ⓑ	VC304989
c. Chemicals (for example, mixing or dissolving sugar or salt in water)	Ⓐ	Ⓑ	VC304991
d. Rocks or minerals (for example, identifying types)	Ⓐ	Ⓑ	VC304007
e. Magnifying glass or microscope (for looking at small things)	Ⓐ	Ⓑ	VC305008
f. Thermometer or barometer (for making measurements)	Ⓐ	Ⓑ	VC305009
g. Simple machines (for example, pulleys and levers)	Ⓐ	Ⓑ	VC305012

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	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC546510
b. Read a book or magazine about science	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC305295
c. Read about science on the computer	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC720562
d. Watch a movie, video, or DVD about science	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC305307

GO ON TO THE NEXT PAGE

VC305292

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. Figure out different ways to solve a science problem	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC304777
d. Present what you learned about science to your class	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC304778
e. Take a science test or quiz	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC720564

GO ON TO THE NEXT PAGE

VC305292

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	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC304770
b. Design a science experiment	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC305318
c. Talk about measurements you took for your science project or activity	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC305320
d. Talk about the results of your science project or activity	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	
e. Watch your teacher do a science experiment or activity	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	
f. Make graphs or charts of the results from your science project or activity	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC304773
g. Write a report on your science project or activity	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	VC315265

GO ON TO THE NEXT PAGE

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

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

VC315266

13. In this school year, how often have you used library resources 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

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

VB595182

15. 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

16. 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

GO ON TO THE NEXT PAGE

VB595184

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

Ⓐ Not very important

Ⓑ Somewhat important

Ⓒ Important

Ⓓ Very important

QK070697

18. How much education do you think you will complete?

Ⓐ I will not finish high school.

Ⓑ I will graduate from high school.

Ⓒ I will have some education after high school.

Ⓓ I will graduate from college.

Ⓔ I will go to graduate school.

Ⓕ I don't know.

VC101417

19. What do you expect that your main activity will be in the year after you leave high school?

Ⓐ Working full time

Ⓑ Attending a vocational, technical, or business school

Ⓒ Attending a two-year college

Ⓓ Attending a four-year college, service academy, or university

Ⓔ Serving in the military

Ⓕ Other

NAEP Questions Tool

Introduction

After every assessment cycle, NAEP releases a portion of the main assessment to the public. The NAEP Questions Tool allows users to view those questions, as well as their associated scoring guides, keys, classification information, performance data, student group data, and student responses (for constructed-response questions only). The purpose of the tool is to provide teachers, researchers, and educators with greater access to NAEP assessment exercises.

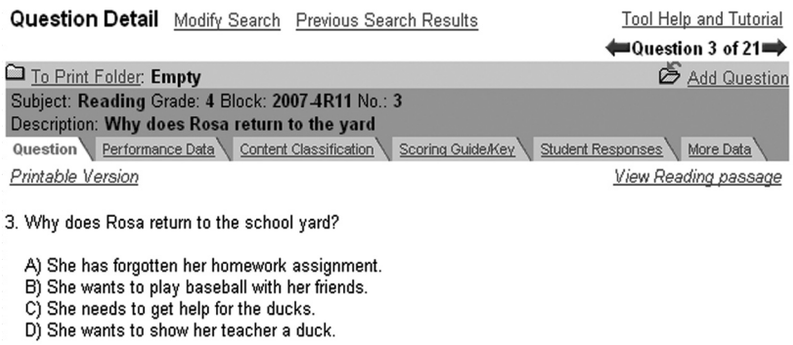
The tool also allows users to print selected questions and all their relevant information.

How to Access

The direct URL link to the NAEP Questions Tool is http://nces.ed.gov/nationsreportcard/itmrls, or click **NAEP Questions** on The Nation's Report Card™ home page.

What information can I get about each question?

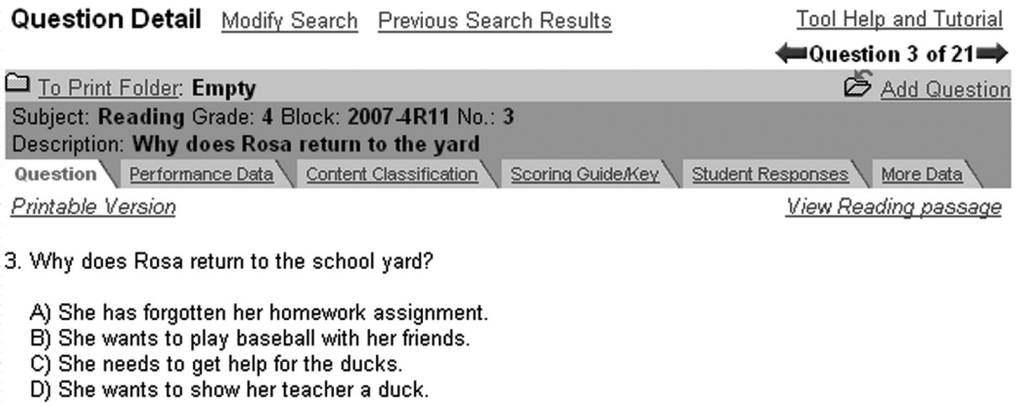
When you select a question to view, a screen similar to the one below will be displayed.



Information related to a selected question is available by clicking the tabs at the top of the screen. A description of these tabs follows.

Question: When the screen first appears, the question will be displayed, and the **Question** tab will be highlighted. When you are viewing related information other than the question itself, click on this tab to re-display the question.

Links within the question: The question and related graphics or text passages may not fit on the screen area without scrolling. Some questions have associated content such as reading passages or maps. To see these materials, click on the link labeled "View reading passage" or "additional materials." This text varies depending on the subject.

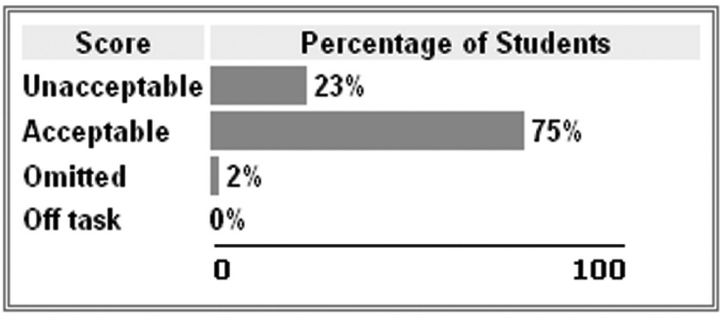


Note that the questions have been formatted to display on the screen and may not be presented in the same way as they were to the student.

Performance Data: Shows information about how students scored on the question.

For Multiple-Choice Questions: Shows the percentage of students who answered the question incorrectly or correctly, or who omitted the item.

2007 National Performance Results

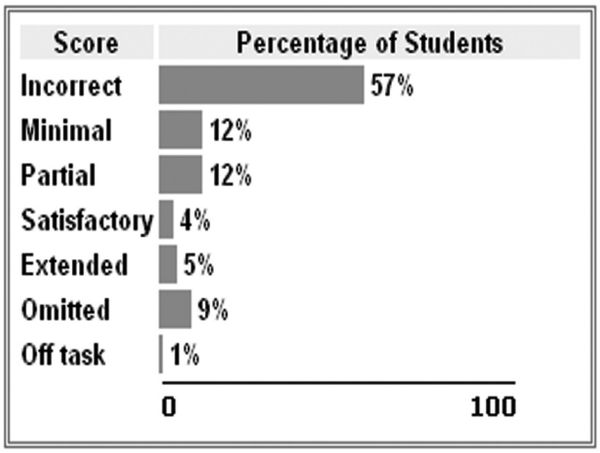


Note:

- These results are for public and nonpublic school students.
- Percentages may not add to 100 due to rounding.

For Constructed-Response Questions: Shows the percent correct by score level.

2007 National Performance Results



Note:

- These results are for public and nonpublic school students.
- Percentages may not add to 100 due to rounding.

The scoring criteria will vary depending on the subject and type of question. Click on the **Scoring Guide/Key** tab to see a description of the score levels used for each constructed-response question, and the **Student Response Tab** to see sample student responses at each score level.

Content Classification: Shows information about how the question relates to the subject area framework. This includes a description of the *content domain*—what is being assessed—and the *cognitive skills* within that domain.

Use the links on the upper right of the Content Classification screen to move between the sections of the screen. Note that the name of the links will vary depending on subject and question type.

Scoring Guide/Key: Shows information about how the question was scored.

For Multiple-Choice Questions: Shows the "key" or correct answer for the question.

Key

3. The first permanent English settlement in North America was

A) St. Augustine
B) Santa Fe
▶ C) Jamestown
D) New Amsterdam

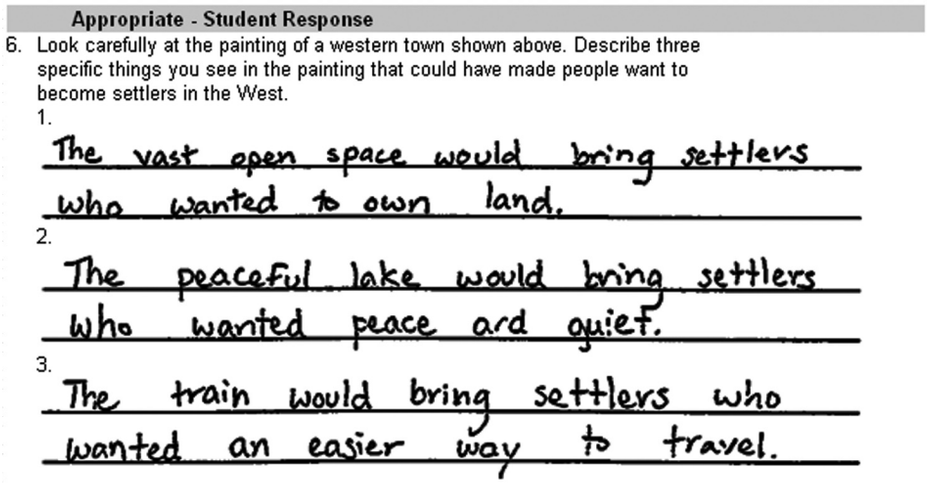
For Constructed-Response Questions: Shows the scoring guide used to determine the score for the student's answer.

Scoring Guide

Score & Description
Appropriate The response indicates that the Civil War was a threat to the nation by specifically referring to the split between the North and the South.
Partial The response mentions the Civil War, but does not fully make the link between the war and the threat to the nation. OR response mentions Civil War but contains a significant inaccuracy. OR the response mentions split but does not mention Civil War.
Inappropriate The response does not explain why the nation was in danger.

Note that the scoring criteria will vary depending on the subject and type of question.

Student Responses: Shows *actual* student responses to the question for each score level.


Appropriate - Student Response

6. Look carefully at the painting of a western town shown above. Describe three specific things you see in the painting that could have made people want to become settlers in the West.

1. The vast open space would bring settlers who wanted to own land.

2. The peaceful lake would bring settlers who wanted peace and quiet.

3. The train would bring settlers who wanted an easier way to travel.

Use the scroll bar to move between the sections of the screen. Note that student responses are available only for constructed-response questions.

In some subjects, you will find a **Scorer's Commentary** button after the student responses. Each subject offers a different model for the scorer's commentary—some provide one for every response, others for both responses. The scorer's commentary gives you additional information on why the response received the score that it did and often refers back to the scoring guide.

More Data: Provides question-level data that indicates how students across the nation performed on individual questions. The "more data" tab can also be used to explore student group performance (males and females) on individual items.

All students							
	Inappropriate				Partial		
	Avg. Score	(S.E.)	Row Pct.	(S.E.)	Avg. Score	(S.E.)	Rov Pct
All students	192	(2.1)	14	(0.9)	210	(1.4)	5

Gender							
	Inappropriate				Partial		
	Avg. Score	(S.E.)	Row Pct.	(S.E.)	Avg. Score	(S.E.)	Row Pct.
Male	191	(3.1)	13	(1.2)	214	(2.0)	58
Female	194	(2.6)	14	(1.2)	205	(1.6)	55

Region of the country (2003 and later)						
	Inappropriate				Part	
	Avg. Score	(S.E.)	Row Pct.	(S.E.)	Avg. Score	(S.E.)
Northeast	‡	(‡)	13	(1.9)	214	(2.0)
Midwest	‡	(‡)	9	(1.7)	217	(3.4)

Information about the performance of the following student groups is included on the More Data screen:

- All students
- Gender
- Region of the Country
- Race/Ethnicity
- Type of School (public/nonpublic)
- Type of Location
- National School Lunch Program

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

The NAEP website contains a wealth of information about the subjects NAEP assesses. Just click on one of the subject area links to find out more. The URL for the site is http://nces.ed.gov/nationsreportcard/.

Additional Help

For more help with features on the NAEP website, click **Help** in the banner.

For additional help, write to us via **Contact Us**, or e-mail Sherran.Osborne@ed.gov.

Information About
National Assessment of Educational Progress
2009 Assessments
Mathematics, Reading, and Science

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 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 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 Governing Board's website at http://www.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 sample questions booklets that provide more detailed information about the assessment design and questions. Released questions and student performance data may be viewed on and downloaded from the NCES website at http://nces.ed.gov/nationsreportcard/itmrls.

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 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.

The work reported herein was supported under the National Assessment of Educational Progress (ED–07–CO-0078, ED-07-CO-0107) as administered by the National Center for Education Statistics, in the U.S. Department of Education.

Untitled-1 1

8/4/2008 4:24:02 PM