

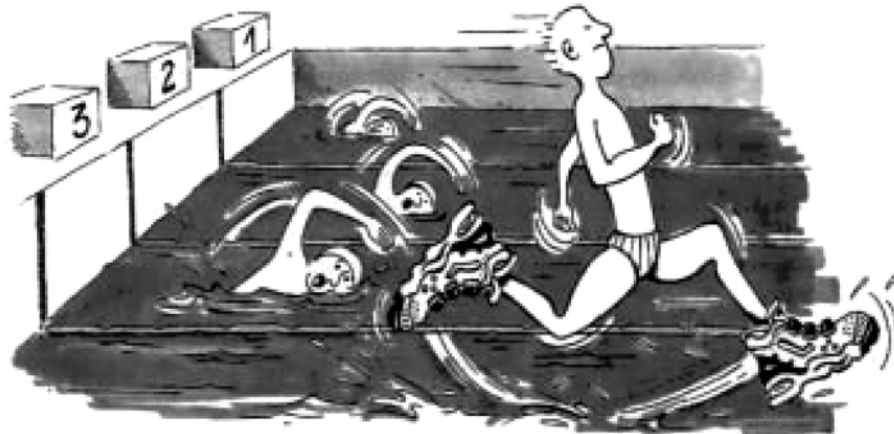
## 4

# PISA 2000 RELEASED ITEMS

## Selected Sample Items

These PISA sample items illustrate a range of questions across the three PISA domains—reading, mathematics and science literacy. Reading literacy proficiency is described by 5 levels, which represent increasing ability to solve problems in a real-life context as one moves from level 1 to 5. PISA will develop similar levels for mathematics and science literacy when each is the major content area (mathematics in 2003 and science in 2006). In addition, for reading literacy information is provided on specific reading processes or aspects such as retrieving information, interpreting texts, and reflecting on texts. Each sample item displayed for reading literacy describes its level and which specific reading process or aspect it assesses.

**FEEL GOOD IN YOUR RUNNERS**



*For 14 years the Sports Medicine Center of Lyon (France) has been studying the injuries of young sports players and sports professionals. The study has established that the best course is prevention ... and good shoes.*

**Knocks, falls, wear and tear...**

Eighteen percent of sports players aged 8 to 12 already have heel injuries. The cartilage of a soccer player's ankle does not respond well to shocks, and 25% of professionals have discovered for themselves that it is an especially weak point. The cartilage of the delicate knee joint can also be irreparably damaged and if care is not taken right from childhood (10–12 years of age), this can cause premature osteoarthritis. The hip does not escape damage either and, particularly when tired, players run the risk of fractures as a result of falls or collisions.

According to the study, soccer players who have been playing for more than ten years have bony

outgrowths either on the tibia or on the heel. This is what is known as “soccer player’s foot”, a deformity caused by shoes with soles and ankle parts that are too flexible.

**Protect, support, stabilize, absorb**

If a shoe is too rigid, it restricts movement. If it is too flexible, it increases the risk of injuries and sprains. A good sports shoe should meet four criteria:

Firstly, it must *provide exterior protection*: resisting knocks from the ball or another player, coping with unevenness in the ground, and keeping the foot warm and dry even when it is freezing cold and raining.

It must *support the foot*, and in particular the ankle joint, to avoid sprains, swelling and

other problems, which may even affect the knee.

It must also provide players with good *stability* so that they do not slip on a wet ground or skid on a surface that is too dry.

Finally, it must *absorb shocks*, especially those suffered by volleyball and basketball players who are constantly jumping.

**Dry feet**

To avoid minor but painful conditions such as blisters or even splits or athlete’s foot (fungal infections), the shoe must allow evaporation of perspiration and must prevent outside dampness from getting in. The ideal material for this is leather, which can be waterproofed to prevent the shoe from getting soaked the first time it rains.

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A4

Use the article on the opposite page to answer the questions below.

**RELEASED QUESTION 26: RUNNERS**

Aspect: Interpreting texts  
Level: 1  
Text format: Continuous  
Situation: Educational

What does the author intend to show in this text?

- A That the quality of many sports shoes has greatly improved.
- B That it is best not to play soccer if you are under 12 years of age.
- C That young people are suffering more and more injuries due to their poor physical condition.
- D That it is very important for young sports players to wear good sports shoes.

The correct answer is D.

United States percent full credit (s.e.)	78 (2.2)
OECD percent full credit (s.e.)	87 (0.2)

NOTE: s.e. means standard error.

**RELEASED QUESTION 28: RUNNERS**

Aspect: Retrieving information  
Level: 1  
Text format: Continuous  
Situation: Educational

One part of the article says, "A good sports shoe should meet four criteria."

What are these criteria?

.....

.....

.....

.....

To receive full credit, students must refer to the four criteria in italics in the text.

United States percent full credit (s.e.)	84 (1.5)
OECD percent full credit (s.e.)	80 (0.2)

NOTE: s.e. means standard error.

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A1

A2

A3

A4

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**RELEASED QUESTION 29: RUNNERS**

*Aspect: Reflecting on texts*  
*Level: 1*  
*Text format: Continuous*  
*Situation: Educational*

Look at this sentence from near the end of the article. It is presented here in two parts:

“To avoid minor but painful conditions such as blisters or even splits or athlete’s foot (fungal infections),...” *(first part)*

“...the shoe must allow evaporation of perspiration and must prevent outside dampness from getting in.” *(second part)*

What is the relationship between the first and second parts of the sentence?

The second part

- A contradicts the first part.
- B repeats the first part.
- C illustrates the problem described in the first part.
- D gives the solution to the problem described in the first part.

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The correct answer is D.

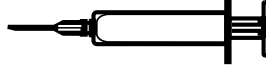
United States percent full credit (s.e.) . . . . . 78 (1.5)  
OECD percent full credit (s.e.) . . . . . 79 (0.2)

NOTE: s.e. means standard error.

## ACOL VOLUNTARY FLU IMMUNIZATION PROGRAM

As you are no doubt aware the flu can strike rapidly and extensively during winter. It can leave its victims ill for weeks.

The best way to fight the virus is to have a fit and healthy body. Daily exercise and a diet including plenty of fruits and vegetables are highly recommended to assist the immune system to fight this invading virus.



ACOL has decided to offer staff the opportunity to be immunized against the flu as an additional way to prevent this insidious virus from spreading amongst us. ACOL has arranged for a nurse to administer the immunizations at ACOL, during a half-day session in work hours in the week of October 17. This program is free and available to all members of staff.

Participation is voluntary. Staff exercising the option will be asked to sign a consent form indicating that they do not have any allergies, and that they understand they may experience minor side effects.

Medical advice indicates that the immunization does not produce influenza. However, it may cause some side effects such as fatigue, mild fever and tenderness of the arm.



### WHO SHOULD BE IMMUNIZED?

Anyone interested in being protected against the virus.

This immunization is especially recommended for people over the age of 65. But regardless of age, ANYONE who has a chronic debilitating disease, especially cardiac, pulmonary, bronchial or diabetic conditions.

In an office environment ALL staff are at risk of catching the flu.

### WHO SHOULD NOT BE IMMUNIZED?

Individuals hypersensitive to eggs, people suffering from an acute feverish illness and pregnant women.

Check with your doctor if you are taking any medication or have had a previous reaction to a flu injection.



If you would like to be immunized in the week of October 17 please advise the personnel officer, Anne Washington, by Friday October 7. The date and time will be set according to the availability of the nurse, the number of participants and the time convenient for most staff. If you would like to be immunized for this winter but cannot attend at the arranged time please let Anne know. An alternative session may be arranged if there are sufficient numbers.

For further information please contact Anne on ext. 5577.

Anne Washington, the personnel officer at a company called ACOL, prepared the information sheet on the previous page for ACOL staff. Refer to the information sheet to answer the questions which follow.

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**RELEASED QUESTION 6: FLU**

Aspect: Retrieving information

Level: 2

Text format: Continuous

Situation: Occupational

Which one of the following describes a feature of the ACOL flu immunization program?

- A Daily exercise classes will be run during the winter.
- B Immunizations will be given during working hours.
- C A small bonus will be offered to participants.
- D A doctor will give the shots.

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The correct answer is B.

United States percent full credit (s.e.) . . . . . 71 (2.9)

OECD percent full credit (s.e.) . . . . . 73 (0.3)

NOTE: s.e. means standard error.

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A1

A2

A3

A4

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**RELEASED QUESTION 7: FLU**

*Aspect: Reflecting on texts*  
*Level: 3 (full credit) 3 (partial credit)*  
*Text format: Continuous*  
*Situation: Occupational*

We can talk about the **content** of a piece of writing (what it says).

We can talk about its **style** (the way it is presented).

Anne wanted the **style** of this information sheet to be friendly and encouraging.

Do you think she succeeded?

Explain your answer by referring in detail to the layout, style of writing, pictures or other graphics.

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To receive full credit, responses must refer accurately to the text and relate style to purpose, consistent with “friendly and encouraging.” The answer must do at least one of the following: 1) refer to one of the features in detail and/or 2) use evaluative terms other than “friendly and encouraging.” Opinion about whether Anne succeeded may be stated or implied.

Responses that refer accurately to the text and relate purpose to information and content (rather than style), consistent with “friendly and encouraging,” receive partial credit. Opinion about whether Anne succeeded may be stated or implied.

United States percent full credit (s.e.) . . . . .	37 (2.7)
OECD percent full credit (s.e.) . . . . .	48 (0.4)
United States percent partial credit (s.e.) . . . . .	16 (1.8)
OECD percent partial credit (s.e.) . . . . .	17 (0.3)

NOTE: s.e. means standard error.

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**RELEASED QUESTION 8: FLU**

*Aspect: Interpreting texts*

*Level: 3*

*Text format: Continuous*

*Situation: Occupational*

This information sheet suggests that if you want to protect yourself against the flu virus, a flu shot is

- A more effective than exercise and a healthy diet, but more risky.
- B a good idea, but not a substitute for exercise and a healthy diet.
- C as effective as exercise and a healthy diet, and less troublesome.
- D not worth considering if you have plenty of exercise and a healthy diet.

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The correct answer is B.

United States percent full credit (s.e.) . . . . . 70 (2.4)

OECD percent full credit (s.e.) . . . . . 56 (0.3)

NOTE: s.e. means standard error.



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**RELEASED QUESTION 9: FLU**

*Aspect: Reflecting on texts*  
*Level: 4*  
*Text format: Continuous*  
*Situation: Occupational*

Part of the information sheet says:

**WHO SHOULD BE IMMUNIZED?**

Anyone interested in being protected against the virus.

After Anne had circulated the information sheet, a colleague told her that she should have left out the words “Anyone interested in being protected against the virus” because they were misleading.

Do you agree that these words are misleading and should have been left out?

Explain your answer.

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To receive full credit, responses should evaluate the section of text in relation to the term “misleading” by indicating that there is a contradiction. This contradiction may or may not be explained and agreement or disagreement may be stated or implied.

Full credit can also be gained by evaluating the section of text in relation to the term “misleading” by indicating that the statement may be an exaggeration. This exaggeration may or may not be explained and agreement or disagreement may be stated or implied.

United States percent full credit (s.e.) . . . . .	41 (2.8)
OECD percent full credit (s.e.) . . . . .	35 (0.3)

NOTE: s.e. means standard error.

**LABOR**

The tree diagram below shows the structure of a country's labor force or "working-age population". The total population of the country in 1995 was about 3.4 million.

*The Labor Force Structure year ended March 31, 1995 (000s)<sup>1</sup>*



Notes

1. Numbers of people are given in thousands (000s).
2. The working-age population is defined as people between the ages of 15 and 65.
3. People "Not in labor force" are those not actively seeking work and/or not available for work.

Use the information about a country's labor force on the opposite page to answer the questions below.

**RELEASED QUESTION 16: LABOR**

*Aspect: Retrieving information  
 Level: 4 (full credit) 3 (partial credit)  
 Text format: Non-continuous  
 Situation: Educational*

How many people of working age were not in the labor force? (Write the **number** of people, not the percentage.)

.....

To receive full credit, responses should indicate that the number in the tree diagram and the "000s" in the title/footnote have been integrated to produce the number 949,000. Approximations between 949,000 and 950,000, in numbers or words, were accepted. In addition, 900,000 or one million (in words or numbers) were accepted if accompanied by a qualifier such as "almost" or "about."

Correctly indicating the number in the tree diagram, but failing to integrate the "000s" in the title/footnote can achieve partial credit. In this situation, students would answer 949.9 in words or numbers.

United States percent full credit (s.e.) . . . . .	24 (2.1)
OECD percent full credit (s.e.) . . . . .	31 (0.4)
United States percent partial credit (s.e.) . . . . .	54 (2.3)
OECD percent partial credit (s.e.) . . . . .	41 (0.4)

NOTE: s.e. means standard error.

**RELEASED QUESTION 17: LABOR**

*Aspect: Interpreting texts*  
*Level: 5 (full credit) 2 (partial credit)*  
*Text format: Non-continuous*  
*Situation: Educational*

In which part of the tree diagram, if any, would each of the people listed in the table below be included?

Show your answer by placing a cross in the correct box in the table.

The first one has been done for you.

	"In labor force: employed"	"In labor force: unemployed"	"Not in labor force"	Not included in any category
A part-time waiter, aged 35	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A business woman, aged 43, who works a sixty-hour week	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A full-time student, aged 21	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A man, aged 28, who recently sold his shop and is looking for work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A woman, aged 55, who has never worked or wanted to work outside the home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A grandmother, aged 80, who still works a few hours a day at the family's store	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

On the following page is a correctly answered diagram.

	"In labor force: employed"	"In labor force: unemployed"	"Not in labor force"	Not included in any category
A part-time waiter, aged 35	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A business woman, aged 43, who works a sixty-hour week	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A full-time student, aged 21	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A man, aged 28, who recently sold his shop and is looking for work	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A woman, aged 55, who has never worked or wanted to work outside the home	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A grandmother, aged 80, who still works a few hours a day at the family's store	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

To receive full credit, students needed to correctly identify each person's labor classification. Students who correctly identified 3 or 4 of the labor classifications received partial credit.

United States percent full credit (s.e.)	15 (1.9)
OECD percent full credit (s.e.)	14 (0.3)
United States percent partial credit (s.e.)	53 (2.7)
OECD percent partial credit (s.e.)	54 (0.3)

NOTE: s.e. means standard error.

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A1

A2

A3

A4

## AMANDA AND THE DUCHESS

**Summary:** Since Léocadia's death, the Prince, who was in love with her, has been inconsolable. At a shop called *Réséda Soeurs*, the Duchess, who is the Prince's aunt, has met a young shop assistant, Amanda, who looks amazingly like Léocadia. The Duchess wants Amanda to help her set the Prince free from the memories which haunt him.

*A crossroads in the castle grounds, a circular bench around a small obelisk...evening is falling...*

AMANDA

I still don't understand. What can I do for him, ma'am? I can't believe you could possibly have thought...And why me? I'm not particularly pretty. And even if someone were very pretty—who could suddenly come between him and his memories like that?

THE DUCHESS

No-one but you.

AMANDA, *sincerely surprised*

Me?

THE DUCHESS

The world is so foolish, my child. It sees only parades, gestures, badges of office...that must be why you have never been told. But my heart hasn't deceived me—I almost cried out at *Réséda Soeurs* the first time I saw you. To someone who knew more of her than just her public image, you are the living likeness of Léocadia. *A silence. The evening birds have now taken over from the afternoon birds. The grounds are filled with shadows and twittering.*

AMANDA, *very gently*

I really don't think I can, ma'am. I have nothing, I am nothing, and those lovers...that was **my** fancy, don't you see? *She has got up. As if about to leave, she has picked up her small suitcase.*

THE DUCHESS, *gently also, and very wearily*  
Of course, my dear. I apologize. *She in turn gets up, with difficulty, like an old woman. A bicycle bell is heard in the evening air; she gives a start.*

Listen...it's him! Just show yourself to him, leaning against this little obelisk where he first met her. Let him see you, even if it's just this once, let him call out, take a sudden interest in this likeness, in this stratagem which I shall confess to him tomorrow and for which he will hate me—in anything but this dead girl who'll take him away from me one of these days, I'm sure...*(She has taken her by the arm.)* You will do that, won't you? I beg you most humbly, young lady. *(She looks at her, beseechingly, and quickly adds:)* And then, that way, you'll see him too. And...I can feel that I'm blushing again from

saying this to you—life is just too mad! That's the third time I've blushed in sixty years, and the second time in ten minutes—you'll see him; and if he could ever (why not him, since he's handsome and charming and he wouldn't be the first?) if he could ever have the good fortune, for himself and for me, to take your fancy for one moment...*The bell again in the shadows, but very close now.*

AMANDA, *in a whisper*

What should I say to him?

THE DUCHESS, *gripping her arm*

Simply say: "Excuse me, Sir, can you tell me the way to the sea?" *She has hurried into the deeper shadows of the trees. Just in time. There is a pale blur. It is the Prince on his bicycle. He passes very close to the pale blur of Amanda by the obelisk. She murmurs.*

AMANDA

Excuse me, Sir...  
*He stops, dismounts from the bicycle, takes off his hat and looks at her.*

THE PRINCE

Yes?

AMANDA

Can you tell me the way to the sea?

THE PRINCE

Take the second turning on your left. *He bows, sadly and courteously, gets back on the bicycle and rides away. The bell is heard again in the distance. The Duchess comes out of the shadows, very much an old woman.*

AMANDA, *gently, after a while*

He didn't recognize me...

THE DUCHESS

It was dark...And then, who knows what face he gives her now, in his dreams? *(She asks timidly:)* The last train has gone, young lady. In any case, wouldn't you like to stay at the castle tonight?

AMANDA, *in a strange voice*

Yes, ma'am. *It is completely dark. The two of them can no longer be seen in the shadows, and only the wind can be heard in the huge trees of the grounds.*

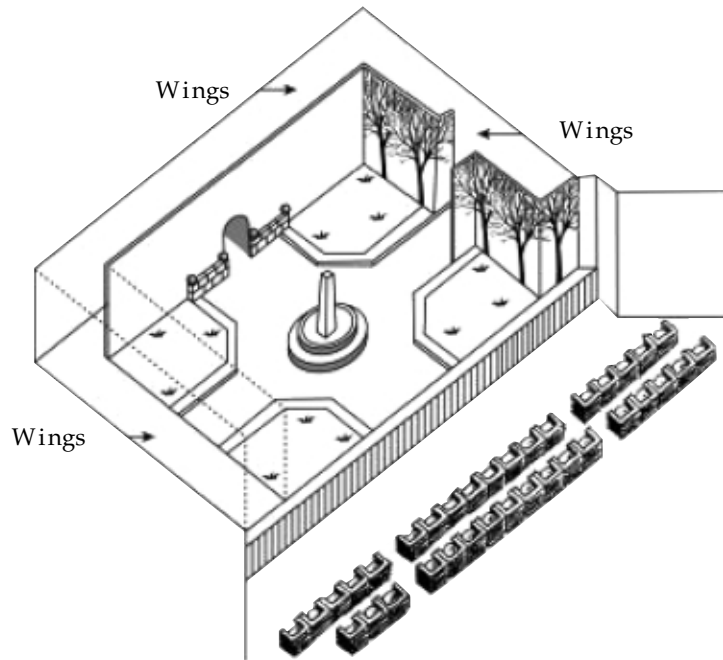
THE CURTAIN FALLS

**RELEASED QUESTION 40: AMANDA AND THE DUCHESS**

*Aspect: Retrieving information*  
*Level: 4*  
*Text format: Continuous*  
*Situation: Personal*

The director positions the actors on the stage. On a diagram, the director represents Amanda with the letter A and the Duchess with the letter D.

Put an A and a D on the following diagram of the set to show approximately where Amanda and the Duchess are when the Prince arrives.



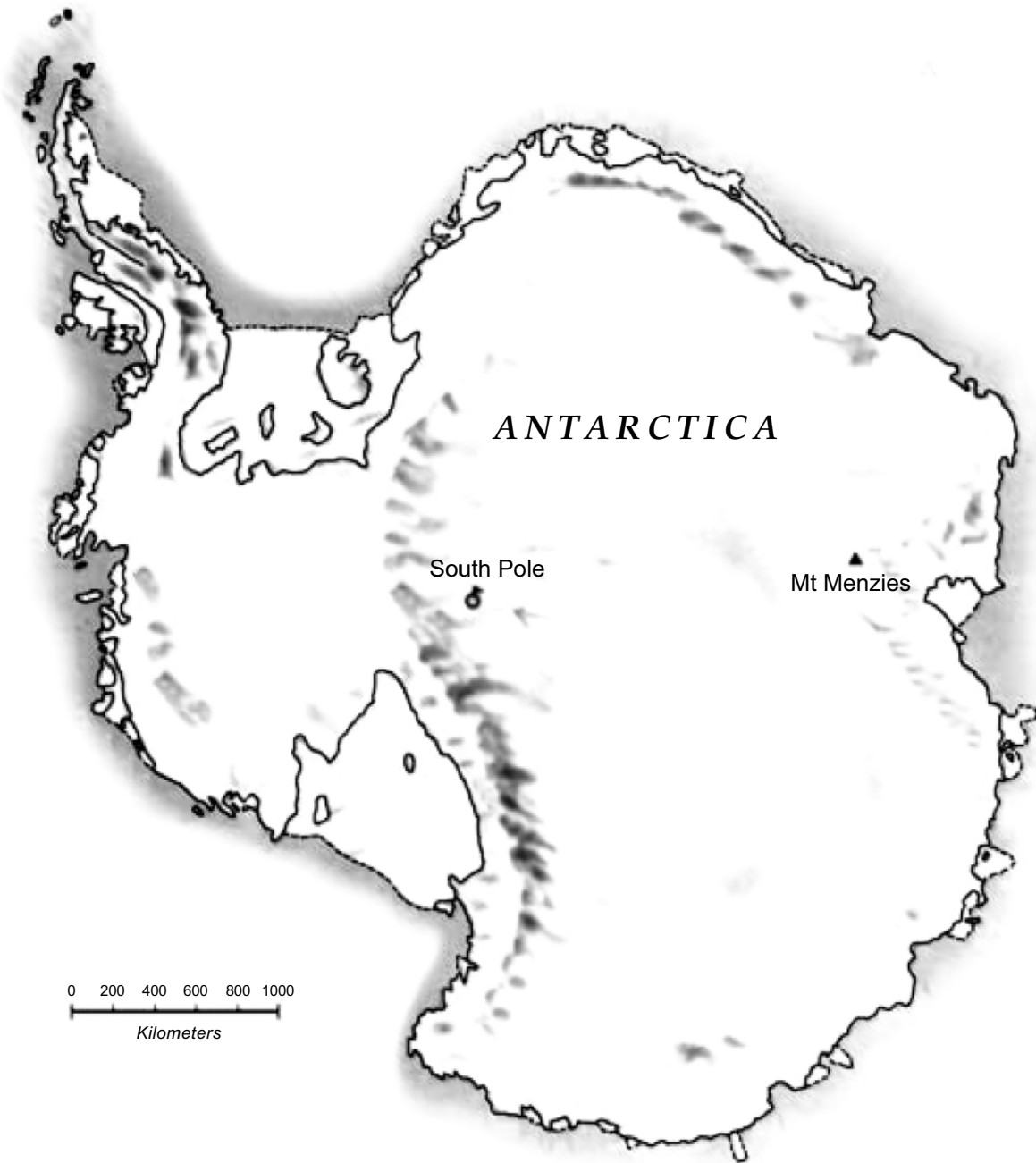
To receive full credit, the students must correctly mark an "A" by the obelisk and a "D" behind or near the trees.

United States percent full credit (s.e.)	38 (2.9)
OECD percent full credit (s.e.)	47 (0.4)

NOTE: s.e. means standard error.

**CONTINENT AREA**

*Below is a map of Antarctica.*





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**RELEASED QUESTION 4: CONTINENT AREA**

*Competency class 2: Connections and integration for problem solving*  
*Overarching concept: Space and shape*  
*Situation: Personal*

Estimate the area of Antarctica using the map scale.

Show your work and explain how you made your estimate.  
 (You can draw over the map if it helps you with your estimation)

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To receive full credit, students needed to provide the correct answer, between 12,000,000 square kilometers and 18,000,000 square kilometers (units not required), and could show evidence of using a correct method such as drawing a square or circle to estimate the answer. Students who provided the correct answer but did not show any work also received full credit.

Students who show evidence of using a correct method, but provided an incorrect answer, received partial credit.

United States percent full credit (s.e.) . . . . .	10 (1.3)
OECD percent full credit (s.e.) . . . . .	20 (0.3)
United States percent partial credit (s.e.) . . . . .	38 (2.5)
OECD percent partial credit (s.e.) . . . . .	40 (0.4)

NOTE: s.e. means standard error.

**TRIANGLES**

**RELEASED QUESTION 9: TRIANGLES**

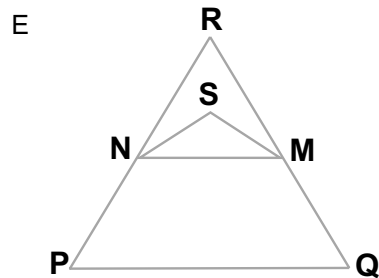
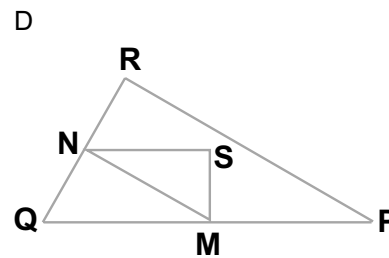
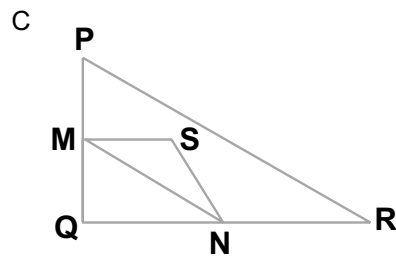
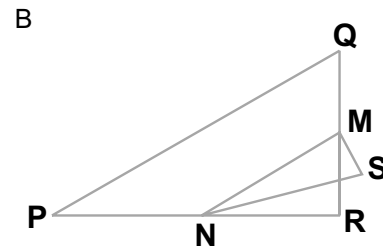
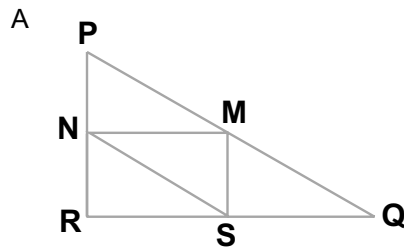
*Competency class 1: Reproduction, definitions and computations*

*Overarching concept: Space and shape*

*Situation: Scientific*

Circle the one figure below that fits the following description.

Triangle PQR is a right triangle with right angle at R. The segment RQ is less than the segment PR. M is the midpoint of the segment PQ and N is the midpoint of the segment QR. S is a point inside the triangle. The segment MN is greater than the segment MS.



The correct answer is D.

United States percent full credit (s.e.) . . . . . 46 (1.9)

OECD percent full credit (s.e.) . . . . . 62 (0.3)

NOTE: s.e. means standard error.

**OZONE**

*Read the following section of an article about the ozone layer.*

The atmosphere is an ocean of air and a precious natural resource for sustaining life on the Earth. Unfortunately, human activities based on national/personal interests are causing harm to this common resource, notably by depleting the fragile ozone layer, which acts as a protective shield for life on the Earth.

- 5 Ozone molecules consist of three oxygen atoms, as opposed to oxygen molecules which consist of two oxygen atoms. Ozone molecules are exceedingly rare: fewer than ten in every million molecules of air. However, for nearly a billion years, their presence in the atmosphere has played a vital role in safeguarding life on Earth. Depending on where it is located, ozone can either protect or harm life on Earth.
- 10 The ozone in the troposphere (up to 10 kilometers above the Earth’s surface) is “bad” ozone which can damage lung tissues and plants. But about 90 percent of ozone found in the stratosphere (between 10 and 40 kilometers above the Earth’s surface) is “good” ozone which plays a beneficial role by absorbing dangerous ultraviolet (UV-B) radiation from the Sun.

- 15 Without this beneficial ozone layer, humans would be more susceptible to certain diseases due to the increased incidence of ultra-violet rays from the Sun. In the last decades the amount of ozone has decreased. In 1974 it was hypothesized that chlorofluorocarbons (CFCs) could be a cause for this. Until 1987, scientific assessment of the cause-effect relationship was not convincing enough to implicate CFCs. However, in September 1987, diplomats from around the world met in
- 20 Montreal (Canada) and agreed to set sharp limits to the use of CFCs.

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**RELEASED QUESTION 7: OZONE**

*Process: Apply scientific knowledge in situation presented*  
*Area: Science in life and health (physiological change)*  
*Situation: Global*

Lines 14 and 15 state: “Without this beneficial ozone layer, humans would be more susceptible to certain diseases due to the increased incidence of ultra-violet rays from the Sun.”

Name one of these specific diseases.

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To receive full credit, answers must refer to skin cancer or melanoma.

United States percent full credit (s.e.) . . . . . 63 (2.5)

OECD percent full credit (s.e.) . . . . . 63 (0.3)

NOTE: s.e. means standard error.

**RELEASED QUESTION 8: OZONE**

*Process: Recognizing questions  
Area: Science in Earth and environment (Earth/Space)  
Situation: Global*

At the end of the text, an international meeting in Montreal is mentioned. At that meeting lots of questions in relation to the possible depletion of the ozone layer were discussed. Two of those questions are given in the table below.

Can the questions listed below be answered by scientific research?

Circle Yes or No for each.

<b>Question:</b>	<b>Answerable by scientific research?</b>
Should the scientific uncertainties about the influence of CFCs on the ozone layer be a reason for governments to take no action?	Yes / No
What would the concentration of CFCs be in the atmosphere in the year 2002 if the release of CFCs into the atmosphere takes place at the same rate as it does now?	Yes / No

To receive full credit, students must answer “no” to the first question and “yes” to the second question.

United States percent full credit (s.e.) . . . . . 64 (2.1)  
OECD percent full credit (s.e.) . . . . . 59 (0.3)

NOTE: s.e. means standard error.

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A4