Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Ecosystems	Conceptual Understanding

Galapagos Islands: effect of goats

When settlers came to live on the Galapagos Islands, they brought with them a number of new animals such as cats and goats. Write down one effect the introduction of cats and goats could have on the animals and plants already living on the islands.

A. One effect of **cats**:

B. One effect of goats:

Item Number: S032705B

SCORING

Correct Response

• Refers only to the goats eating plants (resulting in a reduction of the amount of plant life on the island).

Examples: The goats will eat all the grass on the island.

It could lead to erosion if the goats clear the land by eating all the plants.

Large pieces of grass will disappear as the goats eat it.

· Refers to an effect of the goat on other animals (e.g., competition for food/habitat, as a food source for predators, etc.). [Note: may also refer to the goats eating plants.]

Examples: The animals that eat goats would have more food.

They might become a source of food.

The goats will eat up the plants and the populations that depend on plants will decrease.

· Other correct.

Incorrect Response

 Refers only to an effect on the goat with no explicit effect on other organisms. Examples: Goats would have more babies.

They would die because they don't have any food.

· Other incorrect (including crossed out/erased, stray marks, illegible, or off task). Examples: Goats might eat the cats.

Overall Percent Correct

Cinganoro	74	
Singapore Australia	74 74	A
		A
Chinese Taipei	73	A
Korea, Republic of	70	A
Hong Kong, SAR	69	
Estonia	69	
New Zealand	68	
Malaysia	63	
England	62	
United States	60	
Hungary	58	
Russian Federation	58	
Netherlands	58	
Scotland	57	
Armenia	57	
Japan	54	
Slovak Republic	53	
Lithuania '	51	
Sweden	48	0
Latvia	48	0
Jordan	48	0
Belgium (Flemish)	47	0
Palestinian Nat'l Auth.	45	0
Romania	45	0
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International average	45	
International average Norway	45	0
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Norway	44	0
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Norway Chile Israel Egypt Slovenia Serbia and Montenegro Italy Indonesia Tunisia Bulgaria Bahrain Botswana Cyprus Macedonia, Republic of Philippines Moldova, Rep. of Lebanon	44 41 38 37 37 36 34 33 32 32 31 27 25 24 22	○▼▼▼▼
Norway Chile Israel Egypt Slovenia Serbia and Montenegro Italy Indonesia Tunisia Bulgaria Bahrain Botswana Cyprus Macedonia, Republic of Philippines Moldova, Rep. of Lebanon Iran, Islamic Republic of	44 41 38 37 37 36 34 33 32 32 31 27 25 24 22 22	○▼▼▼▼
Norway Chile Israel Egypt Slovenia Serbia and Montenegro Italy Indonesia Tunisia Bulgaria Bahrain Botswana Cyprus Macedonia, Republic of Philippines Moldova, Rep. of Lebanon Iran, Islamic Republic of Morocco	44 41 38 37 37 36 34 33 32 31 27 25 24 22 20 15	○▼▼▼▼
Norway Chile Israel Egypt Slovenia Serbia and Montenegro Italy Indonesia Tunisia Bulgaria Bahrain Botswana Cyprus Macedonia, Republic of Philippines Moldova, Rep. of Lebanon Iran, Islamic Republic of Morocco Saudi Arabia	44 41 38 37 37 36 34 33 32 32 31 27 25 24 22 22	○▼▼▼▼
Norway Chile Israel Egypt Slovenia Serbia and Montenegro Italy Indonesia Tunisia Bulgaria Bahrain Botswana Cyprus Macedonia, Republic of Philippines Moldova, Rep. of Lebanon Iran, Islamic Republic of Morocco	44 41 38 37 37 36 34 33 32 31 27 25 24 22 20 15	○▼▼▼▼
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Country average vs. International average:

Higher Not different 0 Lower \blacksquare Galapagos Islands: effect of goats (continued)

Item Number: S032705B

Student Responses

Correct Response:

When settlers came to live on the Galapagos Islands, they brought with them a number of new animals such as cats and goats. Write down one effect the introduction of cats and goats could have on the animals and plants already living on the islands.

Goods could eat all the vegetation, rawing the other animals to not have food.

B. One effect of goats:

Incorrect Response:

When settlers came to live on the Galapagos Islands, they brought with them a number of new animals such as cats and goats. Write down one effect the introduction of cats and goats could have on the animals and plants already living on the islands.

B. One effect of goats:

hors + Cow

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Ecosystems	Factual Knowledge

Elements that make up animals and plants

Animals and plants are made up of a number of different chemical elements. What happens to all of these elements when animals and plants die?

- (A) They die with the animal or plant.
- (B) They evaporate into the atmosphere.
- (c) They are recycled back into the environment.
- (D) They change into different elements.

Item Number: S032682

Correct Response:

C

Overall Percent Correct

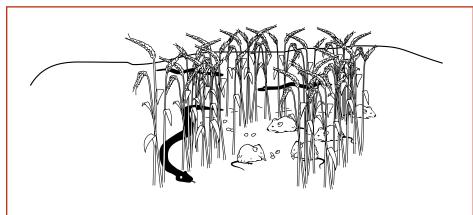
Chinese Taipei	70	A
Estonia	70	
Hungary	69	A
Singapore	63	A
Sweden	61	
United States	60	A
Tunisia	55	
Australia	54	
Philippines	53	A
New Zealand	52	
Japan	51	A
Korea, Republic of	48	A
Hong Kong, SAR	46	A
England	45	A
Romania	44	A
Israel	44	A
Italy	44	A
Norway	42	0
Slovenia	40	0
Slovak Republic	40	0
Morocco	38	0
Netherlands	38	0
International average	38	
Macedonia, Republic of	36	0
Bulgaria	36	0
Scotland	34	0
Scotland Iran, Islamic Republic of	34 33	0
Scotland Iran, Islamic Republic of Russian Federation	34 33 32	0
Scotland Iran, Islamic Republic of Russian Federation Malaysia	34 33 32 32	0
Scotland Iran, Islamic Republic of Russian Federation Malaysia Chile	34 33 32 32 30	0
Scotland Iran, Islamic Republic of Russian Federation Malaysia Chile Botswana	34 33 32 32 30 29	0
Scotland Iran, Islamic Republic of Russian Federation Malaysia Chile Botswana Egypt	34 33 32 32 30 29 28	0
Scotland Iran, Islamic Republic of Russian Federation Malaysia Chile Botswana Egypt Palestinian Nat'l Auth.	34 33 32 32 30 29 28 25	0
Scotland Iran, Islamic Republic of Russian Federation Malaysia Chile Botswana Egypt Palestinian Nat'l Auth. Armenia	34 33 32 32 30 29 28 25 25	0
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Scotland Iran, Islamic Republic of Russian Federation Malaysia Chile Botswana Egypt Palestinian Nat'l Auth. Armenia Moldova, Rep. of Latvia Belgium (Flemish)	34 33 32 32 30 29 28 25 25 24 24 24	0
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Scotland Iran, Islamic Republic of Russian Federation Malaysia Chile Botswana Egypt Palestinian Nat'l Auth. Armenia Moldova, Rep. of Latvia Belgium (Flemish) Saudi Arabia Cyprus Indonesia South Africa Jordan Lithuania	34 33 32 32 30 29 28 25 25 24 24 22 22 21 21 21 20	0
Scotland Iran, Islamic Republic of Russian Federation Malaysia Chile Botswana Egypt Palestinian Nat'l Auth. Armenia Moldova, Rep. of Latvia Belgium (Flemish) Saudi Arabia Cyprus Indonesia South Africa Jordan Lithuania Lebanon	34 33 32 32 30 29 28 25 25 24 24 22 22 21 21 20 20	0
Scotland Iran, Islamic Republic of Russian Federation Malaysia Chile Botswana Egypt Palestinian Nat'l Auth. Armenia Moldova, Rep. of Latvia Belgium (Flemish) Saudi Arabia Cyprus Indonesia South Africa Jordan Lithuania Lebanon Ghana	34 33 32 32 30 29 28 25 25 24 24 22 22 21 21 20 20	0
Scotland Iran, Islamic Republic of Russian Federation Malaysia Chile Botswana Egypt Palestinian Nat'l Auth. Armenia Moldova, Rep. of Latvia Belgium (Flemish) Saudi Arabia Cyprus Indonesia South Africa Jordan Lithuania Lebanon Ghana Serbia and Montenegro	34 33 32 30 29 28 25 25 24 24 22 22 21 21 20 20 17	0
Scotland Iran, Islamic Republic of Russian Federation Malaysia Chile Botswana Egypt Palestinian Nat'l Auth. Armenia Moldova, Rep. of Latvia Belgium (Flemish) Saudi Arabia Cyprus Indonesia South Africa Jordan Lithuania Lebanon Ghana	34 33 32 32 30 29 28 25 25 24 24 22 22 21 21 20 20	0

Country average vs. International average:

Higher
Not different
Lower

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Ecosystems	Reasoning and Analysis

Community of mice, snakes and wheat plants



The diagram above shows a community consisting of mice, snakes and wheat plants.

What would happen to this community if people killed the snakes?

Item Number: S032202

SCORING

Note: For full credit, responses must include an explicit statement of the effect on BOTH the mice population and the wheat plants. Partial credit is given for responses that refer to one but not both of these.

Correct Response

• States that mice (population) will increase AND wheat plants will decrease.

Examples: The population of mice would increase because there are no snakes. The increase in mice would then cause the amount of wheat plants to decrease.

Then we would get more mice and less wheat plants.

States that the mice would eat more (all) of the wheat plants AND that the mice (population) will
decrease as the wheat decreases. [May also refer to the initial increase in population of mice.]
 Examples: Mice would eat all the plants, then the plants would die out, then the mice would not
have anything to eat so then they would die.

Mice would become overpopulated and eat all the wheat. Then all the mice would starve because there is no food left.

· Other fully correct.

Partially Correct Response

- States **only** that the mice will increase. [No explicit mention of the effect on wheat.] Examples: The number of mice would increase because there are no snakes to eat them. There would be lots of mice.
- States only that the mice will eat more (all) of the wheat plants (or similar).
 [No explicit mention of the effect on mice.]

Examples: If people killed the snakes the mice would destroy all the wheat plants.

· Other partially correct.

Incorrect Response

Refers to an effect on the whole community (ecosystem) but too vague to interpret.
 Examples: The whole community will be affected.
 The ecosystem would be unbalanced.

rne ecosystem would be unbalanced

Everything dies.

· Other incorrect (including crossed out/erased, stray marks, illegible or off task).

Overall Percent Correct

Singapore	78	
Malaysia	68	
England	57	•
Chinese Taipei	55	
Estonia	52	
Australia	52 50	
	50 48	
Sweden		A
Hungary	48	A
Belgium (Flemish)	46	A
Netherlands	45	A
United States	44	
Scotland	42	
Slovak Republic	41	
Lithuania	41	
Iran, Islamic Republic of	40	
Jordan	39	
Russian Federation	38	
Korea, Republic of	38	
Hong Kong, SAR	37	0
Romania	37	0
New Zealand	35	0
Egypt	34	0
Armenia	34	0
International average	33	
Slovenia	33	0
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Latvia	32	0
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Latvia Serbia and Montenegro Macedonia, Republic of Japan Norway Indonesia Israel Italy Moldova, Rep. of Tunisia Saudi Arabia Bulgaria Cyprus Chile Bahrain Palestinian Nat'l Auth. Morocco Philippines	32 32 32 31 31 30 30 27 26 26 24 22 18 16 16 16	
Latvia Serbia and Montenegro Macedonia, Republic of Japan Norway Indonesia Israel Italy Moldova, Rep. of Tunisia Saudi Arabia Bulgaria Cyprus Chille Bahrain Palestinian Nat'l Auth. Morocco Philippines Lebanon	32 32 32 31 31 30 30 27 26 26 24 22 18 16 16 16 16	
Latvia Serbia and Montenegro Macedonia, Republic of Japan Norway Indonesia Israel Italy Moldova, Rep. of Tunisia Saudi Arabia Bulgaria Cyprus Chile Bahrain Palestinian Nat'l Auth. Morocco Philippines Lebanon Botswana	32 32 32 31 31 30 30 27 26 26 24 22 18 16 16 16 16 9 6	
Latvia Serbia and Montenegro Macedonia, Republic of Japan Norway Indonesia Israel Italy Moldova, Rep. of Tunisia Saudi Arabia Bulgaria Cyprus Chile Bahrain Palestinian Nat'l Auth. Morocco Philippines Lebanon Botswana South Africa	32 32 32 31 31 30 30 27 26 26 24 22 18 16 16 16 16 9 6	0 0 0 0 0
Latvia Serbia and Montenegro Macedonia, Republic of Japan Norway Indonesia Israel Italy Moldova, Rep. of Tunisia Saudi Arabia Bulgaria Cyprus Chile Bahrain Palestinian Nat'l Auth. Morocco Philippines Lebanon Botswana	32 32 32 31 31 30 30 27 26 26 24 22 18 16 16 16 16 9 6	
Latvia Serbia and Montenegro Macedonia, Republic of Japan Norway Indonesia Israel Italy Moldova, Rep. of Tunisia Saudi Arabia Bulgaria Cyprus Chile Bahrain Palestinian Nat'l Auth. Morocco Philippines Lebanon Botswana South Africa	32 32 32 31 31 30 30 27 26 26 24 22 18 16 16 16 16 9 6	

Country average vs. International average:

Community of mice, snakes and wheat plants (continued)

Item Number: S032202

Student Responses

Correct Response:



The diagram above shows a community consisting of mice, snakes and wheat plants.

What would happen to this community if people killed the snakes?

The mice would become overpopulated and eat all the wheat plants.

Partially Correct Response:



The diagram above shows a community consisting of mice, snakes and wheat plants.

What would happen to this community if people killed the snakes?

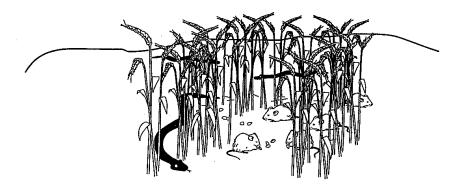
If they killed the snakes, then the snakes wouldn't be odd to eat the mice, then the mice would eat up the wheat plants.

Community of mice, snakes and wheat plants (continued)

Item Number: S032202

Student Responses (continued)

Incorrect Response:



The diagram above shows a community consisting of mice, snakes and wheat plants.

What would happen to this community if people killed the snakes?

It wouldn't be a community anymore because who would eat the mice:

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Human Health	Factual Knowledge

Leafy vegetables important for human health

Eating leafy vegetables is important for human health. This is because leafy vegetables are a good source of which of the following?

- (A) protein
- (B) carbohydrates
- © minerals
- (D) fat

Item Number: S032637

Correct Response:

C

Overall Percent Correct

Korea, Republic of Japan Slovenia Israel Chinese Taipei Estonia Hungary England Netherlands Singapore United States Macedonia, Republic of Belgium (Flemish) Italy New Zealand Latvia Malaysia Hong Kong, SAR	65 63 62 59 58 57 55 53 52 48 46 45 44 42 41	
,		
		_
*		
Bulgaria	41	0
Australia	40	0
Lithuania International average	40 38	0
Scotland	37	0
Romania	34	0
Egypt	34	0
Egypt Serbia and Montenegro	34 34	O ▼
Serbia and Montenegro Morocco Sweden	34	▼ 0 ▼
Serbia and Montenegro Morocco Sweden Moldova, Rep. of	34 33	▼ 0 ▼
Serbia and Montenegro Morocco Sweden Moldova, Rep. of Norway	34 33 33	▼ 0 ▼
Serbia and Montenegro Morocco Sweden Moldova, Rep. of Norway Bahrain	34 33 33 32 32 32	▼ 0 ▼
Serbia and Montenegro Morocco Sweden Moldova, Rep. of Norway Bahrain Palestinian Nat'l Auth.	34 33 33 32 32 30 29	▼ 0 ▼
Serbia and Montenegro Morocco Sweden Moldova, Rep. of Norway Bahrain Palestinian Nat'l Auth. Philippines	34 33 33 32 32 30 29 28	▼ 0 ▼
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Serbia and Montenegro Morocco Sweden Moldova, Rep. of Norway Bahrain Palestinian Nat'l Auth. Philippines Lebanon Iran, Islamic Republic of	34 33 33 32 32 30 29 28 28 28	▼ 0 ▼
Serbia and Montenegro Morocco Sweden Moldova, Rep. of Norway Bahrain Palestinian Nat'l Auth. Philippines Lebanon Iran, Islamic Republic of Tunisia	34 33 33 32 32 30 29 28 28 28 28	▼ 0 ▼
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Serbia and Montenegro Morocco Sweden Moldova, Rep. of Norway Bahrain Palestinian Nat'l Auth. Philippines Lebanon Iran, Islamic Republic of Tunisia Russian Federation Jordan Chile Armenia Slovak Republic	34 33 33 32 32 30 29 28 28 28 28 28 25 24 24	▼ 0 ▼
Serbia and Montenegro Morocco Sweden Moldova, Rep. of Norway Bahrain Palestinian Nat'l Auth. Philippines Lebanon Iran, Islamic Republic of Tunisia Russian Federation Jordan Chile Armenia Slovak Republic Botswana	34 33 33 32 32 30 29 28 28 28 28 28 25 24 24 24 24 23	▼ 0 ▼
Serbia and Montenegro Morocco Sweden Moldova, Rep. of Norway Bahrain Palestinian Nat'l Auth. Philippines Lebanon Iran, Islamic Republic of Tunisia Russian Federation Jordan Chile Armenia Slovak Republic Botswana Saudi Arabia	34 33 33 32 32 30 29 28 28 28 28 28 24 24 24 24 23 20	▼ 0 ▼
Serbia and Montenegro Morocco Sweden Moldova, Rep. of Norway Bahrain Palestinian Nat'l Auth. Philippines Lebanon Iran, Islamic Republic of Tunisia Russian Federation Jordan Chile Armenia Slovak Republic Botswana Saudi Arabia South Africa	34 33 33 32 32 30 29 28 28 28 28 28 24 24 24 24 23 20 20	▼ 0 ▼

Country average vs. International average:

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Human Health	Reasoning and Analysis

Transmission of cold in classroom

Scott went to school with a cold. Several days later, half of his classmates also had colds. What is one likely reason some classmates had colds but others did not?

Item Number: S022154

SCORING

Note: To receive credit, responses must include some reference to transmission of 'germs' (viruses, bacteria, etc.), either explicitly or through a description of a method of transmission (sneezing/coughing, direct physical contact, etc.), or to defense mechanisms (immunity, resistance, etc.). A response that includes only a general reference to proximity without any description of a method of transmission will be scored as incorrect.

Correct Response

 Refers explicitly to transmission of 'germs' (viruses, bacteria, etc.) from Salil to some classmates (or not to others).

Examples: Some students were hanging around Salil with him sneezing his germs onto them.

The ones exposed to the virus caught it.

Refers to some students having better defense mechanisms (immunity, resistance).
 Examples: Some of the students have just got over a cold.

Some students' immunity was low because they went outside in the cold.

 Refers to a specific method of transmission involving physical contact or exposure without mentioning germs explicitly (e.g. sneezing/coughing, shaking hands, drinking from same glass, breathing same air).

Examples: He sneezed on the ones that got it.

They touched something Salil touched.

· Other correct.

Incorrect Response

Includes ONLY a general or vague response relating to proximity or "catching the cold" from Salil.
 [No explicit description of a method of transmission is given.]

Examples: Some of his classmates did not like him so probably were not near him a lot.

The ones who were his friends got it.
The kids who sat by him caught the cold.

Some caught it from Salil.

Salil gave it to some of the class.

· Other incorrect (including crossed out/erased, stray marks, illegible, or off task).

Overall Percent Correct

Chinese Taipei	84	A
Slovak Republic	78	<u> </u>
Hungary	75 75	<u> </u>
Singapore	73	<u> </u>
Romania	71	<u> </u>
Slovenia	70	<u> </u>
Estonia	69	<u> </u>
Hong Kong, SAR	68	<u> </u>
Latvia	68	<u> </u>
Palestinian Nat'l Auth.	68	<u> </u>
Belgium (Flemish)	67	<u> </u>
Lithuania	66	<u> </u>
Armenia	66	<u> </u>
Netherlands	65	<u> </u>
Norway	65	<u> </u>
Moldova, Rep. of	64	<u> </u>
Sweden	63	<u> </u>
Jordan	63	<u> </u>
United States	61	<u> </u>
Italy	60	<u> </u>
Korea, Republic of	57	<u> </u>
Iran, Islamic Republic of	57	0
Israel	56	0
Russian Federation	54	0
Bahrain	54	0
Egypt	54	0
Serbia and Montenegro	54	0
New Zealand	54	0
Bulgaria	53	0
Macedonia, Republic of	53	0
International average	53	
England	50	0
Chile	48	▼
Scotland	47	\blacksquare
Australia	46	▼ ▼ ▼
Malaysia	43	▼
Japan	43	▼
Indonesia	39	▼
Cyprus	37	▼
Saudi Arabia	37	▼
Philippines	34	▼
Morocco	31	▼
Lebanon	24	▼ ▼ ▼
Tunisia	18	▼
South Africa	13	▼
Botswana	10	•
Ghana	6	▼

Country average vs. International average:

Higher
Not different
Lower

Transmission of cold in classroom (continued)

Item Number: S022154

Student Responses

Correct Response:

Salil went to school with a cold. Several days later, half of his classmates also had colds. What is one likely reason some classmates had colds but others did not?

The classmates that are sich

most likely had physical contact with Salil

Incorrect Response:

Salil went to school with a cold. Several days later, half of his classmates also had colds. What is one likely reason some classmates had colds but others did not?

Germs Stronger Han other

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Reproduction and Heredity	Conceptual Understanding

Son inherits traits

A son can inherit traits

- (A) only from his father
- (B) only from his mother
- (C) from both his father and his mother
- (D) from either his father or his mother, but not from both

Item Number: S012026

Correct Response:

C

Overall Percent Correct

Netherlands	94	
United States	93	_
Latvia	92	
Belgium (Flemish)	92	
Chinese Taipei	91	
England	91	
Hungary	91	
Norway	90	
Sweden	90	
Korea, Republic of	90	
Russian Federation	90	
Lithuania	89	
Romania	88	
Chile	87	
Slovak Republic	87	
Italy	87	
Hong Kong, SAR	86	
Scotland	86	
Israel	85	
Estonia	85	
Slovenia	85	
Bulgaria	83	
Moldova, Rep. of	83	
Cuprus	82	A
Cyprus		
Armenia	82	A
• •		A
Armenia	82	
Armenia Macedonia, Republic of Singapore Australia	82 81	A
Armenia Macedonia, Republic of Singapore Australia International average	82 81 79 77	0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro	82 81 79 77 76 75	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand	82 81 79 77 76 75 73	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of	82 81 79 77 76 75 73 69	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of Egypt	82 81 79 77 76 75 73 69 68	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of Egypt Japan	82 81 79 77 76 75 73 69 68 65	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of Egypt Japan Lebanon	82 81 79 77 76 75 73 69 68 65 65	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of Egypt Japan Lebanon Bahrain	82 81 79 77 76 75 73 69 68 65 65 64	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of Egypt Japan Lebanon Bahrain Morocco	82 81 79 77 76 75 73 69 68 65 65 64 63	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of Egypt Japan Lebanon Bahrain Morocco Philippines	82 81 79 77 76 75 73 69 68 65 65 64 63 60	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of Egypt Japan Lebanon Bahrain Morocco Philippines Jordan	82 81 79 77 76 75 73 69 68 65 65 64 63 60 60	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of Egypt Japan Lebanon Bahrain Morocco Philippines Jordan Tunisia	82 81 79 77 76 75 73 69 68 65 65 64 63 60 60	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of Egypt Japan Lebanon Bahrain Morocco Philippines Jordan Tunisia Palestinian Nat'l Auth.	82 81 79 77 76 75 73 69 68 65 64 63 60 60 60 57	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of Egypt Japan Lebanon Bahrain Morocco Philippines Jordan Tunisia Palestinian Nat'l Auth. Saudi Arabia	82 81 79 77 76 75 73 69 68 65 65 64 63 60 60 60 57 52	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of Egypt Japan Lebanon Bahrain Morocco Philippines Jordan Tunisia Palestinian Nat'l Auth. Saudi Arabia South Africa	82 81 79 77 76 75 73 69 68 65 65 64 63 60 60 57 52 51	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of Egypt Japan Lebanon Bahrain Morocco Philippines Jordan Tunisia Palestinian Nat'l Auth. Saudi Arabia South Africa Ghana	82 81 79 77 76 75 73 69 68 65 64 63 60 60 60 57 52 51 48	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of Egypt Japan Lebanon Bahrain Morocco Philippines Jordan Tunisia Palestinian Nat'l Auth. Saudi Arabia South Africa Ghana Malaysia	82 81 79 77 76 75 73 69 68 65 65 64 63 60 60 60 57 52 51 48 47	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of Egypt Japan Lebanon Bahrain Morocco Philippines Jordan Tunisia Palestinian Nat'l Auth. Saudi Arabia South Africa Ghana Malaysia Indonesia	82 81 79 77 76 75 73 69 68 65 64 63 60 60 60 57 52 51 48 47 44	0 0
Armenia Macedonia, Republic of Singapore Australia International average Serbia and Montenegro New Zealand Iran, Islamic Republic of Egypt Japan Lebanon Bahrain Morocco Philippines Jordan Tunisia Palestinian Nat'l Auth. Saudi Arabia South Africa Ghana Malaysia	82 81 79 77 76 75 73 69 68 65 65 64 63 60 60 60 57 52 51 48 47	0 0

Country average vs. International average:

Higher 0 Not different • Lower

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Reproduction and Heredity	Conceptual Understanding

Traits transferred from generations

Traits are transferred from generation to generation through the

- (A) sperm only
- (B) egg only
- © sperm and the egg
- (D) testes

Item Number: S012039

Correct Response:

C

Overall Percent Correct

Chinese Taipei	97	A
Hong Kong, SAR	97	_ _
Korea, Republic of	91	_
Hungary	88	_
England	88	A
Sweden	87	A
Netherlands	86	A
Singapore	86	A
United States	86	A
Israel	85	A
Scotland	83	A
Estonia	83	A
Belgium (Flemish)	83	A
Chile	83	A
Romania	80	A
Slovak Republic	79	
Italy	79	A
Malaysia	79	
Norway	78	A
Latvia	77	A
Bulgaria	76	0
Philippines	76	0
Japan	76	0
Slovenia	76	0
Bahrain	75	0
Russian Federation	75 74	0
Barran .		
Russian Federation	74	
Russian Federation International average	74 74	0
Russian Federation International average Australia	74 74 73	0
Russian Federation International average Australia Lithuania	74 74 73 72	0 0
Russian Federation International average Australia Lithuania Egypt	74 74 73 72 71	0 0 0 0 0
Russian Federation International average Australia Lithuania Egypt Armenia	74 74 73 72 71 71	0 0 0 0
Russian Federation International average Australia Lithuania Egypt Armenia New Zealand	74 74 73 72 71 71 70	0 0 0 0
Russian Federation International average Australia Lithuania Egypt Armenia New Zealand Moldova, Rep. of	74 74 73 72 71 71 70 68	0 0 0 0
Russian Federation International average Australia Lithuania Egypt Armenia New Zealand Moldova, Rep. of Macedonia, Republic of	74 74 73 72 71 71 70 68 68	0 0 0 0
Russian Federation International average Australia Lithuania Egypt Armenia New Zealand Moldova, Rep. of Macedonia, Republic of Serbia and Montenegro	74 74 73 72 71 71 70 68 68 67	0 0 0 0
Russian Federation International average Australia Lithuania Egypt Armenia New Zealand Moldova, Rep. of Macedonia, Republic of Serbia and Montenegro Indonesia	74 74 73 72 71 71 70 68 68 67 67	0 0 0 0 0
Russian Federation International average Australia Lithuania Egypt Armenia New Zealand Moldova, Rep. of Macedonia, Republic of Serbia and Montenegro Indonesia Morocco Tunisia Cyprus	74 73 72 71 70 68 68 67 66 64 63	0 0 0 0
Russian Federation International average Australia Lithuania Egypt Armenia New Zealand Moldova, Rep. of Macedonia, Republic of Serbia and Montenegro Indonesia Morocco Tunisia Cyprus Palestinian Nat'l Auth.	74 73 72 71 70 68 68 67 67 66 64	0 0 0 0
Russian Federation International average Australia Lithuania Egypt Armenia New Zealand Moldova, Rep. of Macedonia, Republic of Serbia and Montenegro Indonesia Morocco Tunisia Cyprus	74 73 72 71 71 70 68 68 67 67 66 64 63 62 57	0 0 0 0
Russian Federation International average Australia Lithuania Egypt Armenia New Zealand Moldova, Rep. of Macedonia, Republic of Serbia and Montenegro Indonesia Morocco Tunisia Cyprus Palestinian Nat'l Auth.	74 73 72 71 70 68 68 67 67 66 64 63 62 57	0 0 0 0
Russian Federation International average Australia Lithuania Egypt Armenia New Zealand Moldova, Rep. of Macedonia, Republic of Serbia and Montenegro Indonesia Morocco Tunisia Cyprus Palestinian Nat'l Auth. Jordan Botswana Saudi Arabia	74 73 72 71 71 70 68 68 67 67 66 64 63 62 57	0 0 0 0
Russian Federation International average Australia Lithuania Egypt Armenia New Zealand Moldova, Rep. of Macedonia, Republic of Serbia and Montenegro Indonesia Morocco Tunisia Cyprus Palestinian Nat'l Auth. Jordan Botswana Saudi Arabia South Africa	74 73 72 71 70 68 68 67 66 64 63 62 57 57 52 52	0 0 0 0
Russian Federation International average Australia Lithuania Egypt Armenia New Zealand Moldova, Rep. of Macedonia, Republic of Serbia and Montenegro Indonesia Morocco Tunisia Cyprus Palestinian Nat'l Auth. Jordan Botswana Saudi Arabia	74 73 72 71 70 68 68 67 66 64 63 62 57 57	0 0 0 0
Russian Federation International average Australia Lithuania Egypt Armenia New Zealand Moldova, Rep. of Macedonia, Republic of Serbia and Montenegro Indonesia Morocco Tunisia Cyprus Palestinian Nat'l Auth. Jordan Botswana Saudi Arabia South Africa Iran, Islamic Republic of Ghana	74 73 72 71 70 68 68 67 66 64 63 62 57 57 52 52	0 0 0 0
Russian Federation International average Australia Lithuania Egypt Armenia New Zealand Moldova, Rep. of Macedonia, Republic of Serbia and Montenegro Indonesia Morocco Tunisia Cyprus Palestinian Nat'l Auth. Jordan Botswana Saudi Arabia South Africa Iran, Islamic Republic of	74 73 72 71 70 68 68 67 66 64 63 62 57 57 52 52 50	0 0 0 0

Country average vs. International average:

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Reproduction and Heredity	Conceptual Understanding

Biological control of insect population

Why would male insects be treated to prevent sperm production?

- (A) To increase the number of female insects
- (B) To reduce the total population of insects
- © To produce new species of insects
- (D) To prevent insects from mating

Item Number: S022117

Correct Response:

В

Overall Percent Correct

United States	71	A
Australia	69	
Singapore	68	<u> </u>
England	67	
New Zealand	66	A
Scotland	65	
Belgium (Flemish)	62	A
Sweden	60	A
Israel	59	
Slovak Republic	58	<u> </u>
Malaysia	57	<u> </u>
Netherlands	57	<u> </u>
Japan	54	<u> </u>
Korea, Republic of	53	A
Hong Kong, SAR	52	A
Bulgaria	52	A
Hungary	50	A
Lithuania	49	A
Estonia	47	0
Norway	47	0
Botswana	46	0
Serbia and Montenegro	46	0
Chile	45	0
International average	44	
Italy	44	0
Italy Chinese Taipei	44	Ο
Italy Chinese Taipei Bahrain	44 42	0
Italy Chinese Taipei Bahrain Indonesia	44 42 42	0 0 0
Italy Chinese Taipei Bahrain Indonesia Jordan	44 42 42 41	0 0 0
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia	44 42 42 41 40	0 0 0
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania	44 42 42 41	0 0 0
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia	44 42 42 41 40 39 38	○○▼▼▼
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania	44 42 42 41 40 39	○○▼▼▼
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania Slovenia	44 42 42 41 40 39 38 37 34	○○▼▼▼
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania Slovenia Cyprus	44 42 42 41 40 39 38 37	○○▼▼▼
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania Slovenia Cyprus Macedonia, Republic of	44 42 42 41 40 39 38 37 34	○○▼▼▼
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania Slovenia Cyprus Macedonia, Republic of Philippines	44 42 42 41 40 39 38 37 34 33	○○▼▼▼
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania Slovenia Cyprus Macedonia, Republic of Philippines Russian Federation	44 42 42 41 40 39 38 37 34 33 32 31 29	○○○▼▼▼
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania Slovenia Cyprus Macedonia, Republic of Philippines Russian Federation Palestinian Nat'l Auth.	44 42 42 41 40 39 38 37 34 33 32 31	0 0 0
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania Slovenia Cyprus Macedonia, Republic of Philippines Russian Federation Palestinian Nat'l Auth. Armenia	44 42 42 41 40 39 38 37 34 33 32 31 29	○○○▼▼▼
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania Slovenia Cyprus Macedonia, Republic of Philippines Russian Federation Palestinian Nat'l Auth. Armenia Ghana	44 42 41 40 39 38 37 34 33 32 31 29 28	○○○▼▼▼
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania Slovenia Cyprus Macedonia, Republic of Philippines Russian Federation Palestinian Nat'l Auth. Armenia Ghana Egypt	44 42 41 40 39 38 37 34 33 32 31 29 28 27	○○○▼▼▼
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania Slovenia Cyprus Macedonia, Republic of Philippines Russian Federation Palestinian Nat'l Auth. Armenia Ghana Egypt Iran, Islamic Republic of	44 42 41 40 39 38 37 34 33 32 31 29 28 27 27	○○○▼▼▼
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania Slovenia Cyprus Macedonia, Republic of Philippines Russian Federation Palestinian Nat'l Auth. Armenia Ghana Egypt Iran, Islamic Republic of Moldova, Rep. of	44 42 41 40 39 38 37 34 33 32 31 29 28 27 27 25	○○○▼▼▼
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania Slovenia Cyprus Macedonia, Republic of Philippines Russian Federation Palestinian Nat'l Auth. Armenia Ghana Egypt Iran, Islamic Republic of Moldova, Rep. of Tunisia	44 42 41 40 39 38 37 34 33 32 31 29 28 27 27 25 25	○○○▼▼▼
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania Slovenia Cyprus Macedonia, Republic of Philippines Russian Federation Palestinian Nat'l Auth. Armenia Ghana Egypt Iran, Islamic Republic of Moldova, Rep. of Tunisia Morocco	44 42 41 40 39 38 37 34 33 32 31 29 28 27 27 25 25 23	○○○▼▼▼
Italy Chinese Taipei Bahrain Indonesia Jordan Latvia Romania Slovenia Cyprus Macedonia, Republic of Philippines Russian Federation Palestinian Nat'l Auth. Armenia Ghana Egypt Iran, Islamic Republic of Moldova, Rep. of Tunisia Morocco South Africa	44 42 41 40 39 38 37 34 33 32 31 29 28 27 27 25 25 23 21	○○○▼▼▼

Country average vs. International average:

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Reproduction and Heredity	Factual Knowledge

Fertilization in animals

Which of the following takes place during fertilization in animals?

- (A) production of sperm and egg
- (B) joining of sperm and egg
- © division of egg
- (D) development of embryo

Item Number: S032008

Correct Response:

В

Overall Percent Correct

Hong Kong, SAR	88	A
Lithuania	87	
Chinese Taipei	86	
Estonia	85	
Japan	85	
Korea, Republic of	83	
Belgium (Flemish)	82	A
Hungary	78	<u> </u>
England	77	<u> </u>
Netherlands	75	<u> </u>
Latvia	75	<u> </u>
Russian Federation	74	<u> </u>
Israel	73	<u> </u>
Sweden	72	
Morocco	69	
Slovak Republic	69	A
	68	A
Bulgaria		
United States	67	A
Scotland	67	
Tunisia	67	A
Slovenia	66	A
Australia	65	A
Singapore	64	A
Malaysia	63	0
International average	60	0
Norway	60	0
Norway Cyprus	60 57	0
Norway Cyprus New Zealand	60 57 56	0
Norway Cyprus New Zealand Jordan	60 57 56 56	0 0
Norway Cyprus New Zealand Jordan Italy	60 57 56 56 55	0 0
Norway Cyprus New Zealand Jordan Italy Bahrain	60 57 56 56 55 54	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro	60 57 56 56 55 54 53	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth.	60 57 56 56 55 54 53 50	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth. Indonesia	60 57 56 56 55 54 53 50 48	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth.	60 57 56 56 55 54 53 50 48 47	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth. Indonesia Chile Macedonia, Republic of	60 57 56 56 55 54 53 50 48	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth. Indonesia Chile	60 57 56 56 55 54 53 50 48 47	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth. Indonesia Chile Macedonia, Republic of	60 57 56 56 55 54 53 50 48 47	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth. Indonesia Chile Macedonia, Republic of Egypt	60 57 56 56 55 54 53 50 48 47 47	0 0
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth. Indonesia Chile Macedonia, Republic of Egypt Armenia	60 57 56 56 55 54 53 50 48 47 47 47	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth. Indonesia Chile Macedonia, Republic of Egypt Armenia Romania	60 57 56 56 55 54 53 50 48 47 47 47 46 44	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth. Indonesia Chile Macedonia, Republic of Egypt Armenia Romania Saudi Arabia	60 57 56 56 55 54 53 50 48 47 47 47 46 44	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth. Indonesia Chile Macedonia, Republic of Egypt Armenia Romania Saudi Arabia South Africa	60 57 56 56 55 54 53 50 48 47 47 47 46 44 40 39	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth. Indonesia Chile Macedonia, Republic of Egypt Armenia Romania Saudi Arabia South Africa Moldova, Rep. of	60 57 56 56 55 54 53 50 48 47 47 47 46 44 40 39 38	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth. Indonesia Chile Macedonia, Republic of Egypt Armenia Romania Saudi Arabia South Africa Moldova, Rep. of Botswana	60 57 56 56 55 54 53 50 48 47 47 47 46 44 40 39 38 37	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth. Indonesia Chile Macedonia, Republic of Egypt Armenia Romania Saudi Arabia South Africa Moldova, Rep. of Botswana Lebanon	60 57 56 56 55 54 53 50 48 47 47 47 46 44 40 39 38 37	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth. Indonesia Chile Macedonia, Republic of Egypt Armenia Romania Saudi Arabia South Africa Moldova, Rep. of Botswana Lebanon Philippines	60 57 56 56 55 54 53 50 48 47 47 46 44 40 39 38 37 37	○○○▼▼
Norway Cyprus New Zealand Jordan Italy Bahrain Serbia and Montenegro Palestinian Nat'l Auth. Indonesia Chile Macedonia, Republic of Egypt Armenia Romania Saudi Arabia South Africa Moldova, Rep. of Botswana Lebanon Philippines Iran, Islamic Republic of	60 57 56 56 55 54 53 50 48 47 47 46 44 40 39 38 37 37 31 22	○○○▼▼

Country average vs. International average:

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Structure, Function and Life Processes in Organisms	Conceptual Understanding

Bodily process to prevent overheating

What processes take place in the human body that prevent it from overheating during exercise?

Item Number: S022152

SCORING

Note: If perspiration or sweating is mentioned, score as correct, even if other correct responses such as increased blood flow to the skin are also included.

Correct Response

• Refers to perspiration (sweating) AND the cooling effect of evaporation.

Examples: When people sweat, it evaporates to cool them down.

Sweating. When the sweat evaporates, it cools the skin.

Perspiration cools you down when it evaporates.

• Refers to perspiration (sweating), without explicitly mentioning the cooling effect of evaporation.

Examples: The body sweats.

Perspiration keeps you from overheating.

The perspiration cools you off and you don't stay hot.

· Refers to increased blood flow to the skin.

Examples: The blood rushes to your face and cools you down.

· Other correct.

Incorrect Response

- · Refers only to drinking water to cool down.
- Refers to an effect of exercise but does not specifically address overheating and/or cooling.
 Examples: The blood pumps faster.

Breathing increases.

Your body is working hard and using up more food energy.

· Other incorrect (including crossed out/erased, stray marks, illegible, or off task).

Overall Percent Correct

Japan	86	
Korea, Republic of	85	<u> </u>
Australia	72	
United States	72	
New Zealand	69	
Scotland	69	
Estonia	67	
England	66	
Belgium (Flemish)	63	
Lithuania	61	
Latvia	61	
Netherlands	61	
Hong Kong, SAR	60	_
Israel	59	<u> </u>
Italy	55	<u> </u>
Hungary	55	<u> </u>
Russian Federation	55	<u> </u>
Bulgaria	50	<u> </u>
Slovenia	48	<u> </u>
Singapore	48	<u> </u>
Sweden	47	0
Slovak Republic	45	0
Armenia	45	0
Moldova, Rep. of	44	0
International average	44	
International average Malaysia	44 42	0
International average Malaysia Romania		0
Malaysia	42	
Malaysia Romania	42 42	0
Malaysia Romania Serbia and Montenegro Norway	42 42 41	0 0
Malaysia Romania Serbia and Montenegro	42 42 41 41	○○○▼
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei	42 42 41 41 39	○○○▼
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile Bahrain	42 42 41 41 39 37	○○○✓▼▼
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile	42 42 41 41 39 37 35	○ ○ ○ ▼ ▼
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile Bahrain Iran, Islamic Republic of Saudi Arabia	42 42 41 41 39 37 35 32	○ ○ ○ ▼ ▼
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile Bahrain Iran, Islamic Republic of	42 42 41 41 39 37 35 32 31	○ ○ ○ ▼ ▼
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile Bahrain Iran, Islamic Republic of Saudi Arabia Macedonia, Republic of	42 42 41 41 39 37 35 32 31 29	○ ○ ○ ▼ ▼
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile Bahrain Iran, Islamic Republic of Saudi Arabia Macedonia, Republic of Jordan Palestinian Nat'l Auth.	42 42 41 41 39 37 35 32 31 29	○ ○ ○ ▼ ▼
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile Bahrain Iran, Islamic Republic of Saudi Arabia Macedonia, Republic of Jordan	42 42 41 41 39 37 35 32 31 29 29	○ ○ ○ ▼ ▼
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile Bahrain Iran, Islamic Republic of Saudi Arabia Macedonia, Republic of Jordan Palestinian Nat'l Auth. Egypt	42 42 41 41 39 37 35 32 31 29 29 24 20	○ ○ ○ ▼ ▼
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile Bahrain Iran, Islamic Republic of Saudi Arabia Macedonia, Republic of Jordan Palestinian Nat'l Auth. Egypt Indonesia Tunisia	42 42 41 41 39 37 35 32 31 29 29 24 20 19	○ ○ ○ ▼ ▼
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile Bahrain Iran, Islamic Republic of Saudi Arabia Macedonia, Republic of Jordan Palestinian Nat'l Auth. Egypt Indonesia	42 42 41 41 39 37 35 32 31 29 29 24 20 19	· · · · · · · · · · · · · · · · · · ·
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile Bahrain Iran, Islamic Republic of Saudi Arabia Macedonia, Republic of Jordan Palestinian Nat'l Auth. Egypt Indonesia Tunisia Philippines Botswana	42 42 41 41 39 37 35 32 31 29 29 24 20 19 18 18	· · · · · · · · · · · · · · · · · · ·
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile Bahrain Iran, Islamic Republic of Saudi Arabia Macedonia, Republic of Jordan Palestinian Nat'l Auth. Egypt Indonesia Tunisia Philippines	42 42 41 41 39 37 35 32 31 29 24 20 19 18 18	· · · · · · · · · · · · · · · · · · ·
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile Bahrain Iran, Islamic Republic of Saudi Arabia Macedonia, Republic of Jordan Palestinian Nat'l Auth. Egypt Indonesia Tunisia Philippines Botswana Cyprus	42 42 41 41 39 37 35 32 31 29 29 24 20 19 18 18 17 15	· · · · · · · · · · · · · · · · · · ·
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile Bahrain Iran, Islamic Republic of Saudi Arabia Macedonia, Republic of Jordan Palestinian Nat'l Auth. Egypt Indonesia Tunisia Philippines Botswana Cyprus South Africa	42 42 41 41 39 37 35 32 31 29 29 24 20 19 18 18 17 15 9	· · · · · · · · · · · · · · · · · · ·
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile Bahrain Iran, Islamic Republic of Saudi Arabia Macedonia, Republic of Jordan Palestinian Nat'l Auth. Egypt Indonesia Tunisia Philippines Botswana Cyprus South Africa Lebanon	42 42 41 41 39 37 35 32 31 29 24 20 19 18 18 17 15 9 7	○ ○ ○ ▼ ▼
Malaysia Romania Serbia and Montenegro Norway Chinese Taipei Chile Bahrain Iran, Islamic Republic of Saudi Arabia Macedonia, Republic of Jordan Palestinian Nat'l Auth. Egypt Indonesia Tunisia Philippines Botswana Cyprus South Africa Lebanon Morocco	42 42 41 41 39 37 35 32 31 29 24 20 19 18 18 17 15 9 7 6	· · · · · · · · · · · · · · · · · · ·

Country average vs. International average:

Higher	
Not different	O
Lower	

Bodily process to prevent overheating (continued)

Item Number: S022152

Student Responses

Correct Response:

What processes take place in the human body that prevent it from overheating during exercise?

Incorrect Response:

What processes take place in the human body that prevent it from overheating during exercise?

one process in the human body to keep it from overheating is dyhdration. It you drink enough water as you exercise than you don't set overheated or Denydrated.

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Structure, Function and Life Processes in Organisms	Conceptual Understanding

Advantage of having two ears

What is the advantage of having two ears to hear with rather than one ear?

Item Number: S022160

SCORING

Note: Credit is given for both higher-level responses referencing locating the source of sound as well as less sophisticated responses referencing hearing sounds from both sides and retaining hearing if one ear does not function.

Correct Response

Mentions being able to locate the position, direction and/or distance of the source of sound.
 Examples: By having two ears, you can actually tell where a sound came from.

With two ears you could hear which direction a noise is coming from.

With two ears you can judge the distance the sound is away from you.

With two ears you can tell if the sound is near or far.

• Mentions hearing sounds from both sides (direction) with no mention of locating the source.

Examples: You can hear on both sides of you.

You can hear sounds from all around, not just one side.

With two ears you can hear from more than one way.

• Mentions that if hearing is lost in one ear, the other may still function.

Examples: In the result of being deaf in one ear, you have another one that is used.

If you lost the hearing in one ear, the other one might still work.

· Other correct.

Incorrect Response

• Gives only a general or vague response relating to how well one can hear.

Examples: You hear better.

You can hear half as much with one ear.

Two ears lets you hear a lot more.

The volume is greater.

• Mentions only that hearing is uneven/unbalanced with one ear.

Examples: If you had one ear, the sound would be uneven.

Your hearing would be out of balance.

You hearing gets balanced better with two ears.

· Other incorrect (including crossed out/erased, stray marks, illegible, or off task).

Overall Percent Correct

Sweden	70	A
Netherlands	70	
New Zealand	64	_
Australia	64	<u> </u>
England	62	<u> </u>
Belgium (Flemish)	61	<u> </u>
United States	58	<u> </u>
Scotland	56	<u> </u>
Hungary	55	<u> </u>
Slovenia	53	
Norway	52	
Lithuania	50	
Latvia	48	
Israel	41	
Estonia	41	
Singapore	40	
Jordan	37	0
Egypt	36	0
Korea, Republic of	35	0
International average	34	
Malaysia	33	0
Italy	32	0
Hong Kong, SAR	32	O
Chinese Taipei	30	•
Palestinian Nat'l Auth.	30	▼ ▼ ▼
Macedonia, Republic of	29	V
Cyprus	28	_
Botswana	28	_
Japan	27	* * * * * * * * * * * * * * * * * * *
Bahrain	25	_
Romania	25	_
Russian Federation	23	
Chile	22	_
Morocco	22	_
Saudi Arabia	21	_
Slovak Republic	21	V
Armenia	20	_
Serbia and Montenegro	20	V
Moldova, Rep. of	19	V
Iran, Islamic Republic of	19	V
Bulgaria	16	_
Philippines	15	*
Lebanon	12	•
	_	
South Africa	9	V
Ghana	8	▼
Ghana Tunisia	8 7	* * * * * * * * * * * * * * * * * * *
Ghana	8	* * *

Country average vs. International average:

Higher	
Not different	0
Lower	

Advantage of having two ears (continued)

Item Number: S022160

Student Responses

Correct Response:

What is the advantage of having two ears to hear with rather than one ear?

so you can near from ether side of you

Incorrect Response:

What is the advantage of having two ears to hear with rather than one ear?

With two ears, you can hear twice as much and with one ear you can only hear half as much.

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Structure, Function and Life Processes in Organisms	Factual Knowledge

Organ NOT in abdomen

Which of the following organs is NOT situated in the abdomen?

- (A) liver
- (B) kidney
- \bigcirc stomach
- D bladder
- (E) heart

Item Number: S012001

Correct Response:

Ε

Overall Percent Correct

Chinese Taipei	94	A
Hungary	83	A
Netherlands	83	
Sweden	82	A
Belgium (Flemish)	80	A
Slovak Republic	78	A
Bulgaria	77	A
Macedonia, Republic of	77	A
Lithuania	77	A
Russian Federation	77	A
Armenia	76	A
Hong Kong, SAR	75	A
Serbia and Montenegro	75	A
Australia	74	A
Latvia	74	A
United States	73	A
Estonia	71	A
Romania	69	A
Singapore	68	A
Israel	67	A
Cyprus	67	A
England	67	A
Chile	66	A
New Zealand	65	A
Scotland	63	0
International average	60	
International average Saudi Arabia	60 59	0
International average Saudi Arabia Bahrain	60 59 58	0
International average Saudi Arabia Bahrain Japan	59 58 58	0 0
International average Saudi Arabia Bahrain Japan Korea, Republic of	59 58 58 52	0 0 0
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan	59 58 58 52 51	0 0 0
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway	59 58 58 52 51 50	0 0 0
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway Slovenia	59 58 58 52 51 50 48	0 0 0
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway Slovenia Egypt	59 58 58 52 51 50 48	0 0 0
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway Slovenia Egypt Indonesia	59 58 58 52 51 50 48 48 47	0 0 0
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway Slovenia Egypt Indonesia Morocco	59 58 58 52 51 50 48 48 47 46	0 0 0
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway Slovenia Egypt Indonesia Morocco Italy	59 58 58 52 51 50 48 48 47 46 45	0 0 0
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway Slovenia Egypt Indonesia Morocco Italy Philippines	59 58 58 52 51 50 48 48 47 46 45	0 0 0
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway Slovenia Egypt Indonesia Morocco Italy Philippines Tunisia	59 58 58 52 51 50 48 48 47 46 45 45	0 0
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway Slovenia Egypt Indonesia Morocco Italy Philippines Tunisia Iran, Islamic Republic of	59 58 58 52 51 50 48 47 46 45 45 45 43	0 0 0
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway Slovenia Egypt Indonesia Morocco Italy Philippines Tunisia Iran, Islamic Republic of Palestinian Nat'l Auth.	59 58 58 52 51 50 48 47 46 45 45 45 43 42	0 0 0
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway Slovenia Egypt Indonesia Morocco Italy Philippines Tunisia Iran, Islamic Republic of Palestinian Nat'l Auth. Moldova, Rep. of	59 58 58 52 51 50 48 47 46 45 45 45 43 42 32	0 0 0 V V V V V V V V V V V V V V V V V
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway Slovenia Egypt Indonesia Morocco Italy Philippines Tunisia Iran, Islamic Republic of Palestinian Nat'l Auth. Moldova, Rep. of Botswana	59 58 58 52 51 50 48 47 46 45 45 43 42 32 30	0 0 0 V V V V V V V V V V V V V V V V V
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway Slovenia Egypt Indonesia Morocco Italy Philippines Tunisia Iran, Islamic Republic of Palestinian Nat'l Auth. Moldova, Rep. of Botswana Lebanon	59 58 58 52 51 50 48 48 47 46 45 45 43 42 32 30 26	0 0 0 V V V V V V V V V V V V V V V V V
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway Slovenia Egypt Indonesia Morocco Italy Philippines Tunisia Iran, Islamic Republic of Palestinian Nat'l Auth. Moldova, Rep. of Botswana Lebanon South Africa	59 58 58 52 51 50 48 48 47 46 45 45 43 42 32 30 26 26	0 0 0 V V V V V V V V V V V V V V V V V
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway Slovenia Egypt Indonesia Morocco Italy Philippines Tunisia Iran, Islamic Republic of Palestinian Nat'l Auth. Moldova, Rep. of Botswana Lebanon South Africa Malaysia	59 58 58 52 51 50 48 48 47 46 45 45 43 42 32 30 26 26 23	0 0 0
International average Saudi Arabia Bahrain Japan Korea, Republic of Jordan Norway Slovenia Egypt Indonesia Morocco Italy Philippines Tunisia Iran, Islamic Republic of Palestinian Nat'l Auth. Moldova, Rep. of Botswana Lebanon South Africa	59 58 58 52 51 50 48 48 47 46 45 45 43 42 32 30 26 26	0 0 0 V V V V V V V V V V V V V V V V V

Country average vs. International average:

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Structure, Function and Life Processes in Organisms	Factual Knowledge

Message from eyes to brain

When a person sees something, what carries the message from the eyes to the brain?

- (A) arteries
- (B) glands
- © muscles
- (D) nerves
- © veins

Item Number: S012014

Correct Response:

D

Overall Percent Correct

Chinese Taipei	94	A
Japan	93	<u> </u>
Hong Kong, SAR	93	<u> </u>
Korea, Republic of	92	<u> </u>
Netherlands	91	<u> </u>
Slovak Republic	87	<u> </u>
Belgium (Flemish)	86	A
Hungary	86	
Singapore	85	
Lithuania	83	<u> </u>
Indonesia	81	
Russian Federation	81	
Sweden	81	A
Slovenia	81	
England	81	
Australia	81	<u> </u>
Iran, Islamic Republic of	81	A
United States	80	<u> </u>
New Zealand	80	A
Macedonia, Republic of	79	A
Estonia	79	A
Bulgaria	79	A
Serbia and Montenegro	79	A
Malaysia	79	A
Italy	78	A
Moldova, Rep. of	78	A
Latvia	75	0
Scotland	74	0
Saudi Arabia	74	0
Jordan	72	0
International average	72	
Bahrain	70	0
Romania	70	0
Israel	69	0
Armenia	67	▼
Tunisia	67	▼
Palestinian Nat'l Auth.	63	▼
Norway	59	▼
Philippines	58	▼
Egypt	57	▼
Botswana	56	▼
Cyprus	49	▼
Morocco	46	▼ ▼ ▼
Lebanon	44	▼
Chile	36	▼
South Africa	29	▼
Ghana	17	▼

Country average vs. International average:

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Structure, Function and Life Processes in Organisms	Factual Knowledge

Absorbtion of food into the blood stream

In humans, where does the absorption of food into the blood stream mainly take place?

- (A) stomach
- (B) mouth
- © large intestines
- (D) small intestines

Item Number: S032386

Correct Response:

D

Overall Percent Correct

Singapore	71	A
Japan	58	A
Armenia	44	
Jordan	43	
Malaysia	42	
Slovenia	38	
Hong Kong, SAR	37	
Sweden	35	
Moldova, Rep. of	34	
Chinese Taipei	33	_
Saudi Arabia	33	<u> </u>
Egypt	33	<u> </u>
Morocco	31	0
	30	0
Belgium (Flemish)		
Philippines	29	0
New Zealand	29	0
Korea, Republic of	29	0
Bahrain	29	0
Slovak Republic	28	0
International average	28	
Palestinian Nat'l Auth.	28	0
Netherlands	27	0
Australia	27	0
United States	27	0
Russian Federation	26	0
Ghana	26	0
Romania	25	0
Lithuania	25	0
Hungary	25	0
Lebanon	25	0
England	25	0
Indonesia	25	0
Botswana	23	▼
Italy	23	
•	23	V
Macedonia, Republic of	23 22	
Bulgaria		
Chile	22	* * * * * * * * * * * * * * * * * * *
Tunisia	21	▼
Scotland	20	▼
Serbia and Montenegro	19	•
Estonia	18	•
Latvia	18	•
Norway	18	•
Israel	18	\blacksquare
Cyprus	17	\blacksquare
Iran, Islamic Republic of	13	\blacksquare
South Africa	10	\blacksquare

Country average vs. International average:

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Structure, Function and Life Processes in Organisms	Factual Knowledge

Fish organ like human lung

Which of the following organs in fish has the same function as the human lung?

- (A) kidney
- (B) heart
- © gill
- (D) skin

Item Number: S032607

Correct Response:

C

Overall Percent Correct

Italy	91	A
Korea, Republic of	90	A
Hungary	85	A
Russian Federation	84	A
Netherlands	83	A
Iran, Islamic Republic of	82	A
Chinese Taipei	80	A
Belgium (Flemish)	78	A
Moldova, Rep. of	77	A
Sweden	76	A
Bahrain	76	A
Bulgaria	76	A
Hong Kong, SAR	75	A
Slovenia	74	A
Estonia	74	A
Romania	72	A
Slovak Republic	71	A
Japan	68	A
Morocco	68	A
Israel	64	0
Jordan	64	0
England	64	0
International average	63	
Serbia and Montenegro	63	0
•		
Saudi Arabia	63	0
Saudi Arabia Singapore	62	0
Saudi Arabia Singapore Lithuania	62 62	0 0
Saudi Arabia Singapore Lithuania Egypt	62 62 62	0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of	62 62 62 62	O O O
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia	62 62 62 62 62	0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia	62 62 62 62 62 61	0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia	62 62 62 62 62 61 61	0 0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia Chile	62 62 62 62 62 61 61 60	0 0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia Chile United States	62 62 62 62 62 61 61 60	0 0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia Chile United States Scotland	62 62 62 62 61 61 60 60	0 0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia Chile United States Scotland Armenia	62 62 62 62 62 61 61 60 60 59	0 0 0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia Chile United States Scotland Armenia Palestinian Nat'l Auth.	62 62 62 62 61 61 60 60 59 58	0 0 0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia Chile United States Scotland Armenia Palestinian Nat'l Auth. Norway	62 62 62 62 61 61 60 60 59 58 56	0 0 0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia Chile United States Scotland Armenia Palestinian Nat'l Auth. Norway Indonesia	62 62 62 62 61 61 60 60 59 58 56 55	0 0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia Chile United States Scotland Armenia Palestinian Nat'l Auth. Norway Indonesia New Zealand	62 62 62 62 61 61 60 60 59 58 56 55 54	0 0 0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia Chile United States Scotland Armenia Palestinian Nat'l Auth. Norway Indonesia New Zealand Lebanon	62 62 62 62 61 61 60 60 59 58 56 55 54 49	0 0 0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia Chile United States Scotland Armenia Palestinian Nat'l Auth. Norway Indonesia New Zealand Lebanon Tunisia	62 62 62 62 61 61 60 59 58 56 55 54 49 45	0 0 0 0 0 0 0 0 0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia Chile United States Scotland Armenia Palestinian Nat'l Auth. Norway Indonesia New Zealand Lebanon Tunisia Philippines	62 62 62 62 61 61 60 59 58 56 55 54 49 45 40 37	0 0 0 0 0 0 0 0 0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia Chile United States Scotland Armenia Palestinian Nat'l Auth. Norway Indonesia New Zealand Lebanon Tunisia Philippines South Africa	62 62 62 62 61 61 60 59 58 56 55 54 49 45 40 37 35	0 0 0 0 0 0 0 0 0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia Chile United States Scotland Armenia Palestinian Nat'l Auth. Norway Indonesia New Zealand Lebanon Tunisia Philippines South Africa Cyprus	62 62 62 62 61 61 60 59 58 56 55 54 49 45 40 37 35 25	0 0 0 0 0 0 0 0 0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia Chile United States Scotland Armenia Palestinian Nat'l Auth. Norway Indonesia New Zealand Lebanon Tunisia Philippines South Africa Cyprus Botswana	62 62 62 62 61 61 60 59 58 56 55 54 49 45 40 37 35 25 23	0 0 0 0 0 0 0 0 0 0 0 0 0
Saudi Arabia Singapore Lithuania Egypt Macedonia, Republic of Malaysia Australia Latvia Chile United States Scotland Armenia Palestinian Nat'l Auth. Norway Indonesia New Zealand Lebanon Tunisia Philippines South Africa Cyprus	62 62 62 62 61 61 60 59 58 56 55 54 49 45 40 37 35 25	0 0 0 0 0 0 0

Country average vs. International average:

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Structure, Function and Life Processes in Organisms	Reasoning and Analysis

How glasses/contact lenses work

Briefly explain how eyeglasses and contact lenses help some people to see more clearly.

Item Number: S022161

SCORING

Note: Credit is given for higher-level responses that demonstrate knowledge of vision by describing how lenses modify the way light enters the eye and hits the **retina** or back of the eye (as well as less sophisticated responses based on helping eyes to focus, to see objects at different distances or to magnification.

Correct Response

 Mentions that glasses/contact lenses bend (refract) or focus light rays onto the retina (or back of the eye). [May use a diagram to show this.]

Examples: The glasses focus the light onto the retina.

Mentions the curvature (shape) of lenses (concave/convex) and/or bending of light by lenses.
 [Based primarily on the properties of lenses with no explicit mention of the focusing of light on the retina or back of eye.]

Examples: You can focus better because glasses bend the light into your eye.

 Mentions that glasses/contact lenses help the eyes focus and/or allow (near-sighted/far-sighted) people to see images at a distance or close up.

Examples: Some people can see close up but need glasses in order to see things far away.

Far-sighted people can only read with glasses that correct their close-up vision.

Eyeglasses can help your eyes to focus more clearly on things.

· Mentions that glasses/contact lenses magnify or enlarge (images).

Examples: They magnify.

The magnification in the glasses make things more clear and bigger.

The lenses make things look bigger.

· Other correct.

Incorrect Response

 Gives only a vague reference to glasses/contact lenses helping people see more clearly or containing prescriptions (chemicals, special type/shape/thickness of glass, etc.) without further explanation of vision or how lenses work.

Examples: They make you see more clearly.

If you are near sighted, you need glasses to help you see.

Contacts help vision because of the prescription injected into them.

Lenses are prescribed to fix eye problems.

The lenses in glasses are made thick so you can see better.

· Other incorrect (including crossed out/erased, stray marks, illegible, or off task).

Overall Percent Correct

New Zealand	68	
Jordan	64	
Estonia	56	A
England	56	A
Bahrain	55	A
Australia	55	A
Armenia	54	A
Moldova, Rep. of	53	A
Latvia	52	A
Korea, Republic of	52	A
Russian Federation	51	A
Palestinian Nat'l Auth.	50	A
Netherlands	50	A
Sweden	49	A
Lithuania	48	A
Hungary	48	A
United States	48	A
Scotland	48	A
Norway	47	A
Hong Kong, SAR	46	A
Slovak Republic	44	A
Singapore	44	A
Chile	42	0
Israel	42	0
Slovenia	41	0
Egypt	39	0 0
Egypt International average	39 39	0
Egypt International average Romania	39 39 37	0
Egypt International average Romania Bulgaria	39 39 37 37	0 0
Egypt International average Romania Bulgaria Malaysia	39 39 37 37 35	0 0 0
Egypt International average Romania Bulgaria Malaysia Belgium (Flemish)	39 39 37 37 35 34	0 0 0
Egypt International average Romania Bulgaria Malaysia Belgium (Flemish) Japan	39 39 37 37 35 34 34	0 0 0
Egypt International average Romania Bulgaria Malaysia Belgium (Flemish) Japan Macedonia, Republic of	39 39 37 37 35 34 34 33	0 0 0
Egypt International average Romania Bulgaria Malaysia Belgium (Flemish) Japan Macedonia, Republic of Iran, Islamic Republic of	39 39 37 37 35 34 34 33 32	0 0 0
Egypt International average Romania Bulgaria Malaysia Belgium (Flemish) Japan Macedonia, Republic of Iran, Islamic Republic of Serbia and Montenegro	39 39 37 37 35 34 34 33 32 30	0 0 0
Egypt International average Romania Bulgaria Malaysia Belgium (Flemish) Japan Macedonia, Republic of Iran, Islamic Republic of Serbia and Montenegro Italy	39 39 37 37 35 34 34 33 32 30 30	0 0 0
Egypt International average Romania Bulgaria Malaysia Belgium (Flemish) Japan Macedonia, Republic of Iran, Islamic Republic of Serbia and Montenegro Italy Chinese Taipei	39 39 37 37 35 34 34 33 32 30 30 28	0 0 0
Egypt International average Romania Bulgaria Malaysia Belgium (Flemish) Japan Macedonia, Republic of Iran, Islamic Republic of Serbia and Montenegro Italy Chinese Taipei Indonesia	39 39 37 37 35 34 34 33 32 30 30 28 26	0 0
Egypt International average Romania Bulgaria Malaysia Belgium (Flemish) Japan Macedonia, Republic of Iran, Islamic Republic of Serbia and Montenegro Italy Chinese Taipei Indonesia Saudi Arabia	39 39 37 37 35 34 34 33 32 30 30 28 26 19	0 0 0
Egypt International average Romania Bulgaria Malaysia Belgium (Flemish) Japan Macedonia, Republic of Iran, Islamic Republic of Serbia and Montenegro Italy Chinese Taipei Indonesia Saudi Arabia Tunisia	39 39 37 37 35 34 34 33 32 30 30 28 26 19 18	0 0 0
Egypt International average Romania Bulgaria Malaysia Belgium (Flemish) Japan Macedonia, Republic of Iran, Islamic Republic of Serbia and Montenegro Italy Chinese Taipei Indonesia Saudi Arabia Tunisia Cyprus	39 39 37 37 35 34 34 33 32 30 30 28 26 19 18 17	0 0 0
International average Romania Bulgaria Malaysia Belgium (Flemish) Japan Macedonia, Republic of Iran, Islamic Republic of Serbia and Montenegro Italy Chinese Taipei Indonesia Saudi Arabia Tunisia Cyprus Morocco	39 39 37 37 35 34 34 33 32 30 30 28 26 19 18 17 15	0 0 0 0 V
Egypt International average Romania Bulgaria Malaysia Belgium (Flemish) Japan Macedonia, Republic of Iran, Islamic Republic of Serbia and Montenegro Italy Chinese Taipei Indonesia Saudi Arabia Tunisia Cyprus Morocco Philippines	39 39 37 37 35 34 34 33 32 30 30 28 26 19 18 17 15 14	0 0 0 0 V
International average Romania Bulgaria Malaysia Belgium (Flemish) Japan Macedonia, Republic of Iran, Islamic Republic of Serbia and Montenegro Italy Chinese Taipei Indonesia Saudi Arabia Tunisia Cyprus Morocco Philippines Botswana	39 39 37 37 35 34 34 33 32 30 30 28 26 19 18 17 15 14 12	0 0 0 0 V
Egypt International average Romania Bulgaria Malaysia Belgium (Flemish) Japan Macedonia, Republic of Iran, Islamic Republic of Serbia and Montenegro Italy Chinese Taipei Indonesia Saudi Arabia Tunisia Cyprus Morocco Philippines Botswana South Africa	39 39 37 37 35 34 34 33 32 30 30 28 26 19 18 17 15 14 12 9	0 0 0 0 V
Egypt International average Romania Bulgaria Malaysia Belgium (Flemish) Japan Macedonia, Republic of Iran, Islamic Republic of Serbia and Montenegro Italy Chinese Taipei Indonesia Saudi Arabia Tunisia Cyprus Morocco Philippines Botswana South Africa Lebanon	39 39 37 37 35 34 34 33 30 30 28 26 19 18 17 15 14 12 9 6	0 0 0 0 V
Egypt International average Romania Bulgaria Malaysia Belgium (Flemish) Japan Macedonia, Republic of Iran, Islamic Republic of Serbia and Montenegro Italy Chinese Taipei Indonesia Saudi Arabia Tunisia Cyprus Morocco Philippines Botswana South Africa	39 39 37 37 35 34 34 33 32 30 30 28 26 19 18 17 15 14 12 9	0 0 0

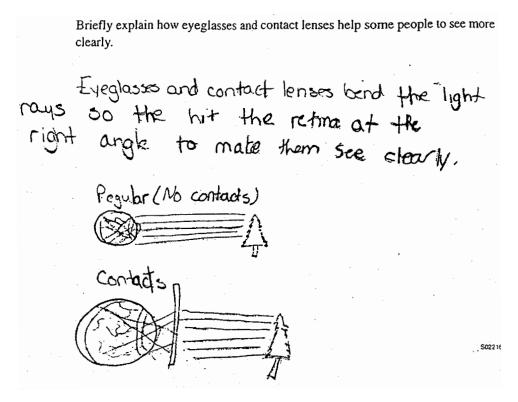
Country average vs. International average:

How glasses/contact lenses work (continued)

Item Number: S022161

Student Responses

Correct Response:



Incorrect Response:

Briefly explain how eyeglasses and contact lenses help some people to see more clearly.

Glasses and contacts have Perscriptions in them of what your eyesite percentage is, (Because you go to the eye. doctor to get tested.)

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Types, Characteristics and Classification of Living Things	Conceptual Understanding

Characteristics of animal groups

A person sorted some animals into the two groups listed on the table. Which characteristic of animals was used for the sorting?

- (A) Legs
- (B) Eyes
- (c) Nervous system
- (D) Skin

Group 1	Group 2
Humans	Snakes
Dogs	Worms
Flies	Fish

Item Number: S012028

Correct Response:

Δ

Overall Percent Correct

Korea, Republic of	79	A
Japan	76	A
Australia	70	A
New Zealand	68	A
Chinese Taipei	66	A
England	66	A
Scotland	64	A
Malaysia	63	A
Hong Kong, SAR	62	A
Estonia	62	A
Slovak Republic	62	A
United States	62	A
Norway	60	A
Singapore	59	A
Netherlands	58	A
Israel	57	A
Latvia	56	A
Sweden	54	A
Belgium (Flemish)	53	A
Hungary	49	A
Russian Federation	48	0
Italy	47	0
Slovenia	46	0
International average	45	
Armenia	43	0
Cyprus	42	0
Cyprus Moldova, Rep. of	42 41	0
Cyprus Moldova, Rep. of Lithuania	42 41 40	0
Cyprus Moldova, Rep. of Lithuania Bahrain	42 41 40 37	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria	42 41 40 37 36	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro	42 41 40 37 36 35	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania	42 41 40 37 36 35 33	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania Macedonia, Republic of	42 41 40 37 36 35 33 32	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania Macedonia, Republic of Palestinian Nat'l Auth.	42 41 40 37 36 35 33 32	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania Macedonia, Republic of Palestinian Nat'l Auth. Tunisia	42 41 40 37 36 35 33 32 31	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania Macedonia, Republic of Palestinian Nat'l Auth. Tunisia Chile	42 41 40 37 36 35 33 32 31 31	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania Macedonia, Republic of Palestinian Nat'l Auth. Tunisia Chile Saudi Arabia	42 41 40 37 36 35 33 32 31 31 31 26	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania Macedonia, Republic of Palestinian Nat'l Auth. Tunisia Chile Saudi Arabia Morocco	42 41 40 37 36 35 33 32 31 31 26 25	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania Macedonia, Republic of Palestinian Nat'l Auth. Tunisia Chile Saudi Arabia Morocco Egypt	42 41 40 37 36 35 33 32 31 31 26 25 25	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania Macedonia, Republic of Palestinian Nat'l Auth. Tunisia Chile Saudi Arabia Morocco Egypt Jordan	42 41 40 37 36 35 33 32 31 31 26 25 25 24	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania Macedonia, Republic of Palestinian Nat'l Auth. Tunisia Chile Saudi Arabia Morocco Egypt Jordan Indonesia	42 41 40 37 36 35 33 32 31 31 26 25 25 24 24	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania Macedonia, Republic of Palestinian Nat'l Auth. Tunisia Chile Saudi Arabia Morocco Egypt Jordan Indonesia Botswana	42 41 40 37 36 35 33 32 31 31 26 25 25 24 24 23	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania Macedonia, Republic of Palestinian Nat'l Auth. Tunisia Chile Saudi Arabia Morocco Egypt Jordan Indonesia Botswana Philippines	42 41 40 37 36 35 33 32 31 31 26 25 25 24 24 23 23	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania Macedonia, Republic of Palestinian Nat'l Auth. Tunisia Chile Saudi Arabia Morocco Egypt Jordan Indonesia Botswana Philippines Iran, Islamic Republic of	42 41 40 37 36 35 33 32 31 31 26 25 25 24 24 23 23 23	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania Macedonia, Republic of Palestinian Nat'l Auth. Tunisia Chile Saudi Arabia Morocco Egypt Jordan Indonesia Botswana Philippines Iran, Islamic Republic of South Africa	42 41 40 37 36 35 33 32 31 31 26 25 25 24 24 23 23 19	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania Macedonia, Republic of Palestinian Nat'l Auth. Tunisia Chile Saudi Arabia Morocco Egypt Jordan Indonesia Botswana Philippines Iran, Islamic Republic of South Africa Lebanon	42 41 40 37 36 35 33 32 31 31 26 25 24 24 23 23 19	0
Cyprus Moldova, Rep. of Lithuania Bahrain Bulgaria Serbia and Montenegro Romania Macedonia, Republic of Palestinian Nat'l Auth. Tunisia Chile Saudi Arabia Morocco Egypt Jordan Indonesia Botswana Philippines Iran, Islamic Republic of South Africa	42 41 40 37 36 35 33 32 31 31 26 25 25 24 24 23 23 19	0

Country average vs. International average:

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Types, Characteristics and Classification of Living Things	Conceptual Understanding

Cats most closely related to which animal

Cats are most closely related to which of the following animals?

- (A) crocodiles
- (B) whales
- \bigcirc frogs
- D penguins

Item Number: S032595

Correct Response:

В

Overall Percent Correct

Japan	65	
Russian Federation	47	
Malaysia	46	<u> </u>
Singapore	43	<u> </u>
Bulgaria	42	<u> </u>
Moldova, Rep. of	41	<u> </u>
Chinese Taipei	40	
Italy	39	
Armenia	36	
Estonia	35	
Latvia	35	
Latvia Lithuania		A
	33	A
Hungary	32	
Slovenia	31	<u> </u>
Israel	31	A
Hong Kong, SAR	28	0
Romania	27	0
Macedonia, Republic of	26	0
International average	26	
United States	25	O
Serbia and Montenegro	25	0
Korea, Republic of	25	0
England	25	0
Slovak Republic	24	0
Australia	22	* * * * * * * * * * * * * * * * * * *
Botswana	22	\blacksquare
Iran, Islamic Republic of	21	\blacksquare
Philippines	20	\blacksquare
Belgium (Flemish)	20	\blacksquare
Lebanon	19	\blacksquare
New Zealand	18	\blacksquare
Chile	18	\blacksquare
Scotland	18	\blacksquare
Jordan	18	\blacksquare
Egypt	17	\blacksquare
Netherlands	17	•
Bahrain	16	V
Ghana	15	V
South Africa	15	_
Cyprus	15	V
Saudi Arabia	15	Ť
Palestinian Nat'l Auth.	14	V
Sweden	13	V
Norway	13	<u> </u>
Indonesia	8	—
Morocco	0	_
Tunisia	0	*
TUTIISIA	U	*

Country average vs. International average: