

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Changes in Environment	Reasoning and Analysis

Plants and fish in river

Write down what happens to plants and fish in a river when a factory pours large amounts of hot water into the river.

Overall Percent Correct

Russian Federation	90	▲
Hong Kong, SAR	88	▲
Japan	87	▲
Singapore	87	▲
Australia	86	▲
Chinese Taipei	85	▲
Latvia	85	▲
United States	85	▲
Netherlands	84	▲
New Zealand	82	▲
Belgium (Flemish)	82	▲
Scotland	80	▲
Slovenia	79	▲
England	79	▲
Cyprus	78	▲
Lithuania	75	○
Moldova, Republic of	75	○
International average	73	
Norway	70	○
Hungary	69	○
Italy	69	○
Armenia	57	▼
Tunisia	43	▼
Iran, Islamic Republic of	40	▼
Philippines	40	▼
Morocco	22	▼

Country average vs.
International average:

Higher	▲
Not different	○
Lower	▼

Item Number: S011019

SCORING

Correct Response

- Explains that some species will die; others will be more abundant.
Examples: Fish die, plants grow more because there is more water.
- Explains that many plants and fishes die.
Examples: They die.
They are almost cooked.
- Explains that fish try to leave.
Examples: The fish swim away.
- Other correct
Examples: Fish die, plants live.

Incorrect Response

- The description or explanation given is not adequate.
Examples: They cannot breathe.
They can do better and do worse.
- Other incorrect (including crossed out/erased, stray marks, illegible, or off tasks)

Plants and fish in river (continued)

Item Number: S011019

Student Responses

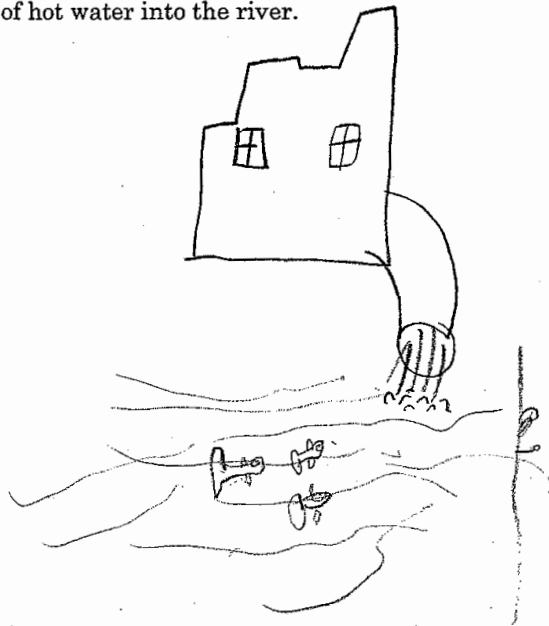
Correct Response:

Write down what happens to plants and fish in a river when a factory pours large amounts of hot water into the river.

When you put Hot water a fish will Die and plants will grow.

Incorrect Response:

Write down what happens to plants and fish in a river when a factory pours large amounts of hot water into the river.



Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Use and Conservation of Natural Resources	Factual Knowledge

Where we get minerals to make things

Minerals are used for making many things including jewelry, chalk, and concrete. Where do we get the minerals needed to make these things?

- (A) from air
- (B) from wood
- (C) from rocks
- (D) from crops

Overall Percent Correct

Hungary	85	▲
Chinese Taipei	84	▲
Russian Federation	79	▲
Japan	76	▲
Italy	75	▲
Latvia	72	▲
Hong Kong, SAR	67	▲
United States	67	▲
Iran, Islamic Republic of	62	○
Slovenia	59	○
England	59	○
International average	59	
Belgium (Flemish)	58	○
Australia	57	○
Lithuania	57	○
Armenia	52	▼
Cyprus	49	▼
Netherlands	49	▼
Scotland	49	▼
Moldova, Republic of	48	▼
Singapore	48	▼
New Zealand	47	▼
Norway	47	▼
Morocco	46	▼
Tunisia	43	▼
Philippines	30	▼

Country average vs.
International average:

Higher	▲
Not different	○
Lower	▼

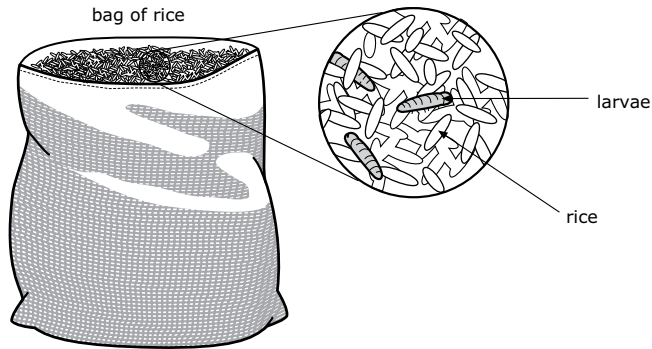
Item Number: S031398

Correct Response:

C

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Development and Life Cycle of Organisms	Conceptual Understanding

Larvae found in a bag of rice



Larvae were found in a bag of rice. What best explains how the larvae got there?

- (A) They came from water in the bag.
- (B) They came from air in the bag.
- (C) They came from the rice itself.
- (D) They came from eggs laid by insects.

Overall Percent Correct

Lithuania	91	▲
Hungary	84	▲
Latvia	84	▲
Belgium (Flemish)	81	▲
Slovenia	80	▲
Russian Federation	76	▲
Netherlands	75	▲
Australia	74	▲
Chinese Taipei	73	▲
Japan	73	▲
New Zealand	73	▲
England	73	▲
Norway	72	▲
Singapore	69	○
United States	69	○
Scotland	69	○
Moldova, Republic of	68	○
International average	67	
Hong Kong, SAR	66	○
Iran, Islamic Republic of	63	○
Italy	61	▼
Philippines	52	▼
Cyprus	49	▼
Tunisia	40	▼
Armenia	36	▼
Morocco	31	▼

Country average vs.
International average:

Higher	▲
Not different	○
Lower	▼

Item Number: S031003

Correct Response:

D

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Development and Life Cycle of Organisms	Conceptual Understanding

Physical change as children become adults

Children grow taller and become heavier as they develop into adults. Describe one other physical change that takes place in children's bodies as they become adults.

Item Number: S031251

SCORING

Correct Response

- Describes a correct developmental change.
Examples: *Boys start growing beards.*
They start growing hair on their bodies.
Girls start menstruating.
They start developing their sex organs.
Boys voices break and deepen.
Girls hips will widen.
Women get breasts.
They can start having babies.
- Describes a more general physical change.
Examples: *They develop muscles and get stronger.*
They lose their little teeth and get new bigger teeth.
- Other correct

Incorrect Response

- Mentions only that they get smarter or learn more.
Examples: *They get smarter and smarter.*
They learn to read.
- Mentions only that they grow, get bigger, older, or similar.
Examples: *They grow up.*
Their feet get bigger.
- Mentions changes that occur after adulthood.
Examples: *They get gray hair.*
They stop growing taller.
They go bald and get wrinkled.
- Other incorrect (including crossed out/erased, stray marks, illegible or off task).
Examples: *They look different.*
Their personality and attitude changes.
Puberty.
They mature.

Overall Percent Correct

Japan	55	▲
Chinese Taipei	47	▲
Netherlands	40	▲
England	37	▲
Latvia	36	▲
Russian Federation	36	▲
Italy	34	▲
Norway	33	▲
United States	33	▲
Belgium (Flemish)	33	▲
Singapore	32	▲
Australia	31	○
Lithuania	29	○
Hungary	28	○
Scotland	28	○
New Zealand	27	○
International average	27	
Moldova, Republic of	26	○
Cyprus	22	▼
Slovenia	17	▼
Hong Kong, SAR	16	▼
Armenia	14	▼
Morocco	10	▼
Tunisia	9	▼
Iran, Islamic Republic of	7	▼
Philippines	6	▼

Country average vs. International average:

Higher	▲
Not different	○
Lower	▼

Physical change as children become adults (continued)

Item Number: S031251

Student Responses

Correct Response:

Children grow taller and become heavier as they develop into adults.
Describe one other physical change that takes place in children's bodies as they become adults.

Their voices change.

Incorrect Response:

Children grow taller and become heavier as they develop into adults.
Describe one other physical change that takes place in children's bodies as they become adults.

Their hands and feet grow
larger.

Content Domain	Main Topic	Cognitive Domain
LIFE SCIENCE	Development and Life Cycle of Organisms	Conceptual Understanding

Organisms that give birth or lay eggs

human, frog, dog, butterfly, bird, whale

Some of the organisms shown above give birth to young that develop inside the mother. Some of the organisms have young that hatch from eggs that are laid outside the mother.

In the table below, write down the names of the organisms that belong to each group.

Organisms that give birth	Organisms that lay eggs

Overall Percent Correct

Singapore	84	▲
United States	76	▲
New Zealand	74	▲
Netherlands	73	▲
Australia	72	▲
Japan	67	▲
England	67	▲
Italy	64	▲
Russian Federation	63	▲
Belgium (Flemish)	63	▲
Hungary	62	▲
Latvia	62	▲
Lithuania	60	○
Scotland	59	○
Hong Kong, SAR	58	○
Norway	58	○
International average	58	
Cyprus	54	○
Chinese Taipei	53	▼
Slovenia	52	▼
Moldova, Republic of	51	▼
Armenia	46	▼
Philippines	41	▼
Iran, Islamic Republic of	35	▼
Morocco	23	▼
Tunisia	19	▼

Country average vs. International average:	
Higher	▲
Not different	○
Lower	▼

Item Number: S031252

SCORING

Fully Correct Response

- Organisms that give birth: **Human, Dog, Whale**
- Organisms that lay eggs: **Frog, Butterfly, Bird**

Partially Correct Response

- One organism omitted or misclassified.
- Two organisms omitted or misclassified.

Incorrect Response

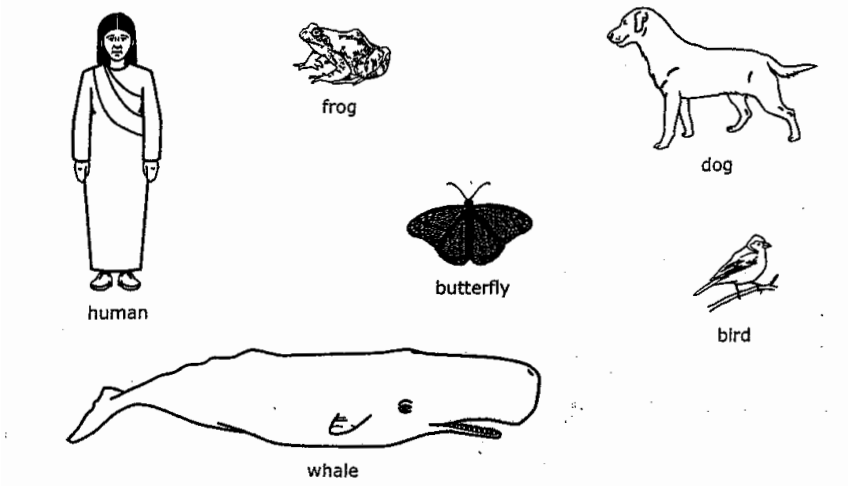
- Incorrect (including crossed out/erased, stray marks, illegible or off task)

Organisms that give birth or lay eggs (continued)

Item Number: S031252

Student Responses

Correct Response:



Some of the organisms shown above give birth to young that develop inside the mother. Some of the organisms have young that hatch from eggs that are laid outside the mother.

In the table below, write down the names of the organisms that belong to each group.

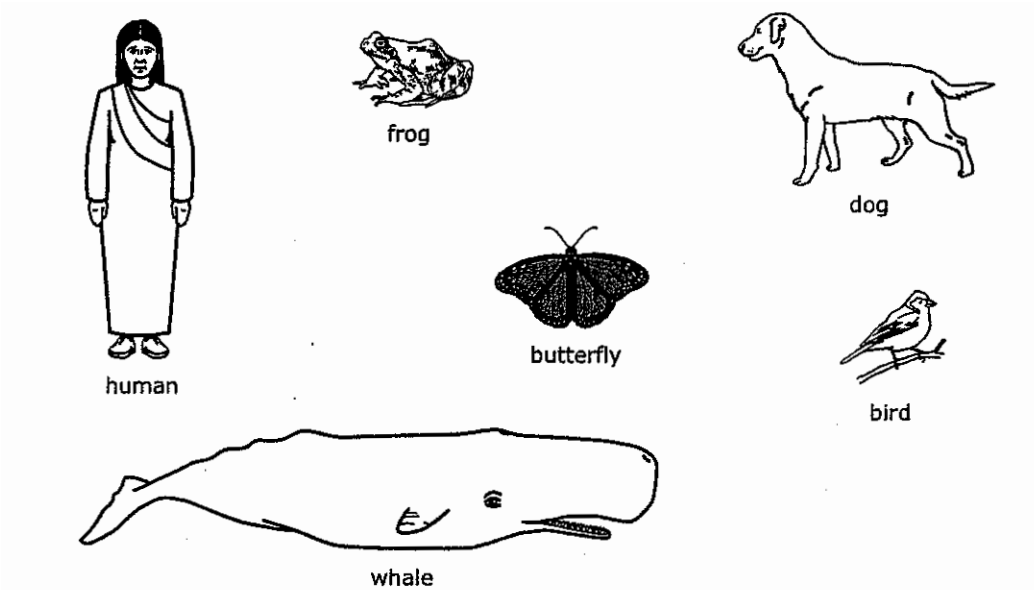
Organisms that give birth	Organisms that lay eggs
human whale dog	frog Bird butterfly

Organisms that give birth or lay eggs (continued)

Item Number: S031252

Student Responses (continued)

Partially Correct Response:



Some of the organisms shown above give birth to young that develop inside the mother. Some of the organisms have young that hatch from eggs that are laid outside the mother.

In the table below, write down the names of the organisms that belong to each group.

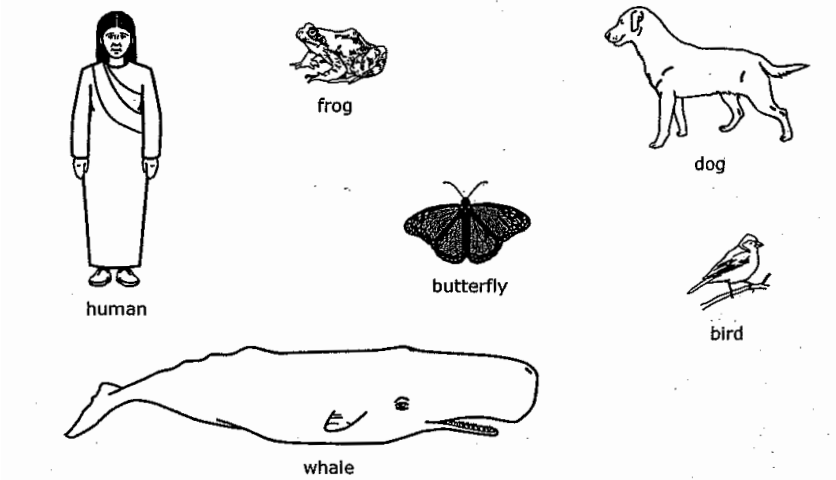
Organisms that give birth	Organisms that lay eggs
<p>human dog</p>	<p>bird frog whale butterfly</p>

Organisms that give birth or lay eggs (continued)

Item Number: S031252

Student Responses (continued)

Incorrect Response:



Some of the organisms shown above give birth to young that develop inside the mother. Some of the organisms have young that hatch from eggs that are laid outside the mother.

In the table below, write down the names of the organisms that belong to each group.

Organisms that give birth	Organisms that lay eggs
They carry the baby(s)	They do not carry the eggs