



**PAWS
Science
Grade 4**

**Released Items
With Data**

2014

Copyright © **2014** by the Wyoming Department of Education.

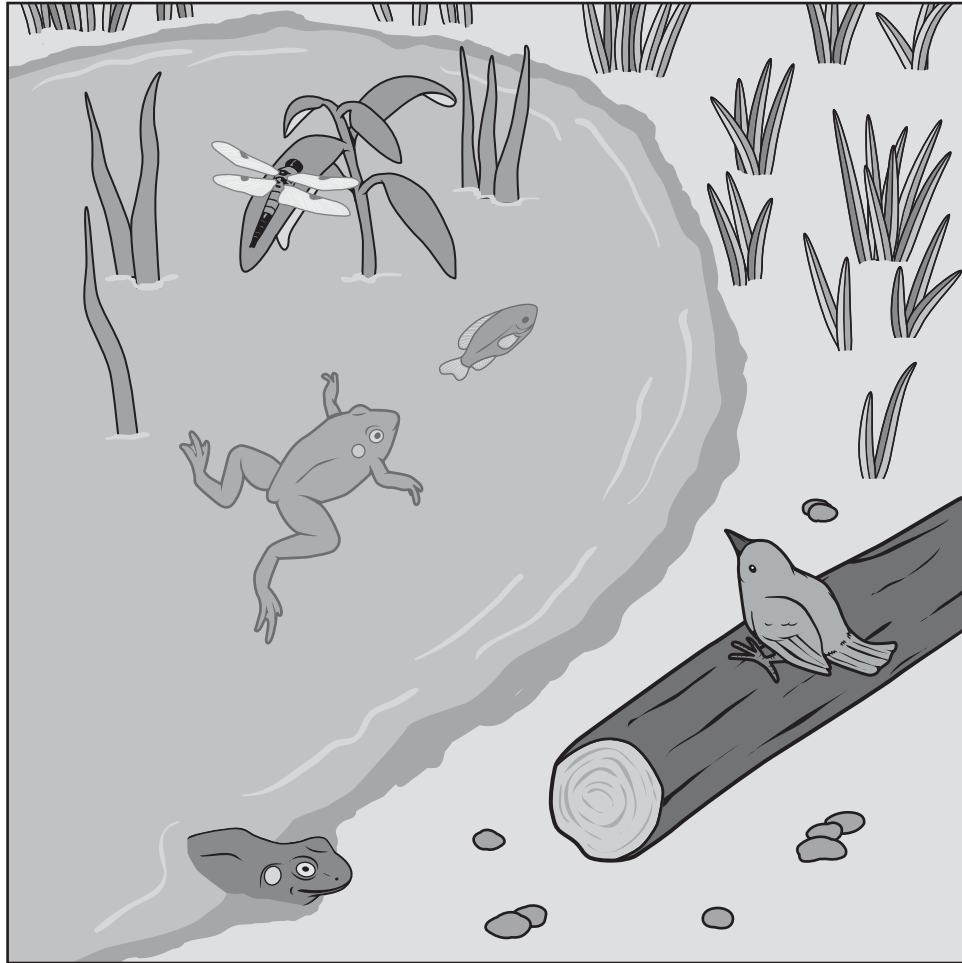
All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the Wyoming Department of Education.

Portions of this work were previously published.

Printed in the United States of America.

Bullfrog in a Pond

Students are studying the American bullfrog. They learn that this bullfrog lives near ponds, streams, or marshes. The bullfrog eats insects, birds, mice, snakes, and fish. The students went on a field trip to observe bullfrogs in a pond environment.



The students wrote their observations in a table.

00 The data the students collected are shown in the table.

Frogs Observed

Area	Number of Bullfrogs
In the pond	4
In the mud	1
On a rock	5
On a log	2

The students want to visit the pond again. Based on the data, which is the best prediction about their next visit?

- Ⓐ The students will see exactly 12 frogs.
- Ⓑ The students will see more frogs than birds.
- Ⓒ The students will see 6 young frogs in the pond.
- Ⓓ The students will see more frogs on a rock than in the mud.

Item Information	
Title:	Bullfrog in a Pond
Domain:	Life Systems
Benchmark:	SC4.1.1 Characteristics of Organisms: Students describe observable characteristics of living things, including structures that serve specific functions and everyday behaviors.
Context:	A Cells and Cellular Processes
Item Code:	VF386848

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	D	2	707	0.481

Score Analysis					
MC	A	B	C	D*	Omit
%Choosing	19.943	16.973	14.569	48.091	0.424

Dif Summary	
Group	Dif Category
Gender	A
Hispanic	
Native American	
Asian	

Item Notes

00 Data the students collected are shown in the table.

Frogs Observed

Area	Number of Bullfrogs
In the pond	4
In the mud	1
On a rock	5
On a log	2

Which of these statements is based on the data?

- Ⓐ Frogs were mostly in the pond.
- Ⓑ More frogs like rocks than water.
- Ⓒ Frogs sat on logs to get heat from the Sun.
- Ⓓ More frogs were on a rock than in the pond.

Item Information	
Title:	Bullfrog in a Pond
Domain:	Life Systems
Benchmark:	SC4.1.3 Organisms and Their Environments: Students show connections between living things, their basic needs, and the environments.
Context:	C Interactions and Energy Flow
Item Code:	VF386851

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	D	2	714	0.745

Score Analysis					
MC	A	B	C	D*	Omit
%Choosing	6.583	17.227	1.12	74.51	0.56

Dif Summary	
Group	Dif Category
Gender	A
Hispanic	
Native American	
Asian	

Item Notes

00 For which purpose is a magnifying glass most likely used in an investigation at the pond?

- Ⓐ To see details of insects
- Ⓑ To collect water samples
- Ⓒ To see frogs from far away
- Ⓓ To measure the heights of plants

Item Information	
Title:	Bullfrog in a Pond
Domain:	Life Systems
Benchmark:	SC4.1.1 Characteristics of Organisms: Students describe observable characteristics of living things, including structures that serve specific functions and everyday behaviors.
Context:	A Cells and Cellular Processes
Item Code:	VF386857

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	A	1	707	0.55

Score Analysis					
MC	A*	B	C	D	Omit
%Choosing	55.021	8.204	29.986	6.223	0.566

Dif Summary	
Group	Dif Category
Gender	A
Hispanic	
Native American	
Asian	

Item Notes

00 A bullfrog has brownish-green skin. How does the color of a bullfrog help the bullfrog survive?

- Ⓐ By making the bullfrog appear large
- Ⓑ By making the bullfrog appear small
- Ⓒ By making the bullfrog hard for predators to find
- Ⓓ By making the bullfrog easy for predators to find

Item Information	
Title:	Bullfrog in a Pond
Domain:	Life Systems
Benchmark:	SC4.1.1 Characteristics of Organisms: Students describe observable characteristics of living things, including structures that serve specific functions and everyday behaviors.
Context:	A Cells and Cellular Processes
Item Code:	VF386869

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	C	2	714	0.93

Score Analysis					
MC	A	B	C*	D	Omit
%Choosing	1.821	1.401	92.997	3.501	0.28

Dif Summary	
Group	Dif Category
Gender	A
Hispanic	
Native American	
Asian	

Item Notes

00 Which feature is most important in helping a bullfrog escape from a predator in the pond?

- Ⓐ Sticky tongue
- Ⓑ Webbed feet
- Ⓒ Large mouth
- Ⓓ Small teeth

Item Information	
Title:	Bullfrog in a Pond
Domain:	Life Systems
Benchmark:	SC4.1.1 Characteristics of Organisms: Students describe observable characteristics of living things, including structures that serve specific functions and everyday behaviors.
Context:	C Interactions and Energy Flow
Item Code:	VF386873

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	B	2	798	0.655

Score Analysis					
MC	A	B*	C	D	Omit
%Choosing	18.296	65.539	10.652	5.013	0.501

Dif Summary	
Group	Dif Category
Gender	B-
Hispanic	A
Native American	
Asian	

Item Notes

00 Which event would most likely cause a decrease in a bullfrog population?

- Ⓐ A windstorm
- Ⓑ A dry season
- Ⓒ A wet season
- Ⓓ A thunderstorm

Item Information	
Title:	Bullfrog in a Pond
Domain:	Life Systems
Benchmark:	SC4.1.3 Organisms and Their Environments: Students show connections between living things, their basic needs, and the environments.
Context:	C Interactions and Energy Flow
Item Code:	VF386881

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	B	2	798	0.706

Score Analysis					
MC	A	B*	C	D	Omit
%Choosing	5.764	70.551	12.782	10.652	0.251

Dif Summary	
Group	Dif Category
Gender	A
Hispanic	A
Native American	
Asian	

Item Notes

00 The bullfrog gets energy by eating other animals. Which term best describes an animal that gets energy from other animals?

- Ⓐ Prey
- Ⓑ Producer
- Ⓒ Carnivore
- Ⓓ Decomposer

Item Information	
Title:	Bullfrog in a Pond
Domain:	Life Systems
Benchmark:	SC4.1.3 Organisms and Their Environments: Students show connections between living things, their basic needs, and the environments.
Context:	C Interactions and Energy Flow
Item Code:	VF386901

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	C	1	707	0.419

Score Analysis					
MC	A	B	C*	D	Omit
%Choosing	33.522	14.144	41.867	10.325	0.141

Dif Summary	
Group	Dif Category
Gender	A
Hispanic	
Native American	
Asian	

Item Notes

00 The students predict that frogs will find more food in the pond than on rocks. How can the students learn if their prediction is correct?

- Ⓐ Count the number of frogs eating in the pond and eating on rocks
- Ⓑ Count the number of frogs eating and swimming in the pond
- Ⓒ Count the number of frogs swimming in the pond
- Ⓓ Count the number of frogs sitting on rocks

Item Information	
Title:	Bullfrog in a Pond
Domain:	Life Systems
Benchmark:	SC4.1.3 Organisms and Their Environments: Students show connections between living things, their basic needs, and the environments.
Context:	C Interactions and Energy Flow
Item Code:	VF386911

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	A	2	798	0.603

Score Analysis					
MC	A*	B	C	D	Omit
%Choosing	60.276	19.048	14.536	5.89	0.251

Dif Summary	
Group	Dif Category
Gender	A
Hispanic	A
Native American	
Asian	

Item Notes

00 Which of these is a characteristic that a bullfrog inherits from its parents?

- Ⓐ The mud on the frog's feet
- Ⓑ The scar on the frog's back
- Ⓒ The pattern of the frog's skin
- Ⓓ The insect in the frog's mouth

Item Information	
Title:	Bullfrog in a Pond
Domain:	Life Systems
Benchmark:	SC4.1.2 Life Cycles of Organisms: Students sequence life cycles of living things, and recognize that plants and animals resemble their parents.
Context:	B Heredity and Biological Evolution
Item Code:	VF417694

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	C	1	798	0.781

Score Analysis					
MC	A	B	C*	D	Omit
%Choosing	4.887	10.15	78.07	6.642	0.251

Dif Summary	
Group	Dif Category
Gender	A
Hispanic	A
Native American	
Asian	

Item Notes

00 The surface of the pond turns to ice in the winter. Which statement describes the change in the surface of the pond?

- Ⓐ A liquid became a solid.
- Ⓑ A solid became a liquid.
- Ⓒ A liquid became a gas.
- Ⓓ A gas became a liquid.

Item Information	
Title:	Bullfrog in a Pond
Domain:	Physical Systems
Benchmark:	SC4.1.8 Changes in States of Matter: Students demonstrate that the processes of heating and cooling can change matter from one state to another.
Context:	D Properties and Changes
Item Code:	VF417698

Admin:	Item Type:	Correct Answer:	Item Dok:	Total N-count:	Pvalue/Mean Score:
Spring 2013	MC	A	2	798	0.827

Score Analysis					
MC	A*	B	C	D	Omit
%Choosing	82.707	6.892	4.01	5.138	1.253

Dif Summary	
Group	Dif Category
Gender	A
Hispanic	A
Native American	
Asian	

Item Notes

