

from Oddball All-Stars

by Jodi Wheeler-Toppen, Ask

WORDS TO KNOW

As you read, look inside, around, and beyond these words to figure out what they mean.

- **current**
- **coast**
- **volunteering**

Turn Up the Heat

- 1 The Galápagos Islands are home to some unusual penguins. They swim. They waddle. They lay eggs. They do the same things other penguins do. But they do them on **tropical** islands, where the rocks can get hotter than 100°F (38°C). It's so hot that the penguins' eggs will cook if they are left out in the sun.
- 2 What are penguins doing in the tropics? Scientists think the first penguins got to the Galápagos by following a cool current. It flows up the coast of South America. Now small changes, called **adaptations**, let them live where it's too hot for other penguins.

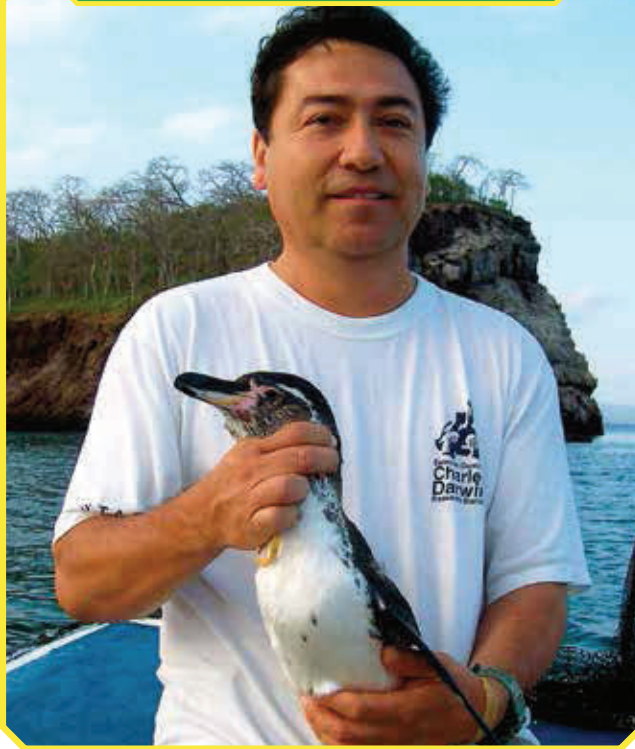


Keeping Cool

- 3 When people are hot, sweat helps them cool off. But birds can't sweat. At the hottest time of day, Galápagos penguins hang out in the cool water. But eventually, they have to return to land. And when they do, their feathers trap heat like a heavy winter coat.
- 4 Unlike Antarctic penguins, Galápagos penguins have bare skin around their beaks, on their feet, and under their flippers. When they need to cool off, they strike a funny pose. They hunch over to keep the sun off their feet. Then they hold their wings out to let the wind blow across the bare places. The wind carries the heat away. They also open their mouths and pant, like dogs. Galápagos penguins protect their eggs by building nests under the shade of rocks, out of the sun.

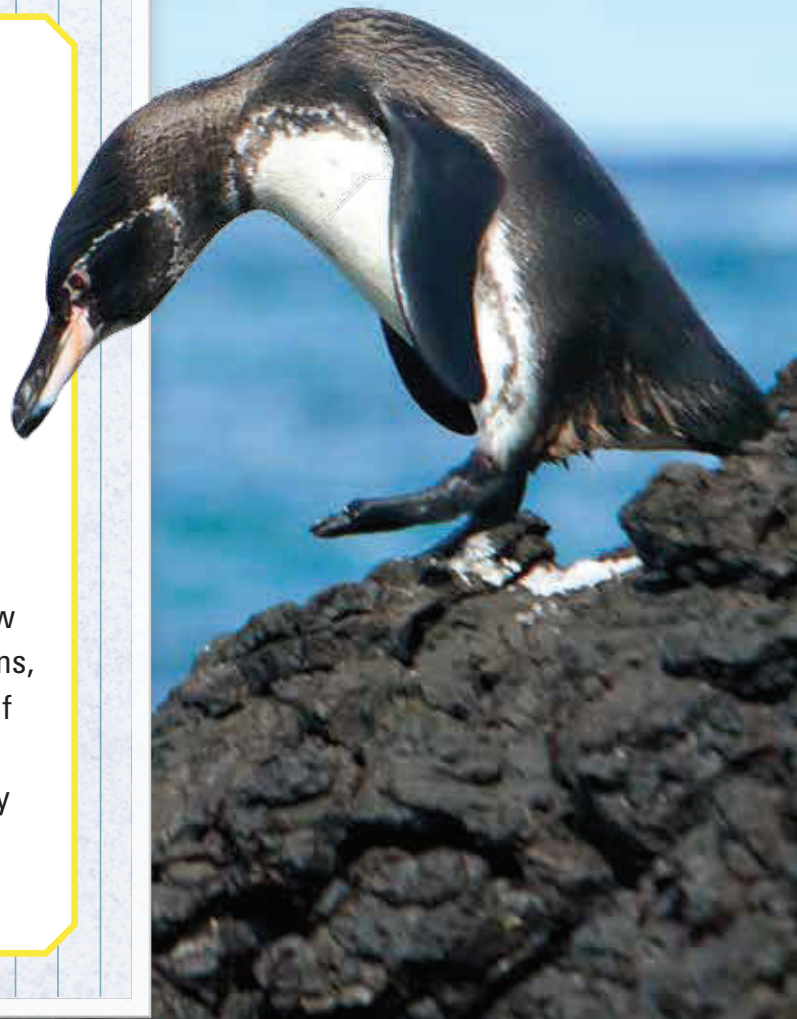


Penguin Hide and Seek



As a boy growing up on the Galápagos Islands, Hernan Vargas had no idea how special the plants and animals around him were. In high school, he started volunteering with scientists who came from all around the world to study them. Now he is a scientist himself. Counting penguins is an important part of his job.

Scientists regularly count the penguins to see how they're doing. But how many are hiding? To answer this question, Vargas and his team caught a bunch of penguins and painted some of their feathers yellow, then released them. When they counted penguins that year, they kept a separate count of the ones with yellow feathers. They found about half of their painted penguins, so they knew that about half were hiding somewhere. If half the painted penguins were hiding, probably about half of all of the penguins were hiding, too. So now they know that when they count penguins, they are getting about half of the total number.



 **Think** Use what you learned from reading the selection to respond to these questions.

- 1** What key words are called out in this article?
 - A Oddball All-Stars**
 - B Scientific Name, Home Base, Size**
 - C tropical, adaptations**
 - D Penguin Hide and Seek**

- 2** Where in the article would you tell someone to look for facts about how scientists keep track of the Galápagos penguins?
 - A the trading card titled “Galápagos Penguin”**
 - B “Turn Up the Heat”**
 - C “Keeping Cool”**
 - D “Penguin Hide and Seek”**

- 3** Next to each fact about the Galápagos penguins, write the letter of the section name that shows where that fact was found. You will use some letters more than once.
 - A Turn Up the Heat**
 - B Keeping Cool**
 - C “Galápagos Penguin” Trading Card**
 - D “Penguin Hide and Seek” Sidebar**

____ The penguins pant like dogs to cool off.

____ The birds are about 21 inches tall.

____ The penguin eggs will cook if left out in the sun.

____ Penguins may have reached the Galápagos by following a cool current.

____ Scientists paint some birds to help them count the penguins.

____ Bare skin on parts of the penguins helps them cool off.

- 4** Look at the underlined antonyms in this sentence from the “Penguin Hide and Seek” sidebar. Antonyms are words that have the opposite meanings.

To answer this question, Vargas and his team caught a bunch of penguins and painted some of their feathers yellow, then released them.

The word *caught* is the antonym of the word *released*. What does *released* mean?

- A** trapped
- B** hid behind
- C** colored
- D** let go of



Write

The Galápagos penguins are different from Antarctic penguins. How have they had to change in order to survive in the tropics? Reread the article. Draw a line under each detail that shows how the Galápagos penguins deal with the heat. Then complete numbers 5 and 6.

- 5 Plan Your Response** Make a 2-column chart. In the first column, list examples of how the penguins have changed in order to live in the tropics. In the second column, explain how each change helps them survive the heat.
- 6 Write an Extended Response** Explain the similarities and differences between the Galápagos penguins and their Antarctic cousins. First, tell how the penguins are similar. Then explain why the Galápagos penguins have had to change. Finally, tell what those changes are and how they help the penguins to survive.

[illegible]

Learning Target

Now that you understand how text features and search tools can help you find information, explain how using them could help you complete a science report.

This image shows a blank sheet of white paper with horizontal blue lines. At the top edge, there is a decorative border consisting of a row of small, light blue circular patterns. The rest of the page is empty except for the horizontal ruling lines.