

Penguins

A Compare and Contrast Book



by Cher Vatalaro

Penguins

A Compare and Contrast Book

Yes, some of the 18 species of penguins live in cold, polar regions, but most penguins live in warm climates. One species even lives near the equator! These birds “fly” through the water with flippers instead of the air with wings. Most are black and white, but one species is blue and white. Some have red eyes, and some have yellow eyes. Some even have colorful bursts of feathers atop their heads. What do they all have in common and how are they different? Explore and learn about these lovable birds in this latest installment of the Compare and Contrast Book series.

Arbordale Publishing offers so much more than a picture book. We open the door for children to explore the facts behind a story they love.

The *For Creative Minds* includes

- Penguin Fun Facts
- Penguin Identification
- Where in the World?
- Match the Adaptations

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Thanks to P. Dee Boersma, Professor of Conservation Biology, Evolution and Systematics at the University of Washington, Director of the Center for Ecosystem Sentinels and Co-Chair of the International Union for the Conservation of Nature SSC Penguin Specialist Group for verifying the information in this book.

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Cher Vataloro (Vat-a-lar-o) remembers visiting zoos and aquariums as a child and seeing the relationship the keepers and trainers had with the animals. That’s when she decided to work with animals when she grew up. College studies and internships at nature centers and marine parks led to full-time jobs. Cher is now the Director of the Conservation Education Department at the Lehigh Valley Zoo. She’s passionate about sharing her knowledge and fondness of animals through zoo programs and this debut picture book. In addition to her work at the zoo, Cher serves as the education advisor for the African Penguin Species Survival Plan® and sits on the Steering Committee for the Ambassador Animal Advisory Group. As if she doesn’t get enough animal time at work, Cher and her family have 2 cats, a dog, and a parrot.



Cher Vataloro

Penguins

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Only five of the 18 penguin species live in the cold Antarctic region. Yes, that means most penguins live in warm climates!

The Galapagos penguins even live just north and south of the equator! All other penguins only live in the Southern Hemisphere.



Unlike most birds, penguins don't fly through the air. Instead of wings, they use flippers to "fly" through the water.

Penguins waddle, hop, and slide on land.

When on land, most penguins live in groups called colonies. Some, like the yellow-eyed penguins live alone in forests.



Even though penguins mostly live in water, they lay eggs on land. Some hold their eggs on their feet to keep the eggs warm. Others create nests in rocks, sand, and crevices.



How else are they alike but different?

For Creative Minds

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Penguin Fun Facts



Some birds, including some penguins, have feather tufts, called crests, on the top of their heads. Birds can usually control their crest feathers by raising or lowering them. Male birds might do this to attract females. They might do it to “talk” to other birds or to show they are scared. Erect-crested, royal, macaroni, northern rockhopper, southern rockhopper, Fiordland, Snares, and yellow-eyed penguins are considered “crested penguins.”

Because African penguins make a braying sound like a donkey, they are sometimes called “jackass” penguins.

Just like we can be identified by fingerprints, we can identify individual banded penguins (African, Magellanic, Humboldt, and Galapagos) by the black spots on their chests.



Emperor penguins are the tallest penguins and can be as tall as 4 feet (1.2 meters). *How tall are you?*

The little penguin is the smallest species standing at just under 1 foot tall (30 cm).



It’s true... not all penguins live in the cold, polar region of Antarctica.

Except for Galapagos penguins that live on both sides of the equator, all other penguins live in the southern hemisphere. You will never find polar bears and penguins living together in the wild.



Penguin Identification

Can you use the information in the book to identify these penguins?

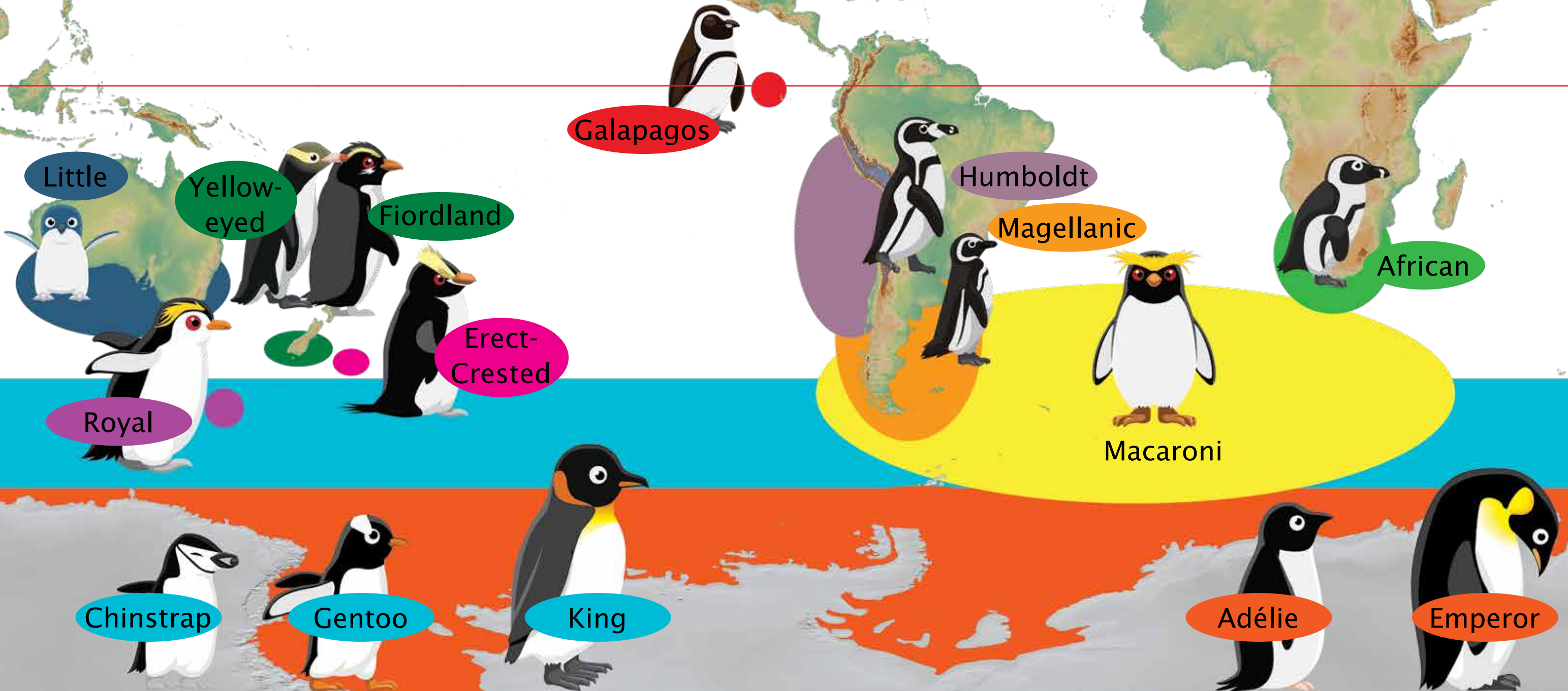
How are beak shapes and colors alike or different? Describe eye colors and feathered head crests. Which ones look more alike than others?



1: yellow-eyed, 2: chinstrap. 3: emperor. 4: macaroni. 5: northern rockhopper. 6: African. 7: king. 8: royal. 9: Magellanic

Where in the World?

Match the penguin-identifying color to see the approximate area where they live.



Match the Adaptations

All living things have adaptations that help them survive in their habitats. Match the penguin adaptations.

A Penguins have amazing **beaks**. The tips of the beaks on some penguins have a hook on them to help grab fish. The inside of their mouths and tongues have small finger-like projections (papillae) to help the birds to swallow fish whole.

B Since penguins can't fly, their **wings (flippers)** are perfectly adapted for swimming. Their wings are hard and narrow like paddles to help move through the water.

C Like ducks, penguins have **webbed feet**. They use their feet for steering and braking in the water. Their nails help them climb and hop around on land. Their feet are set back far on their bodies. That helps them swim but also makes them waddle on land.



Answers: A2-beaks, B3-flippers, C1-webbed feet

Penguins can have up to 100 feathers per square inch on their bodies! They have more feathers than any other bird!

Can you put 100 dots into a square inch?

one
square
inch

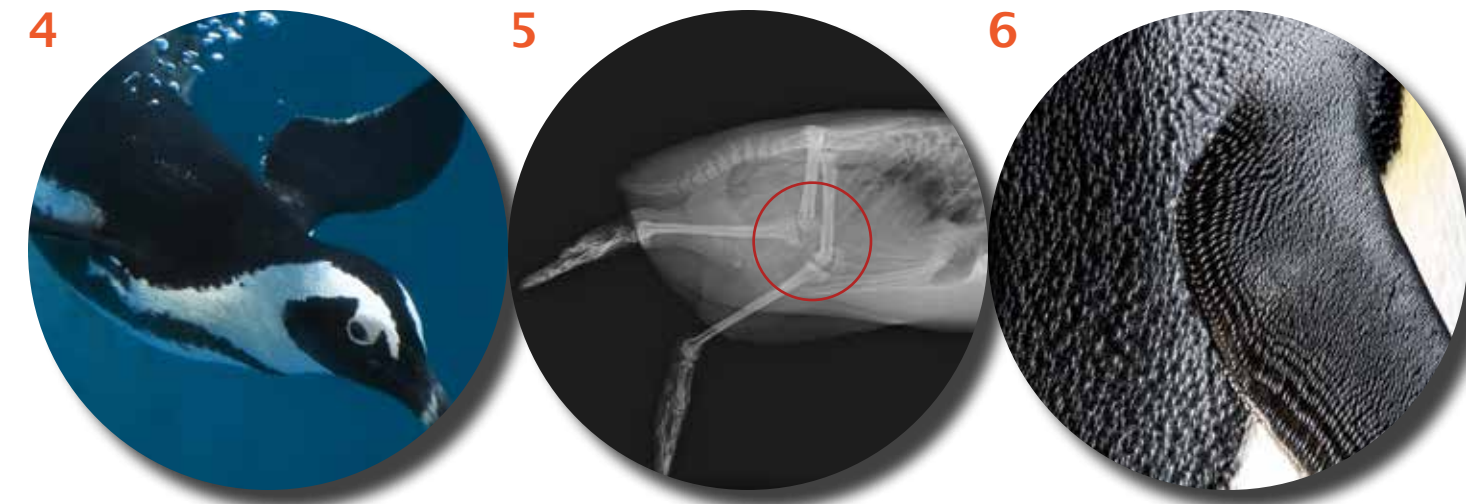
D Penguins have two kinds of **feathers**. They have an under layer that is made up of down feathers. This layer acts like a blanket and keeps the birds warm. The outer layer acts like a wet suit and helps to keep them dry. The outer feathers are oily which is what makes them waterproof.

E Since penguins don't fly, they have no need for hollow **bones**, like most other birds. Instead, they have solid bones, just like humans!

E Penguin **knees** are very high on their legs, very close to their "hips." Their knees are covered by skin and feathers so it is like when women wear tight skirts. Penguins have to take short steps because of their "tight skirts."

F **Countershading** is a special type of camouflage used by many animals. Dark backs help them blend in with the dark ocean when seen from above. Their white bellies help them blend in with the lighter surface of the water when seen from below.

What other animals can you think of that have countershading?



Answers: D6-feathers, E5-bones/knees, F4-countershading

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Thanks to the Mystic Aquarium for the use of their x-ray photos of penguin bones and knees. All other photographs are licensed through Adobe Stock Photos or Shutterstock.

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