

Why are penguins the perfect shape for swimming? What do penguins eat? Find out how these amazing birds live, play, and take care of their young in the coldest of climates.

# Penguin Power

by Frances Chan



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# Penguins Are Cool

Although few people live near penguins, these amazing birds are popular with people all around the world. Penguins are fascinating to watch. They do not fly, but they are excellent swimmers and divers. In fact, they spend up to three-quarters of their lives in the sea hunting for food.



King penguins can swim up to six miles per hour.



## Land of the Giants


Giant penguins once roamed Earth. In 1848, a large fossilized penguin anklebone was found in New Zealand. More fossils from the giant penguin have since been found, including some bones discovered by a junior nature group in 2006. Scientists believe that this penguin was about five feet tall. That's about the height of a 10-year-old girl! The biggest penguins alive today are emperor penguins. They grow up to four feet tall.

Penguins are found only in the Southern Hemisphere, mainly near the South Pole. That is why polar bears don't eat penguins. Polar bears live only in the Northern Hemisphere.



## Penguin Point

Only Adélie and emperor penguins live in Antarctica all year round. The most northern penguins live on the Galapagos Islands off the coast of South America, where it can be as hot as 100°F.

 Penguin habitats

# Super Swimmers

Penguins are shaped for swimming. Their wings act as flippers in the water. They are flat and wide like paddles. Penguins have short but strong legs, and their webbed feet help them steer in the water.

The fastest penguins can swim up to 15 miles per hour. Most penguins can dive deeper than 70 feet and can stay under the water for several minutes. Emperor penguins can dive deeper than 900 feet.



Penguins often leap out of the water to gulp for air or to hop onto land.



Penguins are shaped like submarines. Their **streamlined** bodies are able to glide easily through the water.



Flying-bird bone



Penguin bone

Flying birds have hollow bones that are filled with air. This makes the birds light enough to fly. Penguin bones are solid, which means that they are strong but heavy. Penguins are well suited for swimming and diving, but not for flying.

# Keeping Warm

Penguins, like all birds, are warm-blooded animals. To **survive** in freezing temperatures, they have a layer of fat underneath their skin called blubber. It keeps them warm.

Penguin feathers are windproof and waterproof. They are very small, but there are many of them. Emperor penguins have four layers of these scalelike feathers, with more than 70 feathers per square inch.

A penguin's dark-colored feathers absorb heat from the sun. This helps to increase its body temperature.



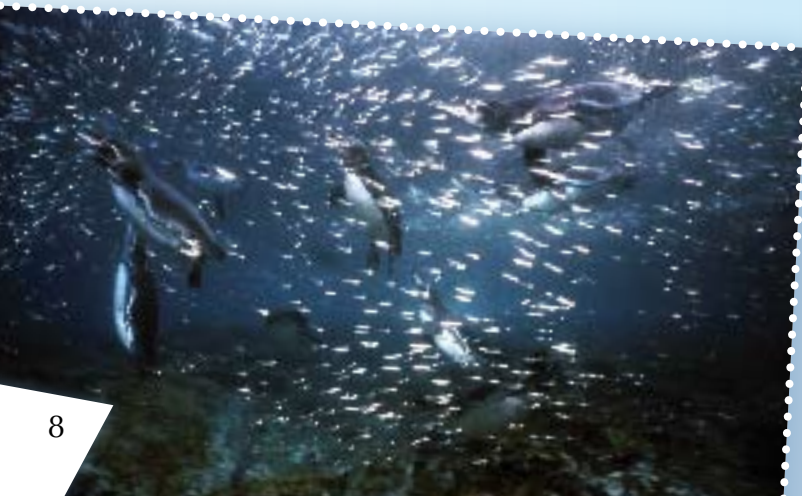
When it's cold, penguins huddle together for warmth. They take turns moving to the inside of the group, where they are protected from the icy wind.

## Penguin Point

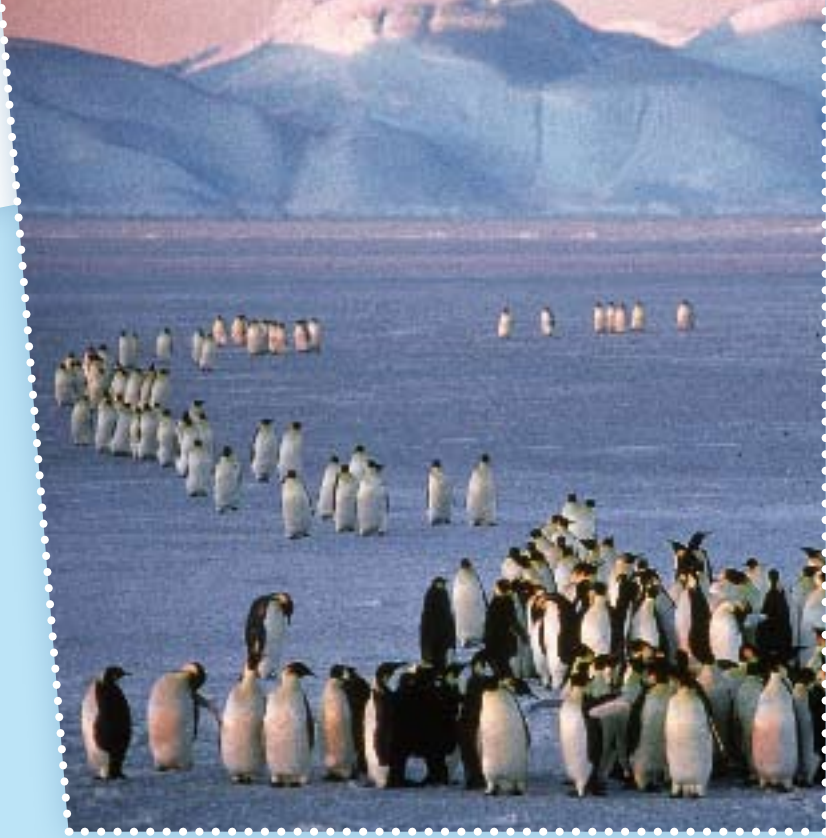
In hot weather, penguins suffer from overheating. To cool down, they spread out their wings and ruffle their feathers to let the air through. When possible, they stay in shady areas to avoid being sunburned.

# Fishy Food

Penguins like to eat fish, squid, crabs, and small shrimplike animals called krill. They catch their **prey** with their bills and swallow it whole while swimming. Their tongues have backward-pointing spines that help grip slippery prey. Some groups, or colonies, of penguins live near the ocean, where there is plenty of food. However, other penguins must search far and wide to feed. King penguins and emperor penguins walk hundreds of miles from their colonies to find food.



Galapagos penguins dive to catch small fish, such as mullet and sardines.



These emperor penguins are returning from a hunting trip. Sometimes it can take weeks to complete a single journey.



Antarctic krill are about two inches long. Krill are an important food source. Many animals eat them, including penguins, fish, seals, and some whales.

## Penguin Point

Penguins have to eat lots of krill to satisfy their hunger. In fact, they need to eat 100 pounds of krill to gain just one pound of weight!

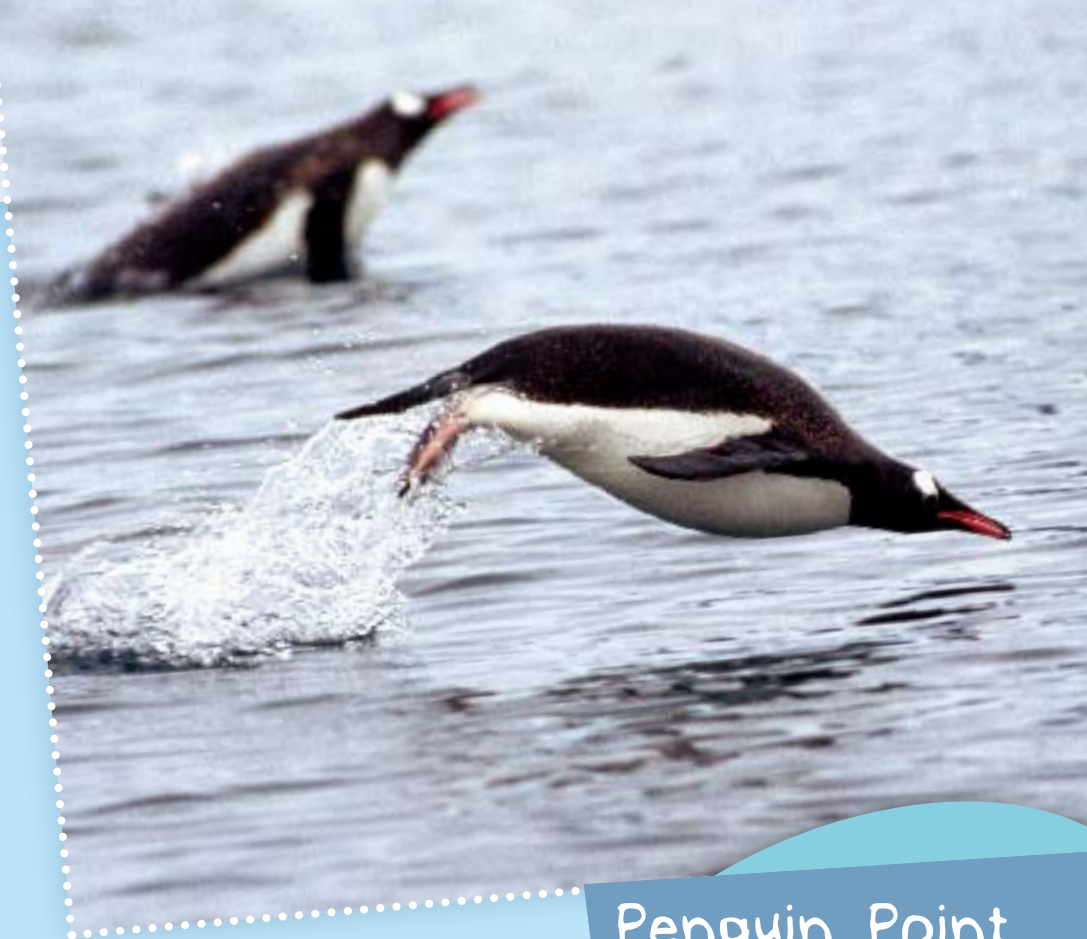
# Penguins in Danger

Penguins are prey to many animals, such as seals, sea lions, whales, and sharks. Penguin chicks and eggs are eaten by foxes, snakes, rats, and other **predators**. Seabirds, such as the giant petrel, often swoop down to snatch young penguins.

A penguin's black-and-white coloring helps it to hide from predators. From the air, a penguin's black back makes it hard for birds to spot. In the sea, a penguin's white underside blends in with sunlight from above. This makes it hard for seals to see them from below.



Abandoned penguin eggs make easy meals for seabirds, such as skuas.



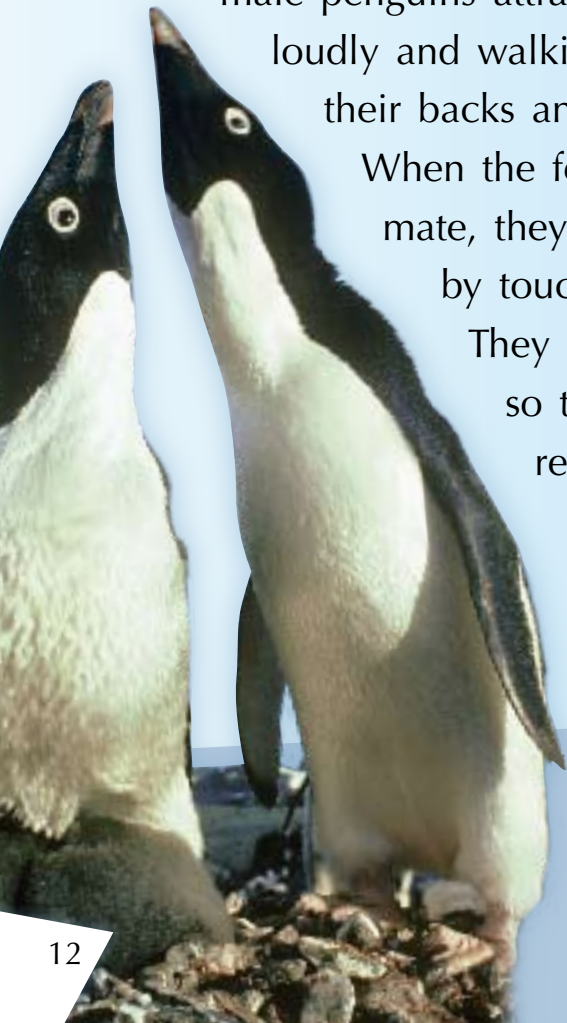
## Penguin Point

While swimming, many penguins leap out of the water every few feet. Not only does this allow them to take a breath, it also makes it harder for predators to catch them.

In the wild, penguins can live for as long as 15 to 20 years. However, in zoos, some penguins have been known to live more than 30 years.

# Going Steady

When the breeding season starts, penguins gather in nesting areas called rookeries. Young male penguins attract females by calling loudly and walking proudly. They arch their backs and stretch their wings. When the female has chosen her mate, they bond with each other by touching necks and wings. They also call to each other so they can learn to recognize one another's voice. Then they will start making a nest.



Male Adélie penguins perform a dance and call loudly to their chosen mate.



## Penguin Point

This icy valley provides a sheltered spot for an emperor penguin rookery.

Penguins usually have the same mate every year. Even when thousands of penguins return to the rookery to nest, partners always find one another again.

# Home, Sweet Home

There are many kinds of penguin nests. Penguins build nests from whatever they can find, such as rocks, leaves, sticks, or feathers. Penguins in warm places make burrows in the sand or under bushes. Galapagos and fairy penguins nest in caves. Emperor and king penguins live on the Antarctic ice where they can't build nests. Instead, the males carry a single egg on their feet and cover it with their warm belly.



Pairs of rockhopper penguins build their nest together. First, they scrape a hole in the ground, and then they fill it in with dried grasses.



Adélie penguins sometimes steal rocks from other penguin nests.

The fairy penguin, also known as the little or blue penguin, is the world's smallest penguin. It nests in caves or it makes a burrow in sand.

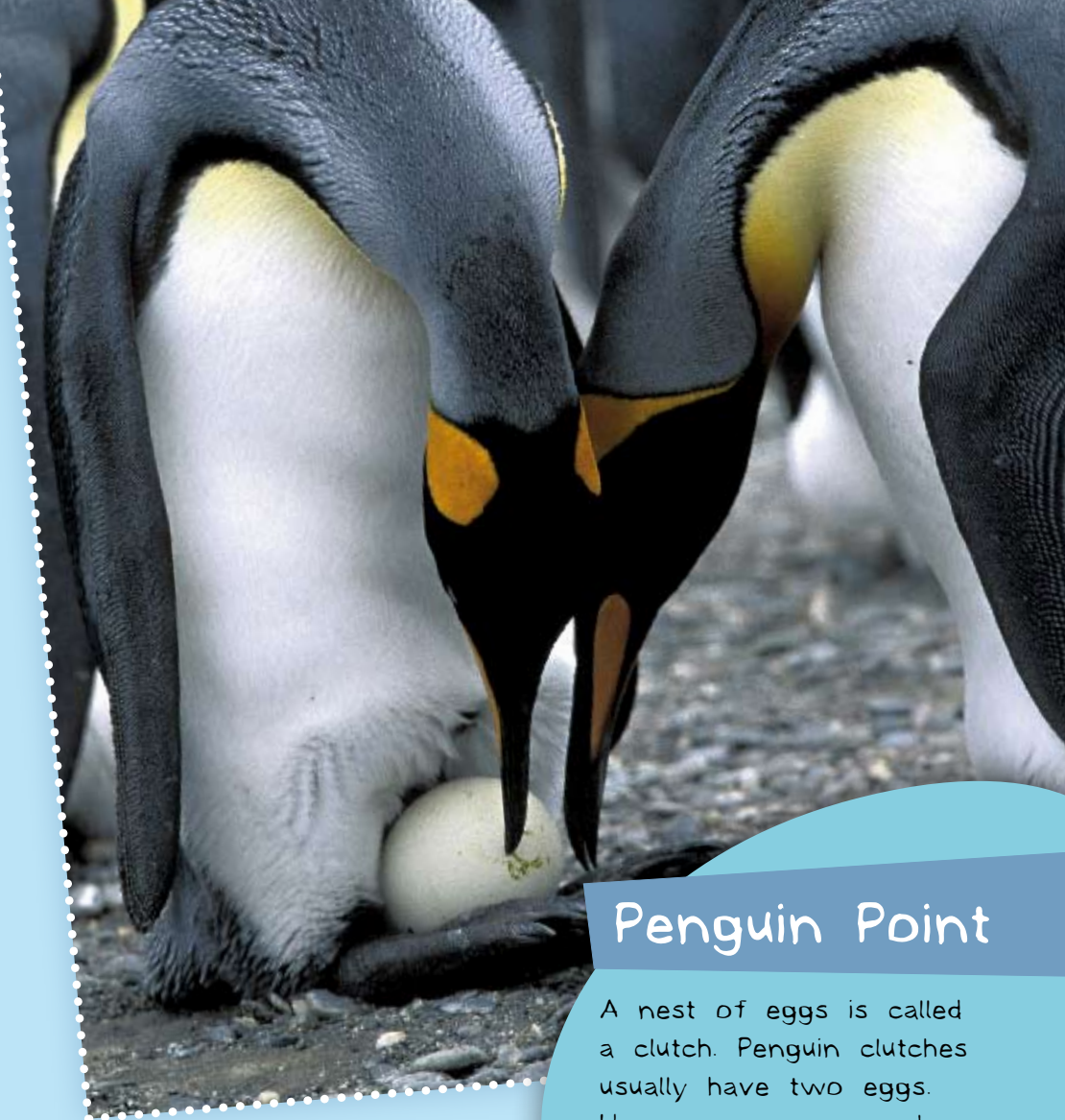


# Don't Crack the Egg!

Once the female penguin lays her eggs, she leaves to find food. The male takes over keeping the eggs warm. Most female penguins return between five and ten days later. Then it is the male's turn

to hunt for food. Sometimes if a female stays away too long, the male will get hungry and leave the nest. Then the eggs will not hatch.

Magellanic penguins protect their eggs by making a loud call to frighten away predators. The call sounds a bit like a donkey's bray.



King penguin parents take care of their egg during summer, when food is easier to find.

## Penguin Point

A nest of eggs is called a clutch. Penguin clutches usually have two eggs. However, emperor and king penguins always lay only a single egg.

# Chirpy Chicks

Most penguin eggs take between one and two months to hatch. When a chick is ready, it pokes a hole in the eggshell with its beak. Like other baby birds, a newborn penguin chick is covered with soft, fluffy feathers called down. It chirps

often so that its parents will learn to recognize its call. The parents **regurgitate** food from their stomachs to feed their young. When the chicks are big enough, both parents will leave to hunt for food. The chicks gather together in a group for protection and warmth.

Penguin chicks place their beak inside their parent's beak to feed. This way no food is wasted.



Scientists call a group of penguin chicks a crèche.

After about 12 weeks, penguin chicks lose their down and grow adult feathers. This is called molting. Once they have their adult feathers, they go to sea to hunt.



## Penguin Point

Young penguins are not the only ones that molt. Adult penguins molt once a year.

# Daily Life

Penguins are very social birds. Some rookeries are home to hundreds of thousands of penguins. When they are all calling and showing off to each other, it can be very noisy!

Penguins smooth and clean their feathers with their bills. This is called preening. They also preen in the water by rubbing their bodies with their flippers while twisting and turning over.



Penguins like to line up and dive off cliffs and sea ice into the water.



To travel faster down slopes, penguins lie on their bellies and toboggan over the ice and snow.

Sometimes penguins surf waves to get to the shore.



French film director Luc Jacquet studied the daily life of emperor penguins in Antarctica. He spent a year filming these amazing birds in action.

# Meet Dedicated Dave

The yellow-eyed penguin is the world's most **endangered** penguin species. There are fewer than 2,000 pairs left. Part of scientist Dave Houston's job is to take care of these penguins.

**Q. What do you do?**

**A.** I work at the Department of Conservation, managing conservation programs in Otago, New Zealand. These programs include caring for penguins, rare plants, fish, marine mammals, and the royal albatross.

**Q. What's the best part of your job?**

**A.** Getting out into the field to work with wildlife.

**Q. What makes the yellow-eyed penguin special?**

**A.** Yellow-eyed penguins are the only penguins that nest in coastal shrubland and rain forest. They are solitary and don't nest within sight of one another.

**Q. What are the penguins' biggest threats?**

**A.** People, introduced predators such as cats and dogs, and fishermen who catch penguins by accident.



Dave puts a band on a yellow-eyed penguin. It will help him to recognize the bird and study its growth.

Dave checks the health of a penguin. He treats it with care because yellow-eyed penguins have a strong bite!



The yellow-eyed penguin is found only in New Zealand. There are colonies on the southeast coast of the South Island and on a few offshore islands.



# Glossary

**endangered** close to being one of the last of its kind left on Earth

**habitat** an area where a plant or an animal lives naturally

**predator** an animal that hunts and eats other animals

**prey** an animal that is hunted and eaten by another animal

**regurgitate** to bring up partly digested food to feed young chicks

**streamlined** shaped to move easily through water or air

**survive** to remain alive

## Some Penguin Species

1. Fairy (little or blue) penguin
2. Rockhopper penguin
3. Magellanic penguin
4. Fiordland penguin
5. Yellow-eyed penguin
6. Chinstrap penguin
7. King penguin
8. Emperor penguin

