



## **ACTIVITY TWO**

# **WHAT MAKES A PENGUIN A BIRD?**

**Subjects:** Biology, Natural Science, Environmental Science

## **LEARNING OBJECTIVES:**

- Describe the characteristics that distinguish birds from other animals.
- Explain the special adaptations of penguins.

## **MATERIALS:**

- Index cards or small pieces of paper
- Markers

## **BACKGROUND:**

Penguins are birds - birds that dive and swim in the ocean.

What makes a bird? All birds—from wrens to ostriches to owls to penguins—have certain characteristics in common.

- Birds are vertebrates.
- Birds have lungs to breathe air.
- Birds are warm-blooded, meaning they keep their body at a constant temperature.
- Birds lay eggs, from which their young hatch.
- Birds have feathers.

Some of these characteristics are shared with other kinds of animals. For instance, fish, reptiles,



mammals and amphibians are also vertebrates. Birds, like most fish and reptiles, hatch their young from eggs. But only birds have feathers.

How are penguins unique? Penguins have adaptations for life in the ocean. They have streamlined bodies and use their wings as flippers for swimming. They do not fly.

## WHAT YOU DO:

1. Refer to the background information above, and ask students to help you make a list of the characteristics of birds. Ask them to name as many different kinds of birds as they can.
2. Then explain that penguins are birds that dive and swim in the ocean. Work together in class or ask students to do some research on penguins in order to create a list of their characteristics and where they live. Refer to the Penguin Fun Facts on page 19 in this guide.
3. On index cards, write the names of the birds that students suggest or simply create a list of different species in advance. You might also want to include the names of some non-bird species. Shuffle the cards and hand out one to each student. Place the cards face down so that students cannot read the animals' names.
4. Have students hold their cards up to their foreheads so that others can read them but they still don't know which animal they represent. Then play a round of "20 Questions," with students asking questions to help them guess their animals' identities. For instance, if the card reads "Emperor Penguin," they might start by asking "Am I a bird?" Yes. "Do I build a nest in a tree?" No. "Do I fly?" No. And so forth.
5. Depending on the size of your group, you might have students go one at a time, with the rest of the group answering their questions, or have all students mingle at once and ask questions of one another.
6. Conclude the activity by reviewing the characteristics of birds in general and penguins in particular.

## ADAPTATIONS:

**For younger students.** If students are not yet proficient readers, paste drawings or photos of the animals on the cards in addition to writing their names.

**For older students.** After completing the activity, have students devise a dichotomous key that can be used to categorize a variety of different animals. Like the activity, the key should be based on a series of yes or no questions. For example, it might start with the question "Is it a vertebrate?" A yes answer leads to Fish, Mammal, Bird, Reptile, Amphibian. A no answer leads to Insect, Worm, Mollusk, Crustacean, and Echinoderm. Subsequent questions further narrow down the choices until a single species is reached.

## USEFUL LINKS:

The International Penguin Conservation Work Group's website at [www.penguins.cl](http://www.penguins.cl) also has photos and information about the 17 species of penguin in the world.

