

Read the two passages about animal migration. Then answer the questions.

Amazing Migrations

by Stephen James O'Meara

From whales to butterflies, animals around the globe are on the move. Who hasn't noticed geese flying south for winter or the seasonal appearance of whales off our coasts? Who isn't aware of the almost clockwork-like appearance and disappearance of certain species of birds in the spring and fall?

While most of us anticipate the comings and goings of the animals that visit our neighborhoods, some scientists are gaining a more global perspective on the seasonal mass movements of animals, known as migrations. Millions of creatures undertake these extraordinary journeys of survival each year. Here are some of the most mysterious—and perhaps most unknown—amazing migrations.

Great White Sharks mysteriously appear each spring along the U.S. coast of the north Pacific in an area called the “Red (Blood) Triangle.” No one knows where they come from. They arrive in early April at the Farallon Islands, 48 kilometers west of San Francisco, where they feed on newborn seal pups. The sharks then swim south to the Channel Islands off the coast of Los Angeles, where they give birth. Come summer, the sharks circle northward to Ano Nuevo Island (just south of the Farallons) before they migrate to southern Alaska. What happens after that? No one knows.

Arctic Terns are the undisputed “migration marathon” champs. Each year, they fly from the Arctic to the Antarctic—a roundtrip of 32,000 to 40,000 km. They leave the Arctic in the fall, flying eastward across the Atlantic and then southward along the west coast of Europe and Africa until they reach the Antarctic Ocean. In the spring, they return along the east coast of South America and North America. Because the terns are in both the Arctic and Antarctic during the periods of the longest days, they see more daylight than any other living creature!

Red Crabs of Christmas Island in the Indian Ocean make one of the most bizarre migrations known. At the beginning of the wet season (usually October through November), some 120 million of these land crabs scurry from the forest to the sea, where they breed and lay eggs. The crabs travel more than 90 meters in an hour to prevent dehydration in the hot sun. The three-week journey involves climbing down high cliff faces, marching through human settlements, and crossing streams and highways. If caught in unshaded heat, the crabs die; about one million are killed crossing streets. The migration is linked to the phases of the moon so that eggs may be released into the sea precisely at the turn of the high tide during the last quarter moon.

Every year, around the end of the wet season in April, Africa's Serengeti Plain is the site of the greatest wildlife show on Earth as some 200,000 zebra, 500,000 gazelle, and 1.5 million wildebeest follow the rains and cross some of the continent's most spectacular landscapes. The main migration starts in Tanzania's Ngorongoro Conservation Area and the southern Serengeti, where the animals calve between January and mid-March. The migration then heads north into the Serengeti's western corridor, almost as far as Lake Victoria. When the grass supply has been exhausted, usually at the end of May, the herds

move farther north to the Kenyan border before returning to their breeding grounds. By the time they arrive, the grounds are once again green and lush. In the end, the animals will have covered thousands of kilometers.

Loggerhead Turtles migrate in enormous circles in both the Atlantic and Pacific Oceans. The Pacific route takes them from Japan to Mexico and back again. That's a 30,000 km roundtrip, and one of the longest migrations recorded. . . . A third of Japan's loggerhead turtles nest on Yakushima Island. One of them, which had spent a year at the Okinawa aquarium before being tagged and released in 1988, was recaptured six years later . . . in Mexico!

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Migrating Penguins . . . in a Swimming Pool!

by Stephen James O'Meara

It's true. Just ask San Francisco Zoo's penguin keeper, Jane Tollini. She witnessed firsthand one of the most bizarre migrations on record—dozens of Magellanic penguins attempting a 3,200-kilometer migration in the zoo's swimming pool.

Magellanic penguins in the wild normally migrate each year along the coast of South America from Argentina to Patagonia. The trip takes about six months. The pool saga began in November 2002, when six of the penguins formerly of Sea World in Aurora, Ohio, were brought to the San Francisco Zoo and penned with that zoo's 46 penguins. Suddenly, all 52 penned penguins at the zoo began doing something they hadn't done before—daily circular laps in unison. Tollini says that the penguins would start swimming in circles early in the day and would rarely stop until they staggered out of the pool at dusk. "I can't figure out how the Aurora penguins communicated and changed the minds of the other 46," Tollini says. But they did, and the penguins kept lap-swimming until they had completed the "migration"—26,400 pool laps. (Penguins can swim up to 24 kph.)

But Christina Slager, associate curator at California's Monterey Bay Aquarium, has studied Magellanic penguins in the wild in Argentina and Chile, and she is not surprised. Penguins, it turns out, are not only extraordinarily social animals but "very, very inquisitive," Slager says.

Of course, you need to be more than inquisitive to join in such a feat. Indeed, aquatic biologist Pam Schaller (Steinhart Aquarium, San Francisco) says that penguins are not only social but also genetically designed to swim. "I'd be more amazed," Schaller says, "if the six had learned to do something not in penguin nature and showed the other 46 how to do it—like if the birds were trained to jump through a hoop."

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20. What is the **most likely** reason the author included two questions in the first paragraph of "Amazing Migrations"?
- Ⓐ to provide an outline for the article
 - Ⓑ to capture the reader's interest in the topic
 - Ⓒ to show that the author has studied migrations
 - Ⓓ to introduce the scientific definition of migrations
21. What does the word exhausted mean as it is used in the passage "Amazing Migrations"?
- Ⓐ released
 - Ⓑ consumed
 - Ⓒ observed
 - Ⓓ fatigued

22. This question has two parts. First, answer part A. Then, answer part B.

Part A

Which pair of sentences **best** states **two** central ideas in “Amazing Migrations”?

- (A) Migrations can last several days and cover a large area. Scientists travel to areas of migration to witness this phenomenon.
- (B) The seasons determine when and where animals will migrate. Scientists are finding ways to track migrating animals.
- (C) Some less familiar animals have very unique migration patterns. Studies are revealing more information about the migration patterns of these animals that come from all parts of the world.
- (D) Migrations that take place on land cover less distance than migrations that take place in the oceans and seas. Studies include new findings on why some animals migrate farther than others.

Part B

Which **two** pieces of evidence from the passage **best** support the answer to part A? Choose **two** answers.

- (A) From whales to butterflies, animals around the globe are on the move.
- (B) Who hasn't noticed geese flying south for winter or the seasonal appearance of whales off our coasts?
- (C) . . . some scientists are gaining a more global perspective on the seasonal mass movements of animals, known as migrations.
- (D) Each year, they fly from the Arctic to the Antarctic—a roundtrip of 32,000 to 40,000 km.
- (E) By the time they arrive, the grounds are once again green and lush.
- (F) One of them, which had spent a year at the Okinawa aquarium before being tagged and released in 1988, was recaptured six years later . . . in Mexico!

23. In the second paragraph of “Migrating Penguins . . . in a Swimming Pool!” which phrase has the same meaning as “in unison”?

- (A) very quickly
- (B) under the water
- (C) as a group
- (D) until afternoon

24. How does the last paragraph **most** contribute to the development of ideas in "Migrating Penguins . . . in a Swimming Pool!"?
- Ⓐ It emphasizes the main idea of the passage.
 - Ⓑ It supports the idea that penguins are social animals.
 - Ⓒ It concludes with a memorable quote from an expert.
 - Ⓓ It provides an alternative explanation for the penguins' behavior.
25. In each passage, how does the author present key information about migration?
- Ⓐ "Amazing Migrations" focuses on the migration behavior of a variety of different animals, while "Migrating Penguins . . . in a Swimming Pool!" focuses on the migrating behavior of one animal.
 - Ⓑ "Amazing Migrations" focuses on the length of time some animals migrate, while "Migrating Penguins . . . in a Swimming Pool!" focuses on the countries the penguins came from.
 - Ⓒ "Amazing Migrations" focuses on migrating animals with the shortest and longest travels, while "Migrating Penguins . . . in a Swimming Pool!" focuses on how humans help an animal migrate.
 - Ⓓ "Amazing Migrations" focuses on the interaction of various migrating animals, while "Migrating Penguins . . . in a Swimming Pool!" focuses on how penguins know when to migrate.

