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Discovery on the Galapagos Islands

Do living things adapt to their environments?

Charles Darwin, a famous scientist, thought so. Darwin made an important discovery in 1835, while visiting the Galapagos Islands in the Pacific Ocean. He found evidence for a *theory* (thē'ə rē), or set of ideas, he had about how living things slowly change to adapt to their environments. Darwin found two interesting creatures on the islands: a finch, which is a kind of bird, and a tortoise, or turtle.



Altogether, Darwin found 14 kinds of finches. Each kind differed from the other only in the size and the shape of its beak. Darwin theorized that, over thousands of years, the finches had adapted so that each kind could eat a certain type of food. For example, a large, heavy beak is good for cracking seeds, and a narrow, thin beak is good for finding insects in rotten wood.

Darwin found more evidence for his theory when he discovered giant tortoises on several islands. He observed that the tortoises were slightly different from their relatives on neighboring islands. On islands with thick vegetation, the tortoises had thick, short necks. Food is easy to reach on these islands. On desert-like islands, tortoises had long necks to help them reach high into the bushes for food. Only the tortoises and finches that survived could have young that eventually became like their parents. They, too, were able to survive and adapt to their homes on the Galapagos Islands.

QUESTIONS

1. The word in the story that means “a set of ideas” is _____.
2. While on the Galapagos Islands, Darwin found that living things
 - a. adapt quickly to their environments.
 - b. change slowly to live in their environments.
 - c. never change over thousands of years.
3. Each of the Darwin finches was alike except for its _____.
4. The finches’ beaks were useful for
 - a. eating different foods.
 - b. hiding their young.
 - c. smelling their enemies.
5. Darwin found that tortoises with short necks
 - a. have difficulty finding insects in wood.
 - b. eat vegetation that grows close to the ground.
 - c. live on islands that are like deserts.
6. Which of the following is true according to Darwin’s theory?
 - a. Young animals are stronger than their parents.
 - b. Living things that do not adapt will die out.
 - c. Small creatures adapt more quickly to their environments.
7. What could you expect to find living on an island where only tall plants grow?
 - a. animals with long necks
 - b. tall animals
 - c. animals with short legs

A Real Cool Bird: The Penguin

How are penguins different from other birds?

Many penguins live in the extremely cold environment of the South Pole region. They can survive temperatures as low as -60°F because they have a thick layer of fat that *insulates* (in'səlāts') their bodies, or keeps them warm. Unlike most birds, penguins cannot fly. On land, they waddle clumsily along on their short legs. In the water, they use their short, stubby wings like flippers. Penguins are graceful, fast swimmers and can catch fish easily.

Most penguins raise their young in large colonies called *rookeries* (rōok'ə rēz). Usually, they build nests of stones and lay one or two eggs. However, the Emperor penguin nests in the following way:

The female, without building a nest, lays a single egg and

goes off to the sea to feed. Then the male penguin lifts the egg onto his feet and covers it with a flap of skin to insulate it. He carries the egg this way for 60 days and moves around to keep from being covered with snow. Often, as many as 6,000 males will form a group to keep their eggs and each other warm.

The female penguin returns around the time when the egg hatches. She feeds the young with food she brings up out of her stomach. The male returns to the sea for food. For the next three to four months, the male and female penguins take turns going back and forth between the rookery and the sea to feed their chick.



QUESTIONS

1. The word in the story that means “to keep warm” is _____.
2. A place where penguins raise their young is called a _____.
3. What do penguins have that fits over their unhatched eggs?
4. Which of the following is *not* true of penguins?
 - a. They can walk better than they can swim.
 - b. They are protective of their young.
 - c. They can survive the extreme cold.
5. Number the following events (1, 2, 3) in the order in which they occur in the story.
____ a. The male penguin goes in search of food.
____ b. The male penguin carries the egg.
____ c. The female penguin feeds her young.
6. Under which of the following headings would you list the penguin?
 - a. A Graceful Bird in Flight
 - b. A Land-Loving Bird
 - c. A Well-Insulated Bird

Use the scale below to answer question 7.

1	2	3	4	5	6	7	8	9	10
Fair			Good				Excellent		

7. Based on the story, how would you rate the Emperor penguin’s ability to feed its young?
 - a. 2
 - b. 5
 - c. 9