

TEKS-Based Activity for Grade 4

Hunting for Bats

Description:

In this activity, students use computers to locate factual information about bats.

Time Frame:

1 lesson (45 minutes)

Correlation to Texas Essential Knowledge and Skills:

During this activity, students will be exposed to the following Texas Essential Knowledge and Skills:

Note: Some TEKS statements below end with a ; or *and* and nothing thereafter—this indicates that further TEKS statements follow but are not included here.

(4.8) Science concepts. The student knows that adaptations may increase the survival of members of a species. The student is expected to:

- (A) identify characteristics that allow members within a species to survive and reproduce;

Note: The TEKS listed here are the main content TEKS for this activity; however, this activity may also cover additional content and process skills included in other TEKS.

Materials:

Computers with web access for each student group
Bat Facts questions (included at the end of this activity)

Resources:

Bat Conservation International. www.batcon.org. (Date retrieved: May 8, 2006.)
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Bat Conservation and Management, Inc. www.batmanagement.com. (Date retrieved: May 8, 2006.) Copyright 1998–2006, Bat Conservation and Management, Inc.

Background Information for the Teacher:

Although bats can fly, they are not birds. Bats are the only mammals capable of true flight. They have greatly modified forelimbs with leather-like skin stretched between the elongated digits of their hands. Most bat species also have a membrane of skin stretched between the tail and the hind legs that aids in maneuvering through the air.

Bats usually sleep during the day and hunt for food at night. Many use a process called echolocation to find food and to “see” in the dark. Echolocation works by

sound waves. The bat sends out sound waves, and when the sound waves hit an object, an echo comes back to the bat. Bats' ears are large and sensitive to sound, and they are able to identify objects from their echo.

Most bats roost together in large groups called colonies. Bat babies, called pups, are born in the early summer. They stay with the colony until they are about six weeks old, when they start to hunt for food with their mothers. Bats have such a highly developed sense of smell that each mother bat can find her pup anywhere in the colony. Mother bats can also locate their pups through special sounds.

Bats usually live in caves or trees, but they also live under bridges, in tunnels, and in barns or other buildings. Although bats would prefer to stay away from people, lack of habitat has forced some bats to live in urban areas. A famous urban bat colony is located in Austin, Texas, under the Congress Avenue Bridge. The bridge is home to 1.5 million Mexican free-tailed bats. Every night during the summer, the bats emerge from under the bridge and consume 5 to 15 tons of insects.

Procedures:

1. Divide the class into two groups. Give each student group a copy of the Bat Facts questions. Assign Question Set One to half of the class and Question Set Two to the other half of the class. Have groups locate answers using the websites listed in the Resources section above.
2. Have student groups report their answers to the class. During this time, groups can get answers to the questions they were not assigned.

Additional Resources:

Following is a list of books useful for providing students additional information on bats.

Earle, Ann. *Ziping, Zapping, Zooming Bats*. New York: HarperCollins, 1995.

Graham, Gary L. *Bats of the World: 103 Species in Full Color*. New York: Golden Press, Western Publishing, 1994.

Greenaway, Frank. *Amazing Bats*. New York: Knopf, 1991.

Johnson, Sylvia A. *Bats*. Minneapolis: Lerner Publications, 1985.

Milton, Joyce. *Bats: Creatures of the Night*. New York: Grosset and Dunlap, 1993.

Pringle, Laurence. *Batman: Exploring the World of Bats*. New York: Scribner, 1991.

Schlein, Miriam. *Billions of Bats*. New York: Lippincott, 1982.

Stuart, Dee. *Bats: Mysterious Flyers of the Night*. Minneapolis: Carolrhoda Books, 1994.

Bat Facts

Questions

Question Set One

Use the website www.batcon.org to answer the following questions.

1. How many kinds of bats are there in the world?
2. What special adaptation does the pallid bat have that helps it get its food?
3. Name three additional ways bats have adapted to their unique food supply.
4. What bat fact from this site was most interesting to you? Why?
5. What makes the Congress Avenue Bridge in Austin, Texas, special?
6. When is the best time to be able to see pups flying with their mothers to eat?

7. Where does a pup get food before it can fly with its mother?

8. What are three major causes of decline in bat populations?

9. How big will a Mexican free-tailed pup grow to be?

10. How old will a pup be when it can fly on its own?

11. What have the bats done for Austin?

Question Set Two

Use the website www.batmanagement.com to answer the following questions.

1. What happens to bats when people disturb them during hibernation?
2. What adaptations do bats have to help them dodge obstructions and locate prey?
3. How have bats adapted to catch insects that take evasive actions?
4. How have bats adapted to be able to eat larger insects?
5. What is the most common bat in Pennsylvania?
6. What do little brown bats eat?

7. How long does a big brown bat live?

8. What is the size of a long-eared bat?

9. Which bat is on the federal endangered species list?

10. How can people help conserve bats?