

TEKS-Based Activity for Grade 4

The Same But Different

Description:

In this activity, students research various types of bats and identify those characteristics that support survival.

Time Frame:

2 lessons (45 minutes each)

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:

Computer with web access for each student group

Resources:

“Texas Wildlife.” Texas Parks and Wildlife Department.
www.tpwd.state.tx.us/huntwild/wild/species. (Date retrieved: May 8, 2006.)

Bat Conservation International. www.batcon.org. (Date retrieved: May 8, 2006.)
Copyright 2006, Bat Conservation International, Inc.

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

“What You Thought You Knew Is Probably Wrong.” Bat World Sanctuary.
www.batworld.org/myths_facts/myths_facts.html. (Date retrieved: May 8, 2006.) Copyright 2002, Bat World Sanctuary.

“Bats, bats everywhere.” bats4kids. members.aol.com/bats4kids/index.htm. (Date retrieved: May 8, 2006.) Copyright bats4kids.

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. Ask students to list the ways in which everyone in the room is alike. Accept any reasonable answer. After hearing answers such as “two eyes,” “two legs,” etc., begin to guide students to state that we are all humans.
2. Tell the students that even though we are all humans, we have many differences. Ask students to list ways in which we are different. Tell students that these differences are called *variations*, and scientists believe that variation in a species helps the species to survive.
3. Tell students that they will now investigate the variations in bats. Assign each student group a different bat to research, and provide a handout or list on the board of the websites in the Resources section above. Have the groups create a poster that shows a picture or drawing of the bat, a description of the bat’s native environment, and three adaptations that help the bat survive in this environment.

Additional Reading Resources:

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

Earle, Ann. *Zippering, 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.