

Environmental Appreciation Day Lesson Plan: **The Beauty of Bats**

Objectives:

After participating in the EAD Bat lesson, students will:

- feel that bats are an important part of the ecosystem and list at least two ways that bats are beneficial.
- understand that bats are nocturnal and list some ways they adapt to their lifestyle (e.g. echolocation, wings).
- demonstrate how bats use echolocation to forage for their food and navigate in the dark.
- understand that bats do carry rabies, but there are precautions they can take to be safe.

Materials:

Refer to attached sheet for list of materials for this activity.

Key Concepts and background information:

Bats, the only true flying mammals, are beneficial to our ecosystem in many ways. Since they consume insects in large quantities, they play a major role in pest control. One species, the Big Brown Bat, can eat up to 500 mosquitoes per hour! Bats are extremely helpful to farmers because they prey upon insects that are harmful to their crops. In addition to pest control, bats help pollinate plants and spread their seed to help sustain plant populations.

Unfortunately, humans often look upon bats negatively or with fear, which has at times been detrimental to bat populations. As human development increases, bats continue to lose their natural habitat. It is important for people to feel that bats are important to our ecosystem and understand that we can provide the conditions bats need for survival.

In this lesson, students will interactively discover the benefits of bats and their special adaptations as nocturnal mammals. They will also learn of ways they can provide bat habitat near their homes and ways to take precaution against rabies.

Activities:

I. Introduction (5 min)

Have the students gather and sit around so they will be able to see the slide projector screen. As they are settling down, take the toy bat and make it "fly" around them. Make sure everyone gets a close look at it. While walking around with it, ask them to tell everyone how they feel about the bat. Some students may say that they are scared, or that they think of Batman, vampires, etc. After taking a few comments, tell them that a lot of people fear bats because of how they are

portrayed in the media, folklore, etc. Tell them that they are going to learn why bats are important and will learn all of the neat things that bats can do.

Next, by raising their hands, ask the students why they think bats are important. After getting responses, explain any that they may have missed (bats are pollinators and pest controllers).

II. Bean guessing game (5 min)

Holding up a jar of approximately 500 beans, tell the students that the number of beans in the jar represents the number of mosquitoes one Brown Bat eats per hour. This exercise will help them understand the large quantities of mosquitoes bats consume. Ask the students to raise their hands and shout out a guess. Help them out by saying "higher" or "lower" after each response, until someone guesses the right answer. Award the student who guessed the correct answer with a bat fact sheet, but tell the class that they all did a good job because they helped to get to the right answer.

Transition to next activity: Explain to the students that now that they have a better idea of how bats are helpful to the environment, they are going to learn more about them.

III. Bat Story (5 min)

Ask the students if they know what kind of animal a bat is. Some may say a rodent, some may say a bird, and some may say a mammal. Tell them that a bat is the only true flying mammal and read them the short story (attached to this lesson plan). After the story, pass around pictures of different bats and point out their major characteristics and ask them how they would be beneficial to their survival.

Transition: Tell the students that now that they are more familiar with what a bat looks like, they are going to look at pictures of many types of bats.

IV. Bat Slide Show (15 min)

Show the bat slide show using the accompanying text. While showing the slides, it is helpful to ask the students to describe how characteristics of each bat are helpful to their lifestyle. For example, the Red Bat blends in with the leaves surrounding it. This is helpful for avoiding predators.

Transition: Tell the students that bats have a very amazing adaptation to finding their way around at night. Call on someone who could explain what it is. Most likely, someone will describe echolocation. Tell them that they are going to play a game that demonstrates this amazing adaptation.

V. Bat and Moth (15 min)

Refer to the instructions to this game attached to this lesson plan.

VI. Conclusion

After playing a few rounds of Bat and Moth, have the students go back to their seats for a conclusion. Since they were able to learn all the benefits and amazing features of bats, tell them that it is important to understand that, like other wild animals, bats carry rabies. Review the rabies fact sheet attached to this lesson plan and have a short discussion of how they can take precautions against rabies when they see a bat. Before they regroup with the rest of the class, tell them that there are ways that humans can help provide places for bats to live by building a bat house. If any of the students are interested, they can take home instructions on how to build a bat house that explains where and how they should place it.