



## NYSDEC Environmental Education

# Biology of Bats

For Students in Grades 6 through 12

*A 45- minute program designed to teach about the biology of bats. Focus should be on local New York species and how best to protect these animals. Pictures of bats can be obtained from online resources.*

### **Goal**

Students will learn the basics about bat morphology, habitats, feeding adaptations and local species. The students will have a better understanding about the importance of bats and their biology. Bats are an important part of the ecosystem. By learning about these creatures, students will be able to make better choices throughout their lives to help protect the environment.

#### **NYS Elementary & Intermediate Level Science Core Curriculum**

##### **Standard 1: *Scientific Inquiry***

*Key Idea 1:* The central purpose of scientific inquiry is to develop explanations of natural phenomena in a continuing, creative process.

##### **Standard 4:**

##### ***Intermediate Level Science:***

*Key Idea 3:* Individual organisms and species change over time.

*Key Idea 5:* Organisms maintain a dynamic equilibrium that sustains life.

*Key Idea 6:* Plants and animals depend on each other and their physical environment.

##### ***The Living Environment:***

*Key Idea 6:* Plants and animals depend on each other and their physical environment.

*Key Idea 7:* Human decisions and activities have had a profound impact on the physical and living environment.

### **Discussion**

Discuss bats with the students to determine how much they already know.

### **Power point presentation**

Create a power point presentation discussing the basics of bats. Throughout the slide show the students should be prompted to ask questions about the biology, adaptations and overall impacts of bats. Bats are an important part of the New York ecosystem. By

better understanding these creatures, students will be able to make better choices throughout their lives to help protect the environment.

**Key Topics:**

- Bats are separated into 2 major groups; Old world and New world bats
- Bats are located on nearly every continent and make up 25 % of the mammal species found in the world (*nearly 1000 species*).
- Smallest and largest bat in the world
- Bats are the only warm-blooded mammals to have true flight
- Bats give live birth, feed their young milk and raise them in a nursery
- The skeleton structure of a bat and how it is capable of flight
- Adaptations that allow a bat to fly and hunt at night
- Bat feeding strategies, food sources, and human impacts on these resources
- Identification of local bats and their impacts on the environment
- Identification of bats found in the tropics and their impacts on items we buy everyday
- Bats as pollinators
- Dispel misconceptions and myths of bats
- Discuss how bats will use every day objects for shelter and how to prevent them from getting into your home
- Overview emphasizing on how important bats are in the environment their impacts and how myths have adversely affected their populations

***Question and Answer / Conclusion***

Conduct a follow-up discussion using a skeleton mount and a taxidermy mount of a bat to further emphasize what the students learned from the power point presentation. Bring in a bat house as an example and suggest that attracting bats to backyards are good for the environment. As time allows, students can ask questions about bats or related topics.