

LEMUR ETHOGRAM

4-5TH GRADE
SCIENCE

Learning Goals: Students are able to identify common lemur behaviors and can document and understand their purpose.

Students will be able to:

- Define behavior
- Identify at least three lemur behaviors
- Observe behavior and understand its purposes
- Describe how behavioral adaptations help lemurs survive in the wild

LESSON DESCRIPTION

Students read and then discuss the different ring-tailed lemur behaviors covered in the book. They then identify, observe, and document specific lemur behaviors while observing a video of ring-tailed lemurs interacting.

- Describe the skills and processes needed to observe and collect animal behavior data.

Materials needed:

- One pencil or pen for each student
- PowerPoint of Ring-Tailed Lemur Behaviors
- 3- minute video clip of lemurs in the wild available at www.lemurreserve.org
- Ring-Tailed Lemur Ethogram Data Sheet (two per student)

1 HOUR

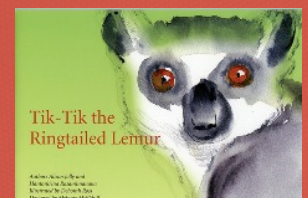
LEARNING ABOUT LEMUR LIFE

READ AND DISCUSS

1. Read *Tik-Tik the Ring-tailed Lemur* to the class or instruct students to read the book independently.
2. Once the book is completed, ask students to describe the behaviors Tik-Tik and the other the ring-tailed lemurs exhibited during the story. Explain that a behavior is any action that an animal does, and behaviors are often a reaction to a change in their environment. Blinking, eating, running, playing and grooming are examples of behaviors. Like physical adaptations, behaviors help an animal survive. They are often connected with finding food, communicating and interacting with other animals in their group, avoiding predators, and reproducing.

**FOR BACKGROUND
INFORMATION SEE:**

*LEARNING ABOUT
LEMUR LIFE*



**FEATURED BOOK:
TIK-TIK THE RING-
TAILED LEMUR**

LEMUR ETHOGRAM

4-5TH GRADE
SCIENCE

3. Use the following questions to guide the discussion. What types of behaviors did Tik-Tik exhibit in the story? Behaviors included playing, walking with his troop and on his own, hiding from predators, climbing, vocalizing (communicating with other lemurs), running, eating, sleeping, and fighting other males.

Why did he exhibit these behaviors? To communicate with other lemurs, find a mate and protect himself from predators. Playing helps young lemurs grow strong and learn how to defend themselves and their troop's home range when they are older. How would these behaviors help Tik-Tik survive?

ACTIVITY

1. Introduce the activity by explaining to students that they are going to become an ethologist. Ethologists are scientists who study animal behavior. When scientists observe animal behaviors they need to identify specific individuals and have a straightforward method for recording the behaviors. This is done with the help of an ethogram - a tool for recording observations. An ethogram lists and describes the behaviors performed by a particular species or individual. During the activity they will watch a video of ring-tailed lemurs. During the video they will identify, observe and document specific behaviors listed on the data collection sheet.

2. Distribute the Ring-Tailed Lemur Ethogram Data Sheet (2 per student). The sheet includes a list of behaviors that the students will look for when watching the video clip and spaces to mark each behavior as it is observed. One data sheet will be completed before the students watch the video clip. The other will be completed while the students watch the video clip. Students will then compare the lemur's predicted behaviors with the actual behaviors in the clip.

ANALYTICAL WRITING

Lemurs face many dangers in their lives from other animals and from humans. Think about the dangers you face each day. What can we do to protect ourselves from these dangers? Provide an example of you protecting yourself from a danger.

LEARNING ABOUT LEMUR LIFE

LEMUR ETHOGRAM

4-5TH GRADE
SCIENCE

3. Present the Lemur Ethogram PowerPoint. Tell the students that the PowerPoint includes images of each behavior listed on the data sheet. Review both the images and definitions of each behavior with the students. Emphasize that it is important that they understand what each behavior looks like so they can successfully identify them while observing the video clip.
4. Instruct students to complete the first data sheet. In the appropriate spaces, instruct students to mark the behaviors they expect to see when observing the 3-minute video clip. Students should make a tally mark each time they expect to observe a specific behavior. After observing the video students will compare the ethogram with predicted behaviors against the actual behaviors observed in the video. Note that not all behaviors will be observed in the video clip.
5. Play the video clip, available at www.lemurreserve.org in the Ako section. Before watching the video clip instruct students that they will track the behaviors of only one individual lemur in the group and mark each time they see he or she display one of the behaviors in the list. Watch each video clip and have students record their observations. Be sure to mention that these observations should be done individually. Students should not discuss or compare answers until the exercise is over.

Note, when presenting the video clip to the class, it may be helpful to have students watch each clip twice. To become familiar with the content first, students should watch the clip without making any marks on the worksheet. Then, students should watch the video clip for a second time while completing the data activity sheet. This will allow students more time to successfully process and observe their lemur's behaviors.

WRAP-UP

It is important to note that observing animal behaviors is not an easy task, even for experienced researchers! After the activity allow students to compare their observations with each other. Because

LEARNING ABOUT LEMUR LIFE

LEMUR ETHOGRAM

4-5TH GRADE
SCIENCE

of the challenges of behavior observation and collection, student answers may vary.

You may want to compare and graph their observations on the board. Students observing the same individual may want to observe the video clip as a group and discuss their observations, especially if their observation results varied.

Compare the two data activity sheets completed by the students. Were their predictions accurate? What was the same and what was different? Why? Is behavior easy to predict?

Encourage students to draw conclusions around the complexities of recording and observing animal behavior. Some questions you may want to pose include: What was the most difficult part of the data collection process? How did you identify and track your individual lemur? Was it difficult? What challenges might a scientist face when observing and documenting ring-tailed lemurs and other animals in the wild?

ZOO EXTENSION

Have students repeat/continue their behavioral observations and data collection with lemurs at the zoo. How does their behavior compare to the behavior of ring-tailed lemurs in the reserve?

Today's zoos encourage their animals to exhibit natural behaviors. They do this by creating environments that replicate the animal's natural habitat and social structure and by providing enrichment items and activities such as natural objects, scents and foods that stimulate their curiosity and challenge them mentally and physically. If possible, chat with a keeper or attend a scheduled presentation. Ask them how, through enrichment and exhibit design, they encourage animals to exhibit natural behaviors at their zoo.

LEARNING ABOUT LEMUR LIFE

EVALUATION

Have students create an ethogram using an animal of their choice. This may include a family pet or an animal species commonly seen near their school or neighborhood such as a squirrel, bird or insect. The students should research their species to determine which behaviors should be included in their ethogram.

THIS ACTIVITY MEETS THE FOLLOWING NATIONAL AND FLORIDA EDUCATION STANDARDS

FLORIDA STATE STANDARDS

4th Grade Science

SC.4.L.16.1
SC.4.L.16.3
SC.4.L.17.4
SC.4.N.1.1
SC.4.N.1.2
SC.4.N.1.5

5th Grade Science

SC.5.L.17.1
SC.5.N.1.1
SC.5.N.1.5
SC.5.N.1.6

NATIONAL SCIENCE STANDARDS

4th Grade Science

Characteristics of organisms
Organisms and environments
Abilities necessary to do scientific inquiry
Understandings about scientific inquiry
Form and Function

5th Grade Science

Structure and function in living systems
Regulation and behavior
Populations and ecosystems
Diversity and adaptations of organisms
Populations, resources and environments
Form and Function
Abilities necessary to do scientific inquiry
Understanding about scientific inquiry

NEXT GENERATION SCIENCE STANDARDS

4th and 5th Grade: From Molecules to Organisms: Structures and Processes (4-LS1-2)

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RING-TAILED LEMUR ETHOGRAM DATA SHEET

Researcher's Name

Date of Observation

Watch the video clips provided. As you see a lemur do one of the things listed below, make a tally mark in the box next to that behavior.

TYPE OF BEHAVIOR	NUMBER OF TIMES THE BEHAVIOR OCCURS
RESTING	
WALKING	
VOCALIZING	
EATING	
CARING FOR YOUNG	
PLAYING	
SCENT MARKING	