



MAKING SCIENTIFIC OBSERVATIONS USING ETHOGRAMS

Overview

Ethology is the study of animal behavior. For this activity, students will observe an animal during their Potawatomi Zoo field trip and use an ethogram to record animal behavior data. After returning to the classroom, students will then analyze their data to create a final report of their information.

Materials

- Ethogram printouts
- Chaperone Activity Outline
- Pencil/pen
- Stopwatch or Clock/watch with a second hand
- Clipboard (optional)
- Graphing Behavior Observation Data worksheets

Preparation

1. Break the class into small groups, so each group will have a designated chaperone during the zoo field trip. This allows each group to visit their chosen animal exhibit and conduct their behavior observations while having adult supervision/assistance and without inconveniencing other students.
2. Each group will select or be assigned an animal at Potawatomi Zoo to observe during your field trip. A list of suggested animals is provided. These animals should be visible, will potentially be more active, and have space around their exhibit to permit for non-crowded observation space.
3. Groups may research their animal prior to visiting the zoo by reading animal information from the zoo's website www.potawatomizoo.org or finding resources at the library.
4. Each group will need an ethogram for their selected animal. You can download ethograms from Lincoln Park Zoo's EthoSearch website (www.ethosearch.org) or create your own. This website provides additional resources as well (e.g. information about ethology).

Suggested Animals for Observation

Below you can find a list of ethograms that can be found at Lincoln Park Zoo's EthoSearch website and species at Potawatomi Zoo that can be observed using those data sheets.

- Bird: Domestic and Exotic Species > White-naped crane, Emu, Black swan
- Canine: Domestic or Wild Dogs > African painted dog
- Primate > Chimpanzee, Black-and-white colobus monkey, Diana monkey
- Feline: Domestic and Exotic Cats > Amur tiger, Bengal tiger, Lion, Amur leopard, Snow leopard
- Other Species: create your own ethogram > Kangaroo/Wallaby, River otter, Collared peccary, Prairie dog

How to Use an Ethogram

1. Ethograms list and define behaviors that an animal might exhibit. Behaviors are defined for clarity and to insure different researchers are consistent in their interpretation and reporting. Students should review the ethogram for their animal, so they are familiar with the given behaviors.
2. An ethogram also includes a table in which researchers record their data. The first column will define the observation interval (every 30 seconds on the elementary ethograms provided by EthoSearch). The column headers list the potential behaviors as described in the ethogram.
3. During the observations, someone will serve as the time keeper. The time keeper's job is to note every 30 seconds, so observers can record the animal's behavior. They could, for example, say "now" every 30 seconds.
4. At each 30 second mark, the students will look at the animal, see what it is doing, and mark the corresponding box in the ethogram table. For the first observation, students will place an "X" on the top row. If the animal is grooming, they will place the "X" under the "Grooming" column.
5. It might be helpful to do an example observation in the classroom before visiting the zoo. You can find an ethogram for a squirrel at EthoSearch's website, so students could do an observation in the schoolyard.

During Potawatomi Zoo Field Trip

1. Each group will have a chaperone as they walk around the zoo. At their animal's exhibit, the chaperone will serve as the time keeper and let his/her group know when to record an observation on their data sheets.
2. You can copy and supply each chaperone with the Chaperone's Activity Outline, which details the responsibilities of the chaperone in assisting their group with its observations and data collection.
3. Each group will designate 5 minutes to collecting behavioral data at its designated animal exhibit. If there are multiple individuals of a species in an exhibit, the group will need to select one specific animal to watch.

4. Once completed, the ethogram data sheets will be brought back to the classroom, so students can analyze and report their data.

Analyzing & Reporting Data

1. Choose how you would like students to report their data. Some options are offered below with more detailed instructions following.
 - a. Create a pie chart showing how much time the animal spent engaging in different behaviors.
 - Students will fill out the Totals at the bottom of their ethogram tables by adding the number of times the animal was observed performing each behavior.
 - Copy the Graphing Behavior Observation Data worksheet for students to use.
 - Students will create a *key* for their chart by assigning each behavior a color. To finish the pie chart, students will take a color and fill in the number of pie pieces as shown in the Total box for that behavior.
 - Repeat for each behavior, and then you have a pie chart visualizing what the animal was observed doing.
 - b. Create a bar graph showing how many times the students recorded the animal engaging in each behavior.
 - Students should have filled out the Totals at the bottom of their ethogram tables by adding the number of times the animal was observed performing each behavior.
 - Copy the Graphing Behavior Observation Data worksheet for students to use.
 - Students will fill in the behaviors along the *X-axis* (bottom) and fill in the boxes with different colors.
 - Then students will draw bars representing the total number of times their animals were observed performing each behavior.
 - c. Write a story/report about what the animal was observed doing.
 - d. Draw a picture representing what the students saw the animal doing.