



# ANIMAL BEHAVIOR OBSERVATION

## GRADES 6 - 12

### OVERVIEW

By researching the behavior of animals, zoo staff gain valuable information which contributes to keeping animals healthy and furthers conservation of wild populations of their species. Behavior is essentially anything that animals do in response to their environment. Animals engage in behaviors for four basic purposes: to find their basic needs, to avoid predation, to reproduce and interact socially, and to maintain health and resist diseases. These purposes for behavior can be remembered using the acronym “FARM”.

In this activity, students will hone their observation and data collection skills by conducting research at the zoo. The methods and activity sheet are most appropriate for observations of mammals and birds. Visit [www.zoo.org/exhibits](http://www.zoo.org/exhibits) for more information about the animals you can see during your visit. The pre-visit preparation will ensure that students are prepared to conduct a study of an animal during their zoo visit. The pre-visit activity is an engaging and hands-on activity to help students practice data collection methods before their zoo visit.

### KEY TERMS

- **Ethogram:** a list of all the different kinds of behavior exhibited by an animal
- **Focal animal:** an animal selected for a behavioral observation

### PRE-VISIT PREPARATION IN THE CLASSROOM

- **Designate working groups:** Separate students into working groups for their zoo observations. Students can work individually or in pairs to complete their observations. Each student or pair should choose one or two animals to observe at Woodland Park Zoo. You can then group the pairs or individuals together (by animal) to make groups of six. Consult the zoo map ([www.zoo.org/maps](http://www.zoo.org/maps)) to make sure each group includes animals that are near each other on zoo grounds. **At the zoo, you are required to have one chaperone for every six students.**
- **Background research:** Students may wish to do some background research on the animal(s) they have chosen prior to their zoo visit. Fact sheets for many animals at Woodland Park Zoo can be found on the zoo website.
- **Develop questions that can be answered through observation:** Using any background research gathered, have each student or pair write down three questions about their animal(s). The questions should be ones that students could potentially answer by conducting observations of animals in the zoo. The questions should be interesting to students and measureable. For example, “How much time do the giraffes spend eating and how much time do they spend sleeping?” as opposed to “Do giraffes like eating better than they like sleeping?”. Discuss with your students what types of questions are objective and measureable. While we cannot tell whether an animal “likes” a ball, we can observe and measure that it spends 50% of its time playing with the ball. If time allows, students can share their question with the class and describe how they plan to use observations in order to answer the questions. Students can also make predictions related to their questions, such as “We think giraffes spend more time eating than they do sleeping because...”

***Behavior is essentially anything that animals do in response to their environment.***

## PREVISIT ACTIVITY IN THE CLASSROOM

- **Practicing with videos:** Students can practice observing animal behavior in nature videos or video clips available online (see <https://www.youtube.com/woodlandparkzoo> for video clips of WPZ animals). Play the videos with the sound muted and students can record the behavior they observe at every fifteen second interval.

## AT THE ZOO

### Materials to bring with you to the zoo:

- “Animal Behavior Observations and Research” activity sheet (one or two per student)
- Pencils
- Zoo map ([www.zoo.org/maps](http://www.zoo.org/maps))
- Clipboard (or stiff cardboard with a binder clip)
- Stopwatches/wristwatches/cell phones with stopwatch function

During the zoo visit, students should conduct multiple, three-minute observations. It may help to have students in pairs with one keeping time and one recording observations, or chaperones can help keep time. Use different symbols to make multiple observations using one worksheet, such as circles for the first observation session and squares for the second session. Make sure to add a legend to the observation sheet.

Have each student choose one individual *focal animal* to observe. Every fifteen seconds for three minutes, students will observe and record the focal animal's behavior at that moment.

If your class is unable to complete these observations at a zoo, students can observe wildlife such as squirrels, robins, or other common birds near the schoolyard, in a backyard, or at a local park. Students could also observe pets at their home or around their neighborhood.

## POST-VISIT ACTIVITY

Students can compile, analyze and present their observations to the rest of the class using visual aids, such as photos, drawings, charts and graphs. Presentations can include what students learned about their animal's natural history, the behaviors they observed, and which behaviors were more frequently observed than others. Students could visually display with a chart or graph which one or two behaviors were most frequent and share their hypotheses for why those behaviors were most frequent.

As students analyze their results, they may develop more questions based on their findings. Encourage students to brainstorm possible questions for future behavior observations or investigations. Students may be interested in developing possible questions using the framework “If...(something changes)...then...(what they think will happen)...because...(reasoning supported by research, prior knowledge, results of observation activity, etc.)”.



# ANIMAL BEHAVIOR OBSERVATIONS & RESEARCH

*Data Sheet*

Researcher's Name(s): \_\_\_\_\_

Date: \_\_\_\_\_ Location: \_\_\_\_\_ Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

Species Name: \_\_\_\_\_ Number of Animals: \_\_\_\_\_

Description of Animal: \_\_\_\_\_

\_\_\_\_\_

Description of Habitat (exhibit): \_\_\_\_\_

\_\_\_\_\_

### Behavior Chart

- Use the following list of behaviors or choose from the sample ethogram (list of behaviors) on the next page.
- Write one behavior at the top of each of the seven columns below: resting/sleeping, eating/drinking, grooming, traveling, aggression, social interaction or not visible.
- Choose one individual (focal animal) to watch for several minutes. After each 15 second interval, put a mark under the behavior you observe the focal animal doing **at that moment**.
- If you see any other behaviors you think are interesting or noteworthy, describe them in the "Behavior Notes" section.

| Minutes:Seconds |  |  |  |  |  |  |  |
|-----------------|--|--|--|--|--|--|--|
| 0:15            |  |  |  |  |  |  |  |
| 0:30            |  |  |  |  |  |  |  |
| 0:45            |  |  |  |  |  |  |  |
| 1:00            |  |  |  |  |  |  |  |
| 1:15            |  |  |  |  |  |  |  |
| 1:30            |  |  |  |  |  |  |  |
| 1:45            |  |  |  |  |  |  |  |
| 2:00            |  |  |  |  |  |  |  |
| 2:15            |  |  |  |  |  |  |  |
| 2:30            |  |  |  |  |  |  |  |
| 2:45            |  |  |  |  |  |  |  |
| 3:00            |  |  |  |  |  |  |  |

Behavior Notes:



# SAMPLE ETHOGRAM

*List of animal behaviors*

| Type of Behavior    | Behavior      | Code | Description of Behavior  |
|---------------------|---------------|------|--|
| <i>Solitary</i>     | Sleep         | S    | Animal assumes species-specific position for sleep, stays in one place and is not alert to environmental changes.  |
|                     | Rest          | R    | Animal stays in one place but may be roused easily by environmental changes.   |
|                     | Groom self    | GS   | Animal engages in washing or smoothing its own fur or hair using tongue or forelimbs.  |
|                     | Maintenance   | M    | Animal urinates or defecates.  |
|                     | Travel        | T    | Animal moves from place to place.  |
| <i>Food Related</i> | Eat           | E    | Animal consumes food it finds in its environment.  |
|                     | Drink         | D    | Animal consumes water or other liquids found in its environment.   |
|                     | Look for food | LF   | Animal searches the environment for food items.  |
| <i>Social</i>       | Groom others  | GO   | Animal engages in washing or smoothing the fur or hair of another animal in its environment.   |
|                     | Play          | P    | Animal engages in interactions with another animal that may involve locomotion, climbing, manipulating objects or other activities that show a relationship between two or more interacting animals. |
|                     | Contact       | C    | Animal comes in contact with another animal while engaging in a solitary behavior.   |
| <i>Aggressive</i>   | Fight         | F    | Animal engages in physical conflict with another animal in its environment.  |
|                     | Steal food    | SF   | Animal approaches another animal that has located food in the environment and either by physical force or distraction, removes that food item from the vicinity of the other animal.                 |
| <i>Off Exhibit</i>  | Off exhibit   | O    | Animal is not visible in exhibit.  |