Comparing Animal Behavior

Program Overview
The program provides students with background information on studying animal behavior. During this component, they will learn how to carefully observe and record data that focuses on what an animal is doing and the variables that may impact an animal’s behavior. After this brief introduction, students will travel to zoo exhibits to conduct their own animal-behavior studies. At the end of the observations they’ll review their data, draw conclusions and share their discoveries with their peers.

Lesson Objectives
- Students will learn about the science of ethology and how it is used in scientific research at the zoo.
- Students will record behavioral data based on careful observations.
- Students will compare behavior between multiple species.
- Students will communicate their findings.

Background Information
The study of animal behavior is called ethology. When scientists conduct observations they rely on set procedures to collect data that is as accurate as possible. When observing animals they often use a tool called an ethogram, a list of all possible behaviors. Using an ethogram helps when multiple scientists are observing the same animal to ensure their data is consistent enough to be compared. There are many different ways to collect behavioral data. A common method is interval sampling, during which the observer notes what the animal is doing at pre-set, evenly spaced time intervals.

Students will participate in at least two sets of animal-behavior observations. They’ll spend time at zoo exhibits to see how animals interact with one another and their environments. A zoo educator will encourage students to choose two separate animal species to compare. Students will collect data on these species, compare behaviors and discuss any variables that may have affected the behaviors they observed. Studying animal behavior is a critical component in conserving wildlife. It provides zoo staff with information that can aid in caring for animals at the zoo and provides scientists with information that can help conserve wild populations.

How to Prepare
While advanced preparation is not required for a successful visit, reviewing a few basic skills before your visit can help make your students’ experience more meaningful.

- To support the data-collection activity, review the definition of time interval. Students will be recording data at set times. Understanding what a time interval is will be helpful to this process.
- To support data-collection skills, students should practice quietly observing an animal for a time interval. Students should understand that being a quiet observer is important when collecting authentic behavioral data.
- To support sharing discoveries, review the vocabulary below and how to respectfully share ideas with peers and draw conclusions.

Vocabulary:

| Behavior | Observation | Time interval | Ethology* | Ethogram* |

* Teacher Note: The study of animal behavior is called ethology. When scientists conduct animal observations, they rely on specific procedures to collect data that is as accurate as possible. Ethograms are a list of all the possible behaviors an animal might exhibit. To learn more about ethograms and ethology, visit www.ethosearch.org and select the education track.
Back at School

Extend the Inquiry

We hope you’ll continue your explorations long after your zoo visit. We’ve provided a few ways you can extend inquiry-based explorations of animal behavior to the classroom.

- Use an ethogram from www.ethosearch.org to observe the behavior of a schoolyard animal such as a squirrel or bird. If your school has iPads or students have iPhones, download the free Observe to Learn iPad and iPhone application to practice data collection at home or in the schoolyard.

- Have students use the EthoSearch website to create an original ethogram for an animal they encountered on school grounds.

- Encourage students to observe a schoolyard animal and record the different areas of the schoolyard it most commonly uses.

Connect Across the Curriculum

These are a few ways you can connect your science investigations with other areas of the curriculum.

Math

- Have students compile their data to create charts and graphs to clearly communicate their results.

Art

- Encourage students to create scientific illustrations of the schoolyard animals they observed.

English Language Arts

- Prior to using an ethogram, have students record general behavior observations in a field journal.

NGSS Standards

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Illinois Goals and Standards


Common Core Mathematics

Statistics and Probability: 6.SP.A.1, 6.SP.A.3, 6.SP.B.4, 6.SP.B.5, 7.SP.A.1, 7.SP.A.2, 7.SP.B.3, 7.SP.B.4, 8.SP.A.4

Common Core English Language Arts

ELA-Literacy: RST.6-8.3, RST.6-8.4, RST.6-8.7, RST.6-8.8


Speaking & Listening: SL.6.1, SL.6.2, SL.6.4, SL.7.1, SL.7.4, SL.8.1, SL.8.4