

Animals Living Together

*Illinois Goals and Standards**Science: 11.A, 12.B, 13.A, 13.B Math: 10.B English Language Arts: 4.A, 5.A*

Program Overview

The first part of the program will provide students with background information on different species and whether they prefer to live alone or with others. During this component, students will learn the definition of solitary animals (animals that prefer to live alone) and social animals (animals that prefer to live together). After this brief content introduction, students will travel to a zoo exhibit to make their own observations. While observing different animal exhibits, they'll determine if an animal prefers to live alone or with others and record their observations on a provided data sheet. At the end of the observation, they'll review their data sheets and share what they observed with their peers.

Lesson Objectives

- Students will observe and describe animal interactions.
- Students will differentiate between solitary and social animals.
- Students will record data based on careful observations.
- Students will draw conclusions based on collected data.

Background Information

Some animals prefer to live with others. Scientists refer to these animals as social animals. These animals live in family groups in which parents and young live together. Sometimes the groups can be very large and include many families.

Other animals prefer to live alone. Scientists refer to these animals as solitary animals. They do not spend much time with other animals except when they are breeding or raising their young. If space and food are plentiful, solitary animals can live near each other sharing resources but not interacting.

Scientists can determine if an animal is social or solitary by observing whether or not the animal spends time with others or alone. They might use an ethogram, a behavioral observation tool, to help collect consistent data about an animal's social or solitary behavior. The scientist may record the behavior of an animal at pre-set, evenly spaced intervals. This method is called interval sampling.

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 the data-collection activity, review how to draw and label an accurate representation of a habitat or object.
- To support sharing discoveries, review the vocabulary below and how to respectfully share ideas with peers.

Vocabulary:

| Species | Social | Solitary | Ethogram* | Time Interval |
|---------|--------|----------|-----------|---------------|
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** Teacher Note: When scientists conduct animal observations, they rely on specific procedures in order 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, the study of animal behavior, 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 visit to the zoo. We've provided a few ways you can extend inquiry-based explorations of social versus solitary animals to the classroom!

1. Survey the schoolyard and identify the various types of animals that live there. Can students determine if each species is solitary or social, based on their observations?
2. Ask the students to identify spaces where they have seen more than one type of animal living in a close proximity. How do the animals share this environment?
3. Locate video clips of large numbers of animals living together socially such as a herd of wildebeest or a flock of flamingos. Ask students to share their observations of how the animals interact with each other.

Connect Across the Curriculum

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

Math

- After observing the animals in the schoolyard, have students tally how many species they determined to be social and how many they determined to be solitary. Can they graph their results?

Social Studies

- After surveying the schoolyard animals, ask students to create a map of the schoolyard. Indicate where animals live and label whether they are solitary or social.

English Language Arts

- While observing the video clips described above, have students take notes in a field journal as if they were a researcher observing these animals in the wild.