

- Have students identify behaviors in the animal kingdom that they think may not be directly motivated by the need to survive. Discuss as a group to confirm or refute the suggestion.
- Discuss the statement "behaviors communicate information" with students.
- Have students write a creative essay that details a day in the life of a person who is lacking many of the learned behaviors most humans have been taught.

Follow-up Activities

- Using animals such as goldfish, parakeets, mice or rats in the classroom, have students design their own investigations that might lead to developing new learned behaviors (e.g. having the fish associate tapping on the bowl with food; teaching the bird to repeat words; maze-train a rat).
- Have students create two running lists of non-human animal behaviors (including communication), classified as instinctive or learned. Have them do the same for humans. Compare/contrast these lists as a classroom display.
- Have groups of students research different forms of animal training, explaining the teaching strategies (e.g. seeing-eye dogs; obedience and/or attack training; Marine World shows; circus animal acts).

Internet Resources

www.umassd.edu/public/people/kamaral/thesis/marinemammalacoustics.html

Get the scoop on this online debate as to whether the vocalizations of marine mammals are a form of communication or a simple behavior. This interesting Web site also features many marine mammal sound clips.

whyfiles.news.wisc.edu/006migration/

"The Why Files" offers a comprehensive examination of the migratory behavior of mammoth monarch butterflies, tracking the spectacular flight of millions of butterflies to the wintering grounds of their ancestors.

Suggested Print Resources

- Brooks, Bruce. *Making Sense: Animal Perception and Communication*. Farrar Straus Giroux, New York, NY; 1993.
- Facklam, Margery. *Bees Dance and Whales Sing: The Mysteries of Animal Communication*. Sierra Club Books for Children, San Francisco, CA; 1992.
- Gardner, Robert and David Webster. *Science Project Ideas About Animal Behavior*. Enslow Publishers, Springfield, NJ; 1997.
- Pascoe, Elaine. *Animal Intelligence: Why Is This Dolphin Smiling?* Blackbirch Press, Woodbridge, CT; 1998.

TEACHER'S GUIDE CONSULTANT

Conrad M. Follmer

25 years as a K-5 Science & Math Coordinator for a Pennsylvania public school system, currently an independent consultant to elementary schools.

TITLES

- AMPHIBIANS
- ANIMAL ADAPTATIONS
- ANIMAL BEHAVIOR & COMMUNICATION
- ANIMAL CLASSIFICATION
- ANIMAL INTERDEPENDENCY
- ANIMAL LIFE CYCLES
- ANIMAL NEEDS
- BIRDS
- ENDANGERED & EXTINCT ANIMALS
- EVOLUTION
- FISH
- FOOD CHAINS
- INSECTS & OTHER ARTHROPODS
- MAMMALS
- MARINE & OTHER INVERTEBRATES
- REPTILES

Teacher's Guides Included
and Available Online at:



800-843-3620



Copyright 2000 by Schlessinger Media, a division of Library Video Company
P.O. Box 580, Wynnewood, PA 19096 • 800-843-3620
Executive Producers: Andrew Schlessinger & Tracy Mitchell
Programs produced and directed by Burrud Productions Inc.
All rights reserved



Animal Behavior & Communication

Grades 5–8

Students in grade 5-8 classrooms possess a wide range of background knowledge. Student response to this video program is sure to be varied, so the teachers for these grades need all the help they can get! This guide has been designed to help science teachers in grades 5-8 by providing a brief synopsis of the program, pre-viewing and follow-up questions, activities, vocabulary and additional resources.

Before Viewing: Extensive research tells how important it is for the teacher to discover what the students know — or think they know — about a topic, before actually starting a new unit. Therefore, after prompting discussion with the pre-viewing questions, lead your class to create a "Everything We Think We Know About..." list. You may also wish to preview key vocabulary words, and have students raise additional questions they hope will be answered.

After Viewing: Have your students share video excerpts that fascinated or surprised them, then challenge your students to prove or disprove the accuracy of the facts they put on their "Everything We Think We Know About..." list. Discuss what else they learned and use the follow-up questions and activities to inspire further discussion. Encourage students to research the topic further with the Internet and reading resources provided.



Program Summary

An animal's behavior is everything an animal does — both its actions and its reactions. The driving force behind an animal's behavior is its need to ensure survival by meeting its base needs. These needs include food, water, air, shelter, maintenance of body temperature and the need to reproduce.

Animal behaviors can be separated into two types — instinctive and learned. All animals are born knowing how to do certain things naturally. For example, spiders do not need lessons in web spinning and fish do not need to be taught how to swim. In addition, many animals migrate, hibernate or estivate to escape adverse environmental conditions. All of these actions are examples of instinctive behaviors. However, animals also display learned behaviors, which they pick up through trial and error or by interacting with their parents or other adults. Lions teach their young cubs how to attack prey, while humans teach their pet dogs to sit up and beg. Whether instinctive or learned, behaviors are connected to survival needs. Some animals satisfy these survival needs by cooperating with — or living off of — other animals. This is called symbiosis. There are three types of symbiotic behavior: mutualism (both animals benefit), parasitism (the host is actually harmed by the parasite) and commensalism (the host is neither helped nor harmed, but the guest profits).

Communication, or sharing information with other animals, is also very important. There are two types of communication: verbal and non-verbal. A wolf's howl may either communicate a warning or signal an "all-is-well" message to the pack. A migrating whale communicates with others in its pod to keep in touch over thousands of miles. These are examples of verbal communication — using sounds to give a message to others, whether of the same species or with other animals. Non-verbal communication employs body movements and gestures. Dogs wag their tails when happy, bees "dance" to show their fellow workers where flowers are located and male peacocks spread their tail feathers to signal their readiness to mate.

Vocabulary

The following words are included for teacher reference or for use with students. They are listed in the order in which they appear in the video.

behavior — An animal's actions and reactions in response to stimulants in its environment.

instinctive behavior — Behaviors that animals are born knowing how to do (e.g. fish are born knowing how to swim).

(Continued)

learned behaviors — Behaviors that must be taught to young animals by adults or learned over time through trial and error (e.g. lions teach their cubs how to hunt).

hibernation — The dormant or sleeping state that some animals go into in response to extremely cold temperatures. During hibernation, the animal lowers its body temperature in order to survive.

migration — The act of traveling from one location to another which can better satisfy an animal's needs in response to unfavorable temperature or food availability.

estivation — A response to extreme heat or dryness, by which some animals go into a temporary sleeping state by burying themselves or sealing off their shells.

symbiosis — When two different species of animals live together in close association for the benefit of one or both of the organisms. There are three types of symbiotic relationships — mutualism, parasitism and commensalism.

mutualism — A symbiotic relationship in which both animals involved benefit.

parasitism — A symbiotic relationship in which the host suffers while the guest benefits.

commensalism — A symbiotic behavior in which the host is not helped or harmed, but the guest still benefits.

communication — The sharing of information among animals of the same or different species. The two types of communication in the animal world are verbal and non-verbal.

verbal communication — Type of communication where information is shared through the use of sounds.

non-verbal communication — Type of communication where information is shared through the use of body movements or gestures.

Pre-viewing Discussion

Before students generate their list of "Everything We Think We Know About..." for this topic, stimulate and focus their thinking by raising these questions so that their list will better reflect the key ideas in this show:

1. What types of animal behaviors are there?
2. What factors influence an animal's behavior?
3. What are some ways in which animals communicate?

After the class has completed their "Everything We Think We Know About..." list, ask them what other questions they have that they hope will be answered during this program. Have students listen closely to learn if everything on their class list is accurate and to hear if any of their own questions are answered.

Focus Questions

1. What is the common motivation for all animal behaviors?
2. What are the two categories of animal behavior?
3. What is an instinctive behavior?
4. What is a learned behavior?
5. Using a household pet as a reference, can you describe behaviors that you know are learned?
6. What are some examples of instinctive and learned human behaviors?
7. What is "trial-and-error" learning?
8. What are three instinctive behaviors that some animals exhibit to adapt to or escape from adverse environmental conditions?
9. What is the difference between hibernation and estivation?
10. What are some examples of animal behaviors that depend on a predator/prey relationship?
11. What is symbiosis? What are the three types?
12. If you were the host in a symbiotic relationship, which of the three forms of symbiosis would you prefer?
13. What is parasitism?
14. What is communication? Why is communication necessary in the animal world?
15. What is verbal communication?
16. What is non-verbal communication?

Follow-up Discussion

Research indicates that students will retain their previous misconceptions about a topic, in preference to new information, until they actively recognize and correct their own errors. Therefore, it is important to have your students re-examine the facts/beliefs they put on their "Everything We Think We Know About..." list. It might also be helpful to review the list by marking each entry with a "+" or "-" to show which facts were correct and which were incorrect.

Discussions that ensue from thought-provoking questions provide a good way to assess the overall depth of student understanding. The following are some suggested discussion questions.

1. Discuss with students the three types of symbiotic relationships that are found in the animal kingdom. Using humans as an example, discuss situations in which we take part in symbiotic relationships with other animals.

(Continued)