



## The Zoo and You

### Leader facilitated activities for older scouts

The following discussion questions and activities are designed to help leaders supplement their troop's visit to the North Carolina Zoo. Zoo Patches are available for purchase in Earth Explorer Gift Shop – consider using these as an incentive to complete some of the activities below!

If interested in a program specifically designed to meet badge requirements please visit our website to learn about [Scout Badge programs](#) offered at the Zoo.

#### Pre-trip/Post-trip Activities

1. Plan a trip to the Zoo.
  - a. How will you get there?
  - b. How much money will you need?
  - c. What type of clothing will you wear?
  - d. Do you plan to take a meal with you? If so, what kind of food?
  - e. Determine what time of year might be best for a visit.
2. Complete a project to benefit the environment. Here are some examples, but get creative and come up with one of your own!

Plant a wildlife attraction garden	Create a bird feeder station
Plant one, or several, trees	Adopt a stream
Plan and conduct a recycling project	
3. Discover the history of zoos and describe their changing purposes from their beginnings to today.
4. Design your own zoo and include a list of animals and why you selected these animals. This could be a troop activity with each Scout designing a certain area. Build a model of one of the exhibits in your zoo.
5. Construct and stock an aquarium or make a terrarium.
6. Research and learn about the Association of Zoos and Aquariums (AZA) and the American Association of Zoo Keepers (AAZK) organizations. Discuss their role in the zoo world.
7. Prepare a short story or poem about three of your favorite zoo animals. Share these writings with the troop at a meeting or in your newsletter.

## **During Your Visit**

1. Discuss the difference in the terms “cages” and “natural habitats”. The Zoo must take into account the natural history needs of each species when designing and building their exhibits. Debate if a good home for a person is a good habitat for an animal.
2. Complete the *Wildlife Observations* lesson for students (see below).
3. Make a list of endangered animals and plants. What has caused some animals and plants to become endangered? Identify animals within the Zoo that are endangered species. What are some things you can do to help make the Earth a healthier place for all living things?
4. Look for some characteristics of plants that may help them survive in their native habitat. Examine (with your eyes!) plants within the Desert, RJ Reynolds Forest Aviary, and the wooded area along the path for these adaptations. Look for: thorns, waxy coating on leaves, rough or thick bark, leaf size, nuts, seeds, fruits or berries, fragrant blooms, growing on another plant, or fuzz or “hair” on the leaves.
5. Discuss how the Zoo might serve the community and state in the future. What would you change or add to the Zoo to improve it?
6. Bring your camera to the Zoo. Make a collage of the different areas within the Zoo or classifications of animals. Have a photography contest for the best pictures of Zoo plants and animals.
7. Explore careers available at a zoo – such as zoo director, educator, veterinarian, animal keeper, horticulturist, habitat designer, etc.

# Wildlife Observations

## OBJECTIVES

Students will:

- demonstrate the ability to observe
- use senses to investigate the natural world
- investigate the environmental adaptations of living organisms
- demonstrate the ability to communicate
- demonstrate the ability to infer
- develop an understanding of the need for conservation, preservation and wise use of natural resources

**Materials:**

- Wildlife Observation work sheet - one per student
- chart paper - approximately five sheets per team
- pictures of animals that may be seen at the Zoo (optional)
- access to reference materials such as field guides, nature books and videos, and the web

I hear and I forget.

I see and I remember.

I do and I understand.

-Chinese Proverb

## BEFORE VISITING THE ZOO

1. Inform students that it is possible to learn a lot about plants and animals by observing them very carefully. Scientists in the field spend many, many hours watching animals and recording what they see.
2. Divide students into cooperative learning teams, with four per group.
3. Explain that teams will be making and recording observations of at least five Zoo animals. Each team may choose the animals to be observed or you may assign them. Keep in mind that occasionally some animals may not be visible or on exhibit.
4. Each team needs an "ears observer", an "eyes observer", a "feet and toes observer", and a "body coverings observer." Everyone in the group should watch for postures, expressions, noises and other signals or behaviors that might indicate "communication techniques." Observations should also be recorded of the animals' Zoo habitat. Explain that the Zoo's natural habitats look very much like the animals native habitats.
5. Urge students to use their senses when making observations. Notice the smells and sounds as well as the sights. Encourage use of descriptive words when recording observations. Sketching and labeling are also good recording techniques. Point out that some habitat signs provide accurate details of animal adaptations.
6. Instruct students to bring observation sheets back to the group for use in the follow up activity.

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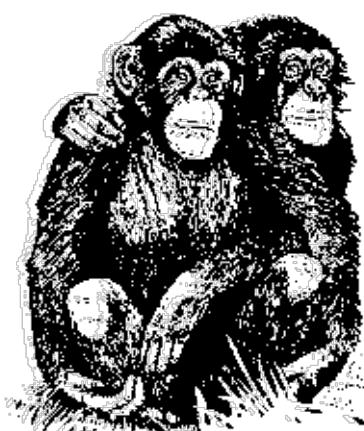


## AT THE ZOO

1. Each student will need one observation sheet and a pencil for recording observations.
2. Students should stay with their cooperative learning team while making observations.
3. Chaperones may provide guidance and encouragement as needed.

## AFTER VISITING THE ZOO

1. Facilitate a discussion about the things animals need in order to survive and be healthy. How do animals go about getting those things? Do they use their feet, eyes and ears? How might their body coverings help? Does communication play a role in survival?
2. Each team should select an animal they observed and share their observations with one another. It may be helpful to have pictures available of the Zoo animals.
3. On chart paper, record the species, describe the Zoo habitat, eyes, ears, feet, body coverings and communication techniques in a format similar to Fig. 1. (*see answer sheet*). Teams should discuss and record ways each adaptation might help the animal get the things it needs in order to survive. Encourage all team members to contribute ideas. At this point, don't worry about accuracy. Making inferences is the goal. Repeat this procedure with all animals observed.
4. Allow time for each team to share observation charts with the class. Encourage class discussion about ways the adaptations might help with survival. Post the charts around the room. If any teams observed the same animals, have them compare observations and inferences.
5. Use reference materials such as field guides, nature books and videos, and the web, confirm the accuracy of students' ideas. Have students place check marks beside those that are verified. Place question marks beside the ones that do not appear to be accurate. This search for verification can be an ongoing class project. Students should begin to see some common relationships between adaptations and ways animals survive in their particular habitats.
6. Facilitate a discussion by asking the following: If certain adaptations are suitable to particular environments what might happen if an animal's habitat is changed or destroyed? Do humans change and/or destroy animals' habitats? In what ways? As human populations increase what does that mean in terms of sharing the Earth's resources with other animals and plants?
7. Describe and evaluate things we can do to help the Earth be a healthier place for all living things?



# Make a Difference

Turn off the water when brushing your teeth and take shorter showers.

Recycle at home, at school, in your church, or other places you go.

Think globally and act locally.

Turn off lights and unplug items not being used.

Take your lunch to school in reusable containers and take reusable bags to the store.

Don't use disposable plastic straws at restaurants.

# Wildlife Observation Form

Animal	Description of Habitat	Individual Observation Assignment

**Check One:**     Ears     Eyes     Feet & Toes     Body Coverings     Communication Techniques  
(postures, expressions, noises,  
other signals/behaviors)

## ANSWER KEY

### Wildlife Observations

#### AFTER VISITING THE ZOO

1. Animals need clean air, water, food, shelter and space. Among other things, their eyes are used to locate food, water, shelter and each other. Their nose enables them to breath and may help some animals locate food and water as well as detect territorial boundaries. Eyes and ears also help to detect predators. Feet enable animals to move from place to place in search of food and water and to escape from predators. Their body covering provides protection and warmth and often serves as camouflage. Animals may communicate with one another to warn of danger, signal that food has been located and in courtship rituals.

3. Fig 1.

Species: Description of Zoo habitat:	
Description of Eyes:	How Adaptation Might Help Animal Survive:
Ears:	
Feet & Toes:	
Body Coverings:	
Communication Techniques:	

5. Some common relationships may be: the coloration of an animal's body often helps it blend in to its surroundings; sharp teeth and strong muscular feet with claws help some predators catch and hold their prey; eyes located on the sides of the head provide a wide field of vision for prey animals; flippers, webbed feet and streamlined bodies enable animals to swim quickly through water; oversized ears help animals keep cool in hot environments; thick fur and blubber provide warmth in cold environments.

6. If an animal's habitat is changed or destroyed it must adapt to new conditions or it may be unable to survive. Humans change or destroy habitats by clearing land in order to build roads, houses, offices, factories, farms, shopping centers and other development. Drilling for oil and other minerals alters habitats. Air, soil and water pollution affect habitats as well. When people disrupt habitats they not only destroy the natural homes of plants and animals, they upset a delicate system in which all living things depend very much on each other.

As human populations increase, more people use more trees, energy, food and water. That leaves less resources for other species.

7. A few of the many things we can do to help the environment are:

- conserve the natural resources that we share with all living things by using only what we really need
- recycle and reuse products made from natural resources, such as paper, aluminum, glass and plastic
- reduce the amount of trash that we produce by not purchasing things we don't really need and by avoiding over-packaged and non-recyclable products
- carpool, walk and ride bicycles to save energy and decrease pollution
- compost rather than sending food and yard wastes to landfills
- decrease the use of pesticides and other harmful chemicals
- dispose of trash properly so it does not end up in animals' habitats
- put thought and planning into how we use and care for natural resources in the future

## *Animal Talk*

**ADAPTATION:** Inherited feature or behavior that improves an organism's chance of survival in a particular habitat. (e.g., The long bill of the scarlet ibis allows it to probe in mud for small organisms to eat.)

**AMPHIBIAN:** A group of cold-blooded vertebrates, such as frogs, toads, and salamanders, that live on land and in the water.

**AQUATIC:** Living in, on, or near water; having a water habitat

**ARBOREAL:** Adapted for living in trees. (e.g., opossum, many monkeys, most birds)

**BEHAVIOR:** An individual's or species' response to a stimulus

**BIPEDAL:** Having two feet or walking on two feet

**BROWSE:** To eat shoots, twigs, and leaves of trees and shrubs (such as giraffe)

**CAMOUFLAGE:** Coloration that enables an animal to blend in with its surroundings

**CARNIVORE:** An animal that eats the flesh of other animals (e.g., lion, bobcat, cougar)

**CLASSIFICATION:** Grouping organisms by characteristics into certain categories

**COEXIST:** To live in harmony with one another

**CONSERVATION:** The protection and preservation of animals, plants, and natural resources

**CREPUSCULAR:** Active at dawn or dusk (e.g., lion, dik-dik)

**DIURNAL:** Active during the day (e.g., Cape hunting dog, meerkat)

**DOMESTIC:** Animals that have been bred over many generations for use by people

**ECOLOGY:** The scientific study of relationships between organisms and their environment

**ECOSYSTEM:** A system in which organisms interact in their environment

**ENDANGERED SPECIES:** A species that is in danger of extinction throughout all or a portion of its range (e.g., polar bear, gorilla, chimpanzee)

**ENVIRONMENT:** All external physical biological factors that act upon an animal

**EXTINCT:** A species no longer living (e.g., Carolina parakeet, dodo)

**EXOTIC:** Animals from another country

**FLOCK:** A group of animals herded together

**GESTATION:** Period of pregnancy (e.g., human gestation is 9 months.)

**GRAZE:** Animals that feed on grasses and other terrestrial plants, not on leaves or bark from trees and shrubs

**GREGARIOUS:** Living in a large group

**HABITAT:** The particular part of the environment where an animal lives. For example, the habitat of an earthworm is moist soil.

**HERBIVORE:** An animal that feeds on plant material (e.g., impala, giraffe, zebra)

**INTERDEPENDENCE:** The interrelationship of organisms

**INVERTEBRATE:** An animal that doesn't have a backbone (mollusks, insects, spiders, starfish).

**LITTER:** Mammal offspring born at the same time

**MAMMAL:** A group of warm-blooded vertebrates that nourishes its young with milk and has a body covering of hair

**MIGRATIONS:** Regular, usually annual, movements from one location to another

**MOLT:** To shed hair or feathers periodically

**NICHE:** The role that an animal or plant has in its habitat

**NOCTURNAL:** Active at night

**OMNIVORE:** An animal that feeds on animals and plants

**ORGANISM:** Any living thing

**PLUMAGE:** The protective covering (feathers) of a bird

**PREDATOR:** An animal that kills and eats other animals for food

**PREHENSILE:** Adapted for grasping or holding, as a giraffe's tongue or a human's hand

**PREY:** An animal hunted or killed for food

**PRIDE:** A group of lions

**REPTILE:** The group of cold-blooded animals that includes snakes, lizards, turtles, and crocodiles; These animals breathe with lungs and are covered with scales

**SCAVENGER:** An animal that feeds on the remains of dead animals

**SOCIAL ANIMAL:** Animals that live in organized groups

**SPECIES:** Animals that are capable of reproducing

**TERRESTRIAL:** Pertaining to the earth; living on the ground, not in water or trees

**THREATENED:** Species likely to become endangered if conditions do not change

**TROOP:** Term used for a group of some of the primate species such as baboons and chimpanzees

**VERTEBRATE:** Animal that has a backbone such as fish, amphibians, reptiles, birds, and mammals