

THE ACADEMY OF NATURAL SCIENCES *of* DREXEL UNIVERSITY

Africa and Asia Diorama Hall Activity Guide

Welcome to the Academy of Natural Sciences!

This activity guide is appropriate for children in 3rd through 5th grade.

Pennsylvania Department of Education Standards in Environment and Ecology that this guide address:

Standard Area-4.1 Ecology

4.1.3.A: Differentiate between the living and non-living components in an environment

4.1.3.C: Identify sources of energy

4.1.3.D: Identify organisms that are dependent on one another in a given ecosystem. Define habitat and explain how a change in habitat affects an organism

4.1.3.F, 4.1.4.F: Ask questions about objects, organisms and events

4.1.4.A: Explain how living things are dependent upon other living and nonliving things for survival. Identify similarities and differences between living organisms

4.1.4.D: Explain how specific adaptations can help organisms survive in their environment



Information for Chaperones and Parents

Thank you for chaperoning a field trip to the Academy today. We are glad you could visit the museum together. Below are some tips and museum rules to help you and your charges enjoy your visit.

Read these rules to your students before you start exploring the museum:

1. Stay with your chaperone or adult leader at all times. This applies to students of all ages, including high school students.
2. Always walk, never run.
3. Climbing on the exhibits, including the dinosaurs in Dinosaur Hall, is not allowed.
4. Use inside voices while exploring.

We **ask that groups not use elevators unless they must**. Elevators are for seniors and guests that have disabilities.

Groups must stay together

Work out a plan so you can easily locate all children in your group. **Set behavior expectations.**

Read the rules to your group and answer any questions they may have. You have the right (and responsibility) to stop a child from misbehaving. Discuss your expectations beyond the rules.

Smoke breaks and (non-emergency) **cell phone** use should not happen while you have children in your care. Children are not permitted in the Academy Shop without chaperones.

Know the schedules and the floor plan

Know your schedule, the locations of programs, and time for exploration. If you are scheduled for a visit to an exhibit or for a Discovery lesson, look over the map ahead of time so that you can arrive at all programs at least 5 minutes before the scheduled time.

Not all exhibits are open to all groups

Certain exhibits must be scheduled for visits prior to the group arriving at the Academy. These exhibits include Outside In, The Big Dig and Butterflies! If your group is NOT scheduled to visit these exhibits, you may not visit them with your students during your schools visit. Your lead teacher would have made these arrangements prior to your field trip.

Please turn off cell phones in programs

Cell phones and personal conversations are distracting to the children and to the educator. If you must have a conversation or answer a phone, please leave the room.

Don't worry about knowing all the answers! You are a facilitator, not an expert. The activities and questions in this guide are to encourage your students to look for answers and information in the exhibits. Some are to encourage imagination and do not have specific answers. Encourage discussion and feel free to take part!

Encouraging investigation

There are many hidden gems in our museum if you take the time to look closely. Encourage your students to slow down and observe details in the dioramas and other exhibits. **Ask open-ended questions such as "What do you notice?" "Why do you think that?" "How do you know that?" "Have you seen anything like this before?" "What is the same about the animals in the diorama?" "What is different?"**

What is a diorama?

A diorama is a life-like exhibit that shows a scene from nature. The dioramas at the Academy feature mounted animals arranged in native habitat settings against painted backgrounds.

Real or Fake?

The animals in the dioramas are REAL but they are not alive. They have been specially prepared by people called taxidermists to look like they did when they were alive. The animals you see here are made of real animals skins put over a model of the animals' body. The eyes, teeth, and tongues are not real.

Why do we have dioramas?

The dioramas were constructed before television and before it was easy to travel around the world to learn about the animals. Dioramas brought the natural world to the interested public and they are still a great way to learn about these animals and their habitats today!

Vocabulary

Adaptation: A feature that helps an organism (plant, animal, fungus, etc) survive in its habitat. An adaptation can be a physical part of the organism (such as spots on a leopard) or a behavior (for example, running from a predator).

Organisms are BORN with their adaptations.
They cannot acquire new adaptations during a lifetime.

Camouflage: An adaptation where an organism blends in with its environment.

Community: A group of interacting plant and animal populations within a habitat.



Ecosystem: A linked community of plants and animals and other organisms interacting with each other and the non-living parts of their habitat.

Habitat: A place where a population of organisms lives. Habitats should provide food, water, shelter, and space for the organisms that live there.

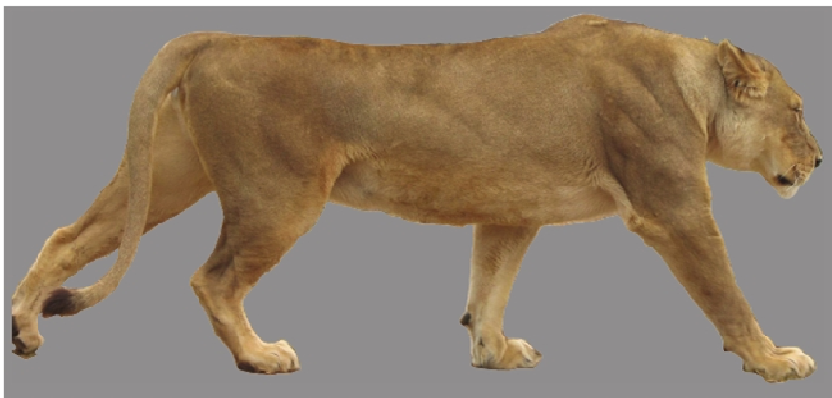
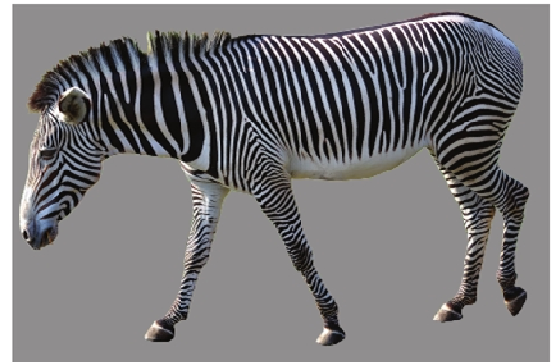
Mammal: Vertebrate animals (they have bones) that also have fur or hair, give live birth (most) and provide milk for their young.

Organism: A living being.

Predator: An animal that hunts and eats other animals.

Prey: An animal that is hunted for food.

Species: In general, a unique group of organisms that can breed (reproduce) only with each other to produce offspring and cannot breed with the members of other groups.



Habitats

Below are some of the habitats you will see in African and Asian Hall while doing these activities:

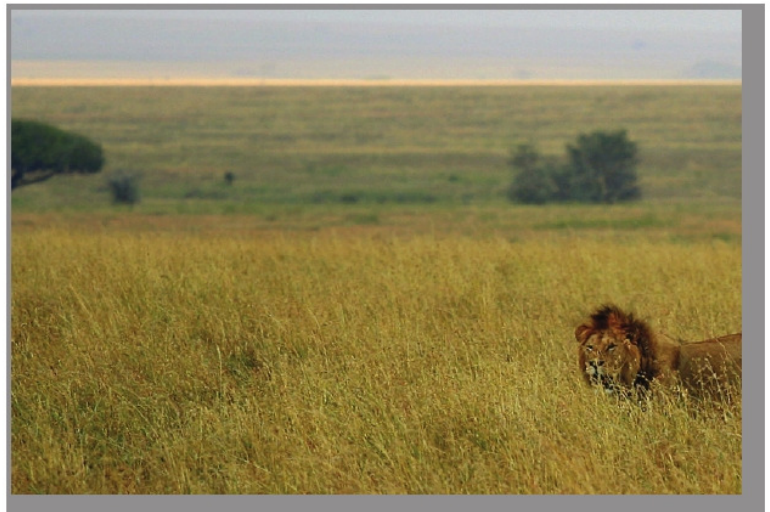
Hot Desert: Hot and dry with few plants and sandy soil. These deserts receive little to no rain throughout the year. Although they are very hot during the day, they can be very cold at night.



Find a desert diorama.

How do you think animals in the desert diorama you are looking at get their water? Write your answers here.

Savanna: Grasslands with few small trees that are spaced far apart.



Find a diorama that you think shows a savanna. What do you observe in the diorama that makes you think it is a savanna? Write your answers here.

Habitats

Tibetan Plateau: Also known as a Steppe or a Montane Grassland. High, mountainous areas that are cold and dry with very few trees.



Observe the Wild Yak diorama. Describe the habitat in the diorama in your own words. How do you think the yak stays warm? Write your answers here.

Tropical Rainforest: Forests located around the equator that receive lots of rain each year. Rainforests have many tall trees and plants and are home to a many different kinds of animals.



Travel to the Gorilla diorama. How many different types of plants and animals do you see? Describe them here. (*Hint: Look high and low! Look for different berries, flowers and differently shaped leaves.*)

Desert of Borkou and Giant Sable Antelope Dioramas

Take a look at the two dioramas: the Desert of Borkou and the Giant Sable Antelope. Both of these dioramas have antelopes in them, but their habitats are very different.

How are these habitats different? How are the animals in them different? How are they the same? Use the checklist below to help you decide.

	Desert of Borkou	Giant Sable Antelope
Habitat		
Sand	<input type="checkbox"/>	<input type="checkbox"/>
Lots of large plants/trees	<input type="checkbox"/>	<input type="checkbox"/>
Bright and sunny, no shade	<input type="checkbox"/>	<input type="checkbox"/>
Many areas of shade	<input type="checkbox"/>	<input type="checkbox"/>
Animals		
Mostly light colored fur	<input type="checkbox"/>	<input type="checkbox"/>
Thick patches of fur	<input type="checkbox"/>	<input type="checkbox"/>
Mostly dark colored fur	<input type="checkbox"/>	<input type="checkbox"/>
Horns	<input type="checkbox"/>	<input type="checkbox"/>
Thick heavy bodies.	<input type="checkbox"/>	<input type="checkbox"/>

What else did you find?

Why do you think the sable antelope is a darker color, and the antelopes in the desert are lighter colors? (*Hint: What colors do you wear in the summer?*)

Why might the sable antelope have thicker fur than the antelopes in the desert?

How Do You Hide?

Can you spot the animals hiding in each picture below?



Camouflage: An adaptation where an organism blends in with its environment.

Find the Okapi Diorama

Okapis live in the rainforest of central Africa and are related to giraffes. Okapis are well **camouflaged** in their habitat. The next activity asks you to think about the okapi's camouflage. Below are some facts to keep in mind:

- The okapi lives in the dense rainforest,
- The dark brown coloring of the okapi's body helps the animal to keep hidden from predators while walking around the forest,
- The stripes help break up the outline of the okapi's body and blend in with the shadows and light patches in the forest.

Describe what you notice about the okapi's habitat here.

How Do You Hide?

Draw the okapi in its rainforest habitat below .



Draw a desert habitat below. Include an animal that would live in the desert .



What is different about the two habitats? What adaptations do the animals have that help them live in their habitat?

Look a little closer!

What other animals can you find hiding in the okapi diorama? List them below.
(Hint: Look for a slug , a beetle, a kingfisher and more!)

Were these other animals easy or difficult to find? Explain your answers.

Where Do I Belong?

Match the animals below to the habitat you think they live based on what you have learned so far. You may not have seen all of these animals in our dioramas but you have learned about their habitats. Remember to think about the animals' adaptations (such as its body coverings).

1. Kingfisher



2. Camel



3. Yak



4. Tiger



5. Sand Viper



A.



B.



C.



Answers: 1. A., 2. C., 3. B., 4. A., 5. C.

Kiang Diorama

Find this animal, a *kiang*, in its diorama.

How many kiangs do you see?

(Hint: look at the entire diorama)

By looking at the diorama, what can you learn about how kiangs live?

(Hint: what is their habitat like?)

Is it cold or hot where they live?



Do you think kiangs might live alone or in herds?

What do you see in the diorama that will help you decide if they live alone or in herds?
Why do you think it might be helpful for the kiang to live in a group?

What other diorama, and what animals, share the same habitat with the kiang?

Look a little closer!

There are a few other animals in this diorama. Can you find them?

List them below.

One of the animals you might find is a *pika*, a small mammal that looks similar to the one on this page. Can you find it?

