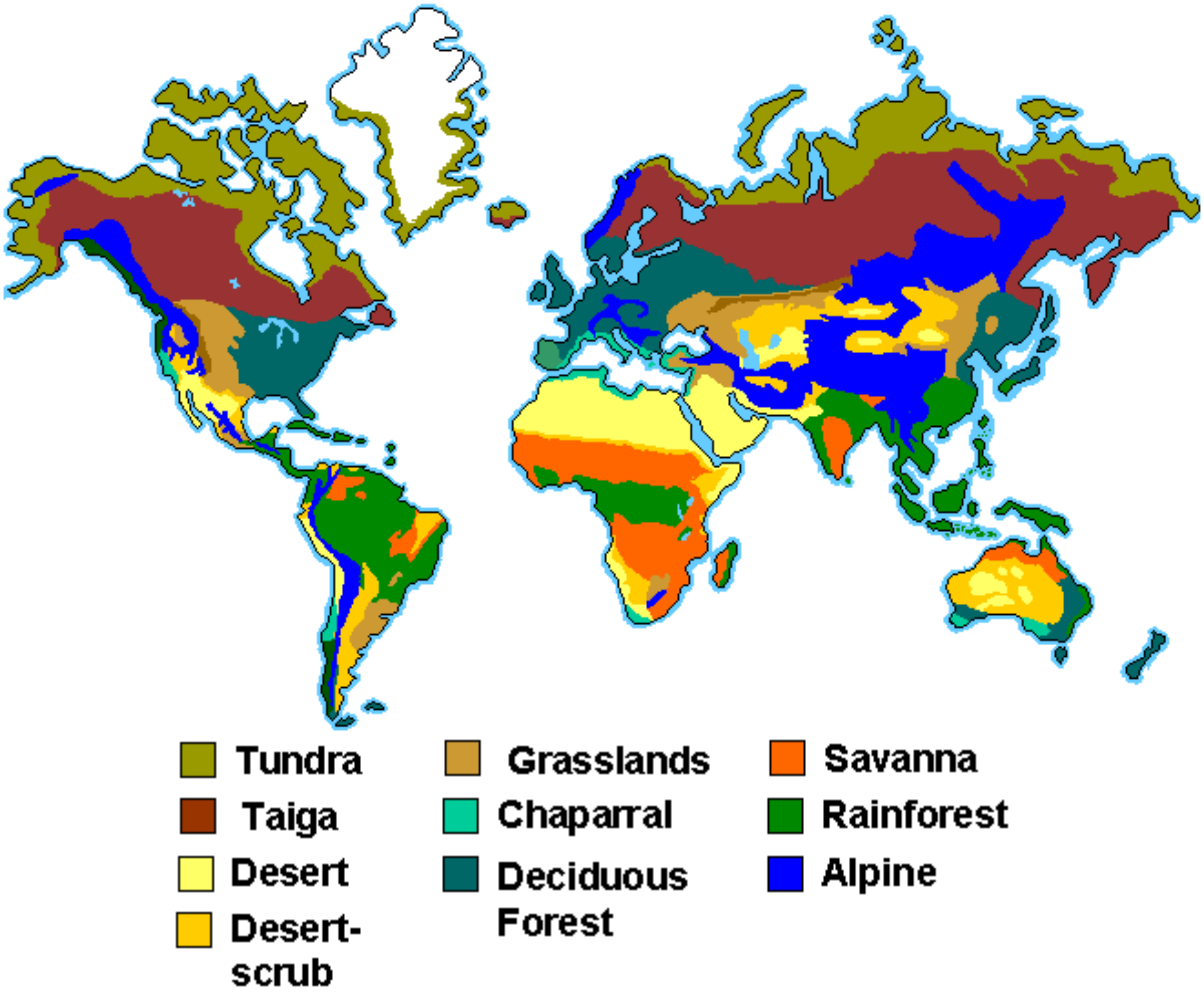
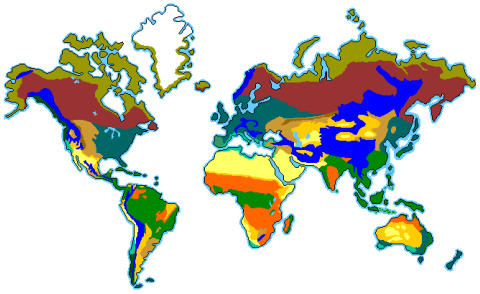
BIOMES

SCAVENGER HUNT
Grades 7-12



Saint Louis Zoo
Animals Always®

Saint Louis Zoo
Biomes Scavenger Hunt
Scavenger Hunt Teacher's Guide



Updated **Summer 2012**
APPROXIMATE TIME: 90 Minutes

The objective of this scavenger hunt is for students to explore the Saint Louis Zoo, while developing an understanding of the effect of biome type on the adaptations expressed by the inhabitants. Students will be able to draw conclusions about general trends in morphological (physical) adaptations among various biomes.

***In order for this scavenger hunt to be most effective, students should come with an understanding of the following*:**

Biomes:	What are the characteristics of the different biomes? Where are they located around the world?
Adaptations:	What constitutes an adaptation and how does it evolve?
Abiotic factors:	What are abiotic factors and how do they affect living organisms?
Biotic factors:	How are different species interrelated and how do they interact with each other?

The Zoo Visit

Materials:

Zoo Map
"Biomes" Scavenger Hunt (Includes color biome map on cover, data collecting sheets, and post-synthesis questions)

The class should divide into small groups of students. Each group will be given a different part of the scavenger hunt (see attached sheets). They should observe: density and length of fur, hair, or feathers, and body covering color (pattern or solid color). A map of the Zoo is included. The scavenger hunt sheets are labeled according to the animal group to be observed.

The students will need to locate their animals on the map and complete the scavenger hunt worksheet(s) based on their observations. Also, for each activity sheet, there is a synthesis activity. This activity will take approximately two hours to complete.

Back at School:

Groups should create a list of physical characteristics that help the animals survive and thrive in each biome. In addition, students should give plausible reasons for why this type of adaptation is essential to survival in that particular biome. Finally students should identify the biome their animals represent (not indicated on their sheets).

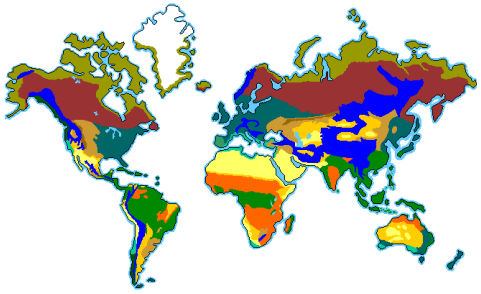
Student groups should present their biome characteristics to the class, followed by the adaptations they saw in the animals.

A class discussion on additional adaptations would help to reinforce the connection between biomes and adaptations.

Using these or other questions, connect the types of animals to the biomes in which they belong.

- Are these characteristics common to more than one biome?
- What are some of the abiotic pressures for animals to develop these adaptations?
- Why do you find similar adaptations in very different biomes?
- Look at the reptiles, birds, and mammals that are part of the scavenger hunt. Make predictions about the adaptations that they would need in a biome in which they are not represented. (i.e. Birds: Taiga, Mammals: Desert, Reptiles: Tundra)
- Create a list of adaptations and identify how they benefit the animal.
- Link the different characteristics displayed by organisms across biomes using common characteristics among a group (i.e. Bears). How are the individuals of these groups different among the biomes they inhabit for a specified trait?

Saint Louis Zoo
Biomes Scavenger Hunt
Student Handout Grades 7-12



Name: _____

INFORMATION PAGE

THE ZOO VISIT:

Materials: Zoo Map, Biome Scavenger Hunt with front cover map

The class should divide into small groups of students. Each group will be given a different part of the scavenger hunt, based on the following observations:

- density of fur, hair, or feathers, including the length
- body covering color (pattern or solid color)

Also, for each activity sheet, there is a synthesis activity which links the students' observations to how the body coverings make those animals adapted to their specific biome(s).

Using the list of animals provided by the teacher, search the zoo for your animals. Use any clues that the name may give you to locate the exhibit on the map. (Grizzly Bear would be found in the Bear Pits.) Once you have located your animal, read the interpretative sign about the animal. On your worksheet, note the continent where the animal is naturally found.

Make observations about **each** animal's body covering and keep in mind the following questions when completing data tables:

I. What is the body covering, and how would you describe the **density** of the fur/hair/feather the animal has?

Body Covering--Things to look for:
Describe the density of fur or hair using the following terms:
Thick—obvious undercoat or shaggy appearance for mammals
Sparse—able to see skin through fur or hair
Short—not able to see skin but fur/hair is close to skin

Describe feather density in terms of length:
Small/short—feathers are small, indistinguishable from a short distance
Large/long—feathers are medium to large in size

II. What color is the body covering?

Color pattern of fur, hair, feathers:

Pattern—the body covering has a pattern to it:

*random

*definite

Solid—color is uniform and breaks up only slightly around face, chest, feet, etc.

Are there any other noticeable adaptations? (Information can be found on some signs.)

Back at School:

Animal Group:_____

Synthesis:

What underlining adaptation do the animals listed on your sheet have in common? (Note: it can be different than body covering.)

List three reasons why you feel they share this adaptation.

1.
2.
3.

What body covering adaptation, (color pattern or density of fur/hair/feather), was most represented among the animals you observed? What do you think causes this to happen among different animals in the group observed?

If, on a hike through taiga, you noticed a foot print that resembled a canine, what kind of coat would you expect it to have? Why?

Was there a group or type of animal that did not fit into a category with the other animals? Explain what you think the reasoning is for its unique body-covering characteristic. (You may use the back of this sheet).

BIOMES
Pre-visit activity

Biome	Average Temperature	Soil/ Physical Features/ Vegetation	Average Yearly Precipitation
Tundra			
Taiga			
Oceans			
Desert			
Tropical Rainforest			
Temperate Deciduous Forest			
Grasslands			
Wetlands			

ANIMAL GROUP I: BEARS

Animal	Biome	Body Covering	Color	Other Adaptations
Andean Bear				
Sloth Bear				
Grizzly Bear				
Sun Bears				

ANIMAL GROUP II: BIRDS

Animal	Biome	Body Covering	Color	Other Adaptations
King Penguin (Penguin Puffin Coast)				
Magnificent Ground Pigeon (Bird House)				
Chestnut Billed Sandgrouse (Bird House)				
Burrowing Owl (Bird House)				

ANIMAL GROUP III: CATS

Animal	Biome	Body Covering	Color	Other Adaptations
African Lion				
Snow Leopard				
Amur Tiger				
Jaguar				
Amur Leopard				

ANIMAL GROUP IV: HOOFED MAMMALS

Animal	Biome	Body Covering	Color	Other Adaptations
Okapi				
Bactrian Camel				
Babirusa				
Addax				
Reticulated Giraffe				

ANIMAL GROUP V: PRIMATES

Animal	Biome	Body Covering	Color	Other Adaptations
Chimpanzee (Fragile Forest / Jungle of the Apes)				
Gorilla (Fragile Forest / Jungle of the Apes)				
Mongoose Lemur (Primate House)				
Black-handed Spider Monkey (Primate House)				
Lion-tailed Macaque (Primate House)				