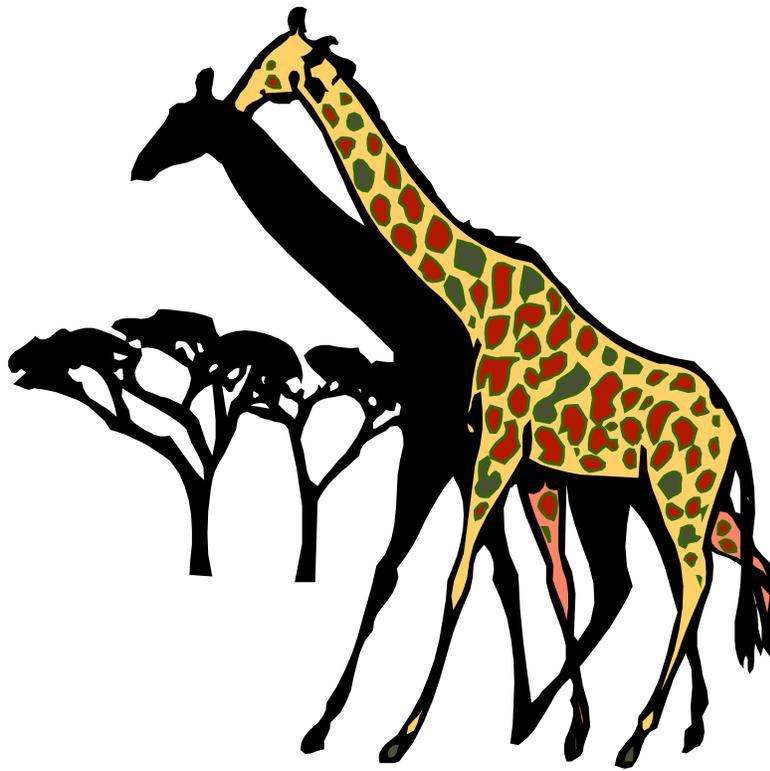


ANIMAL ADAPTATIONS

Scavenger Hunt
GRADES 6-8

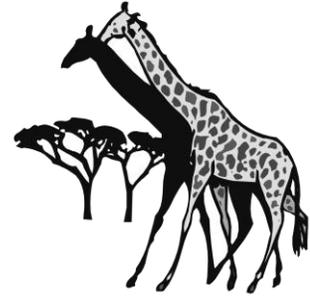


Saint Louis Zoo
Animals Always®

Scavenger Hunt

ANIMAL ADAPTATIONS

Teacher's Guide



Updated Summer 2012

APPROXIMATE TIME: 90 Minutes

Because the animals at the Zoo are living creatures with very special needs, at certain times some of the animals referred to in this scavenger hunt may not be on public display. Please remind your students to do their best to complete the hunt by carefully observing the animals they find and not to worry about any that are off display. We update our scavenger hunts on an annual basis during the summer months in order to provide you with the most accurate information about our animals. The answers to the questions can be discovered by reading the informational signs found with each exhibit, or by observing the animals and thinking about possible adaptations.

ANSWER KEY

TIME: 90 MINUTES

1. C. The small body size allows this bear to maneuver in the trees and branches.
2. D
3. Answers may vary.
4. Knife; the beak helps the bird cut into fruits that have a tough outer skin.
5. C
6. Weaver nests are a safe place for their eggs.
7. A wiggling worm-like attachment on their tongue.
8. Webbed feet, oily, dense fur and they can hold their breath a long time.
9. Almost from birth, the young know to be very still until the mother returns.
10. Answers may include the following: long eyelashes, nostrils that close, humps that store fat, longer hair on their ears and on other parts of their body, toes that separate to help them stay on top of the sand, etc.
11. The female sits on the eggs during the day because she blends in with the desert. The male sits on the eggs at night because he blends in with the darkness. The coloration is adaptive because it camouflages the ostriches and thus makes the ostriches and their eggs much more difficult for predators to find.
12. Their velvety dark-striped coat; Giraffe
13. Behavioral
14. Colobus monkey, physical
15. Physical, used a fifth hand for locomotion and food gathering
16. Physical, baby's protection/identification
17. Changes in habitat, over collection from venom "milking", hunting by reptile collectors
18. A very large frog that can grow about 8 inches in length. Answers to the second question may vary.
19. Males usually stay on the trunk and lower branches of the trees while females usually stay in the forest canopy (higher in the tree than the males).
20. It's prehensile tail; other answers may include claws and coloring/ camouflage

Supplemental Activity

Monkey See, Monkey Do

PART ONE

Adaptation: Stereoscopic Vision in Primates

Procedure

1. Work with a partner for this experiment. One person is team member A, the other team member B. You'll need a cup and some coins or chips.
2. Place a small cup in the middle of a desk or table.
3. Person A stands several meters away from the cup. Person B stands close to the cup, holding a coin in hand.
4. Keeping eyes at cup level. Person A closes one eye and directs the other students to align the coin just above the cup. When person A thinks the coin is directly above the cup, s/he gives person B the command to drop it into the cup.
5. Repeat this step five times. Then change positions and begin again. Create a data table for the experiment, including the number of hits and misses for each member.
6. Repeat the activity using both eyes. Write a paragraph describing the difference. Make sure you answer the following questions within the paragraph. What advantage does this adaptation provide primates? If two eyes are better than one are three eyes better than two? Explain why or why not.

PART TWO:

Adaptation: Opposable Thumbs

Materials:

Masking Tape
Toothpicks
Stopwatch

1. Working with a partner, spread out several dozen toothpicks on your desktop.
2. Time how long it takes for each person to pick-up the toothpicks. Repeat the activity, picking up the toothpicks three times. Record and average the results for each person.
3. Tape the thumb and index finger of one partner together, Repeat steps 1 and 2.
4. Exchange roles and repeat the activity.

Questions:

1. What was the average time for picking up the toothpicks with an unobstructed thumb?
2. What was the average time for picking up toothpicks with a taped thumb?
3. How can you account for the difference in times?

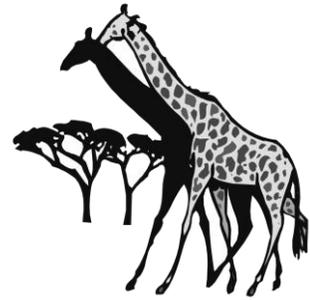
Extension:

1. Why do you think tree-dwelling primates evolved an opposable thumb? How does the primate hand structure compare to that of other animal species?
2. Adaptations can be passed on to offspring. What are some adaptations that you received from your parents?
3. Normally, adaptations that negatively affect an individual will be eliminated. Humans have been able to develop tools and technology to overcome these negative adaptations, allowing the adaptations to become more visible in society. Can you think of any negative adaptations?

Scavenger Hunt

ANIMAL ADAPTATIONS

Student Guide Grades 6-8



NAME: _____

Over millions of years, many animal species have appeared and died out (become extinct). The ones that are alive today have **adapted** to modern conditions. Over time, animals have developed amazing characteristics that help them find food, escape predators, cope with their environments, and reproduce. These changes are all called **adaptations**.

Many adaptations are physical characteristics that you can see. Other adaptations may include the way an animal's body works, or even how an animal behaves. Here are examples of these kinds of adaptations:

PHYSICAL *Cat whiskers:* Long hairs growing out from the face increase the sense of touch and help the animal feel its way around at night.

BEHAVIORAL *Antelope herds:* Living in large groups (herds) helps to protect antelopes from predators. With more eyes and ears alert to potential danger, predators are less likely to take the antelope by surprise.

Animals look and act the way they do for a reason. By observing an animal's body structure and behaviors, as well as using your past experiences, you will discover how animals are adapted for their specific lifestyles. **The answers to the questions can be discovered by reading the informational signs found with each exhibit, or by observing the animals and thinking about possible adaptations.** Some questions may have more than one answer.

YOU WILL START YOUR SCAVENGER HUNT AT THE BEAR PITS.

BEAR PITS

1. Find the **Andean bears**. This bear, also known as the Spectacled bear, is smaller in size compared to other bears. This adaptation is especially important when the bear...

- A. hunts
- B. swims
- C. climbs
- D. sleeps

2. Think of how the **Andean bear** may use its claws. These bears are mainly herbivores, and builds nests in trees for sleeping. What purpose would their claws serve?

- A. swimming
- B. climbing
- C. foraging in trees
- D. B and C

LEAVE THE BEAR PITS AND GO TO JUNGLE OF THE APES / FRAGILE FOREST.

Depending on the weather, these animals may be inside the Jungle Of The Apes Exhibit or in their outdoor yard in Fragile Forest.

JUNGLE OF THE APES / FRAGILE FOREST

3. Humans are classified as apes and are part of the primate order. Other closely related ape members include: chimpanzees, Gorillas, and orangutans. Find and observe the chimpanzees. **Humans** (*Homo sapiens*) and **Chimpanzees** (*Pan troglodytes*) share many similar adaptations. Describe at least ten adaptations that we share in common in the space below. Include both physical and behavioral adaptations.

WHEN YOU LEAVE JUNGLE OF THE APES / FRAGILE FOREST, GO TO THE BIRD HOUSE AND GARDEN. AS YOU ENTER, TURN LEFT AND CONTINUE IN THAT DIRECTION.

BIRD HOUSE

4. Take a close look at the edge of the beak of one of the species of **toucan**. The beak is serrated. What tool in your kitchen is serrated? How might a serrated beak help the toucan eat?
5. Many of the vulture species, like the **King Vulture**, have no feathers on their heads. What is the main reason behind this adaptation?
 - A. it keeps their bodies cool
 - B. their skin is more attractive than their feathers
 - C. so they can clean themselves easier after feasting on a carcass
 - D. none of these things



6. The **African Pygmy Falcon** lays its eggs in old weaver bird nests. How could that behavior help them survive?

EXIT THE BIRD HOUSE AND HEAD TOWARD THE BRIDGE. THE AREA TO THE RIGHT IS THE CHAIN OF LAKES.

CHAIN OF LAKES

7. What specialized physical adaptation helps **Alligator Snapping Turtles** lure fish into their mouths?
8. **River Otters** are known for living in aquatic habitats. What three adaptations allow them to do this?

AS YOU LEAVE THE CHAIN OF LAKES, TURN LEFT AND HEAD FOR RED ROCKS.

RED ROCKS

9. The **Speke's gazelle** lives in areas of very sparse vegetation. Their babies are sand-colored. Given their color, what behavior do you think babies engage in to protect themselves while their mothers are away grazing?
10. Find the **Bactrian camel**. What special physical adaptations do they have to help them adjust to their desert lifestyle?
11. Find the **Ostriches**. Both the male and the female ostrich sit on a nest to incubate the eggs; however, they do so at different times of day. Thinking about the difference in coloration and where ostriches live, when do you think the male sits on the eggs? When does the female sit on the eggs? How might this coloration help when it comes to protecting their eggs and themselves?

12. What physical adaptation allowed the Okapi to go undiscovered until the early 1900s?
What is the Okapi's closest relative?

WHEN YOU LEAVE RED ROCKS, GO TO THE PRIMATE HOUSE.

PRIMATE HOUSE

Complete the following chart. You can find the missing information by looking at the animals and reading the signs.

ANIMAL	ADAPTATION (physical / behavioral)	ADAPTATION	PURPOSE
13. Lion-tailed macaques		Facial expressions, body postures, social grooming	Communication
14.		Fringe of long white hair along side of body and on tail	Slows animal down when it jumps (like a parachute) and also helps it appear bigger
15. Black Handed Spider Monkey		Prehensile tail	
16. Francois Langur		Baby's are bright red-orange colored	

