ZAP!
Zoo Activity Packet

The African Journey

A Teacher’s Resource for Grades 2-8
The African Journey

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Zoo Activity Packet

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Learning Objectives

The worksheets and activities in this Zoo Activity Packet are suggested to help students learn that:

1. Africa is a continent with a wide variety of habitats, animal life, and human cultures.

2. Grasslands cover about one-quarter of the Earth’s surface and are specialized ecosystems.

3. East Africa’s grasslands support the largest number and most diverse group of plant-eating animals in the world.

4. In a balanced ecosystem, grass is stimulated to grow when animals graze on it.

5. Predators and prey animals have special adaptations to stay alive and find food.
**Vocabulary**

**Adaptation**
A body part or behavior that helps an animal to survive (such as teeth, claws, coloring, etc)

**Ambush**
Surprise attack

**Blade**
In grasses, the long, slender part of a leaf

**Browser**
An animal that feeds on twigs, bark, or tree leaves

**Camouflage**
Colors and patterns that help an animal blend in with its surroundings

**Dormant**
Not actively growing

**Drought**
Dry conditions brought on by a lack of rain

**Equator**
An imaginary line that divides the earth into northern and southern hemispheres

**Grass**
A plant with smooth, jointed stems and bladelike leaves

**Grassland**
An ecosystem whose dominant plants are grasses

**Grazer**
An animal that eats mostly grasses

**Predator**
An animal that eats other animals

**Prey**
An animal that is eaten by other animals

**Rhizome**
On a grass plant, a creeping stem that grows underground

**Savannah**
A tropical grassland

**Scavenger**
An animal that feeds on dead animals

**Sheath**
On grasses, the lower part of the leaf which fits closely around the stem
The African Savannah
Background Information for the Teacher

Africa is a vast and varied continent. About 50 nations coexist on a landmass that spans both the northern and southern hemispheres. The climate ranges from the dry, dune-covered Sahara Desert in the north to the dense jungles of central Africa. One thousand languages are spoken and a myriad of cultural traditions are maintained by the 3,000 ethnic groups of this continent. Africa is home to a huge variety of fascinating wildlife, from chimpanzees to zebras.

This packet will focus on the habitats and wildlife of east Africa. The materials correspond with the African Journey exhibit at the Fort Wayne Children’s Zoo.

East Africa’s Grasslands

Grasslands cover about one-quarter of the Earth’s surface. Grasslands are so familiar that we may not realize that they are specialized ecosystems. Much of eastern Africa is covered by tropical grasslands called savannas. Savannahs are regions where grasses are naturally the most abundant form of vegetation.

Like all grassland regions, Africa’s savannahs do not receive enough rainfall throughout the year to support large numbers of trees. The trees that do grow on the savannah tend to be drought- and fire-resistant species. They are sparsely scattered among the grasses, and grow more densely along stream and riverbanks, where water is more abundant.

Grasses survive well in the dry climate and poor soils of the savannahs. Their deep roots seek water while helping to hold moisture in the soil. Because of their narrow, bladelike shape, the leaves lose very little moisture through transpiration. The seeds of many grasses can lie dormant through long dry spells, then germinate when the rains finally come.

Grasslands around the world help provide people with food and other products. Corn, wheat, oats, rice, and millet are members of the grass family, and were all originally cultivated from wild grasses. Domestic cattle, sheep, and horses are all descended from wild grassland animals.

An Ecosystem in Balance

As a natural habitat, the savannah provides for the needs of many kinds of animals. Large hoofed animals, like the wildebeest and zebras, graze on the tender grasses. Other animals, such as giraffes and gazelles, browse on trees and shrubs. Small mammals like rodents eat plants and insects and dwell in underground burrows. Predators and scavengers feed on the plant-eating animals to keep the ecosystem in balance.
The African savannah is the largest grassland in the world. It covers about 5 million square miles -- nearly half the continent of Africa. Most African countries contain at least some savannah-type lands. The few countries that have no savannah are in the desert-covered northern part of Africa, and along the equator, where there are large areas of rain forest.

There are no cold and warm seasons on the African savannah. Instead, the year is divided into one or two rainy seasons alternating with one or two dry seasons. It is warm all year long.

During the rainy season, most parts of the savannah receive about 30 inches of rain. Some of the wettest areas may get 60 inches of rain. The heavy rains cause the grasses to sprout and grow, turning the land lush and green. The land becomes brown and parched during the dry season, which lasts most of the year. Almost no rain falls, and the dry grass and brush easily ignite during lightning storms that precede the returning rains.

Fires are part of the natural life cycle of the savannah. Fires clear away the dead, matted grass and allow new grass to sprout in its place. Nutrients are quickly released into the soil, making them available to the new grasses. Trees are destroyed, thus preventing them from overtaking the grasslands. Thanks to their underground stems (called rhizomes) and deep roots, the savannah grasses can regenerate and send up new shoots.

**Wildlife of the African Savannah**

The world’s greatest number and greatest diversity of large plant-eating animals live together on the African savannah -- alongside some of Earth’s most spectacular predators.

Great herds of wildebeest mingle with zebras, gazelles, and ostrich on the savannah. These grazers are hunted by lions, cheetahs, leopards, and wild dogs. Three of the world’s largest animals live on the savannah: giraffes (which can reach heights of 17 feet), rhinoceroses (which can weigh up to 5,000 pounds), and elephants (which are the largest of all land animals, weighing 13,000 pounds or more). Each of these creatures reaches their enormous size by eating only leaves, twigs, and other plants.

How can so many wild animals live on the African savannah, feeding mostly on grass? The grazing and browsing of African animals is closely tied to the well-being of the savannah. Grass grows from the base of the stem, not the top. As long as animals are feeding on the grass, the grass continues to grow new shoots, which are nutritious food for animals. If few animals eat the grass, it matures into full flower, which is not as edible. As the grazing animals eat the grass, it is actually stimulated and grows healthier.

Animals on the savannah are always on the move. After they have eaten in one area of the savannah, they move on to another area. This gives the grass time to recover, so the grass is never overgrazed.

Different animals eat different parts of the same grass plant. For example, the zebra may eat the rough tops of the grass; the wildebeest eats the tender middle section, and the gazelle eats the leaf tips at the base of the stems.

Many savannah animals live in large groups. Grass-eating animals like wildebeest and zebra live in
herds. The animals are safer in a group, because predators may have a difficult time selecting a target from the group. Young animals are sheltered by the stronger members of the herd. While the group is grazing, some members can look out for danger.

Predators like lions hunt more successfully in groups. They work together to create diversions and ambushes, and share a feast among the entire group, called a pride.

Scavengers like vultures are the cleanup crew of the savannah. They feed on anything left by the hunters, completing the cycle of birth and death on the African savannah.

**People of East Africa**

A variety of people inhabit east Africa, ranging from rural cultures where food, religion, dress, tribal roles, and daily life have remained unchanged for centuries, to modern cities with skyscrapers, computers, western dress, and bustling commerce.

A large east African city, such as Nairobi, Kenya or Dar es Salaam, Tanzania, is a major urban center. Here, one would find government offices, foreign embassies, and upscale shopping centers. Businessmen might wear suits and ties; women dress in skirts and blouses. These large cities typically contain sprawling open markets, where one can purchase everything from a live chicken to exotic fruits and vegetables. These cities usually attract large numbers of people from the countryside hoping for a job that will better their family’s life.

In contrast to the city dwellers, many African people live a traditional lifestyle. The Masai are one such group. They are nomadic to provide grazing and water for their cattle. The cattle provide the Masai with milk, blood, and meat to eat, leather for clothing, and dung to seal their houses. The Masai construct small clusters of huts, called *kraals* or *bomas*, from sticks and seal them with cow dung. The kraals also include an enclosure for the cattle. Masai social life is rigidly structured. Rites of passage into adulthood are important events in the life of Masai children. About 250,000 Masai currently live in southern Kenya and northern Tanzania.

Most Africans are neither nomads nor city-dwellers. Rather, they are subsistence farmers – raising just enough crops and livestock to feed their families. Life centers around their extended family and their village. Children attend school, play, and assist with farm chores.

Swahili is among the few languages that are widely spoken in east Africa. Each of the several hundred ethnic groups may have its own language. Many east Africans are multilingual, speaking their native language at home, and Swahili or another widely spoken language at school or in the workplace.
Adinkre Cloth designed by the Akan people of Africa. Symbols on the cloth represent facets of Akan culture, such as God, drum, war horn, crocodile, and death. The symbols are carved in wood, dipped in dye, and stamped repeatedly on the fabric.
Animals in the African Journey
at the Fort Wayne Children’s Zoo

African Lion
Allen’s Swamp Monkey
Banded Mongoose
Bat-eared Fox
Black Stork
Colobus Monkey
Crowned Crane
De Brazza’s Monkey
Dik-Dik
Grant’s Zebra
Great White Pelican
Honey Badger
Leopard
Marabou Stork
Masked Lovebird
Ostrich
Reticulated Giraffe
Ruppell’s Griffon Vulture
Serval
Silvery-cheeked Hornbill
Sitatunga
Spotted Hyena
White Stork
Wildebeest

** Please Note - Animals exhibited are subject to change without notice.**
Pre-Visit Activities

- Plan an imaginary “trip” to Africa. Using the worksheet on page 17, have students plan their travel route and determine how long it will take to reach their destination. How many miles will they travel? Students could also research their destination city, collecting notes on population, industry, and other data.

- Begin your detailed study of the savannah by investigating something that grows right in your backyard – grass! Because the savannah is a grassland, these activities will contribute to an understanding of grassland ecosystems. Use the activities to distinguish between grasses and other plants, learn the parts of a grass plant, and create a mini-grassland.

- Activities can be used as guides for research projects. Younger students will enjoy investigating giraffes and colobus monkeys using the provided work sheets. Allow older students to choose an African animal to research or create your own research project guidelines.

- Use a Venn diagram to compare and contrast the United States and Africa. Draw two overlapping circles on the chalkboard. Label one “United States” and the other “Africa.” The area where the two circles overlap contains attributes that both areas share. The portions of the circle that do not overlap contain attributes unique to each area. Ideas are given below:

```
UNITED STATES
Contains only one country.
Bordered by Pacific Ocean.
In Northern Hemisphere.

AFRICA
Contains about 50 countries.
Bordered by Indian Ocean.
Spans Northern and Southern Hemisphere.

Bordered by Atlantic Ocean.
Contains diverse ethnic groups.
Has both urban and rural areas.
```
Investigate how many products we use that are made from grasses. Ask students to bring in items from home that are derived from grasses. Items could include turf grass from their yard, ornamental grasses from a garden, wheat flour, bread, spaghetti, rice cereal, vinegar (made from rice), popcorn, oatmeal, millet (found in birdseed), sugar, molasses, or a bamboo fishing pole. Most of the items listed above are from the cereal grasses, which cover 70% of all cultivated land.

Go on a grass safari. (Avoid areas that could contain ticks, poison ivy, or other hazards.) Are the grasses all the same height? Has the area been mowed recently? Is the grass mostly green or brown? How can they tell how much rain has fallen recently? Do they see any seed heads? Explain that the seeds grow in a cluster at the top of the plant. The seed heads look like heads of wheat. Do they see any grass growing in clumps? The clumps are called tussocks. Most of the grasses on the African savannah grow in tussocks. Look for signs of animal life among the grasses.

Read books about insects and grass dwellers. Follow up by visiting a grassy field or meadow and have students collect insects in a bug cage made from a plastic cup covered with fabric netting held with a rubber band.

Read the book *Bringing the Rain to Kapiti Plain* by Verna Aardema (Dial, 1983). Use choral reading groups to read assigned lines for more enjoyment of the repetition and rhythm of the story. Discuss the importance of rain to the health of the cattle in the story. Which part of the story seems real-life, and which part seems make-believe? Compare the climate and yearly rainfall in your region to that of eastern Africa. How are they the same? How are they different?

Have some fun and show your students how to make a grass whistle. Stretch a sturdy blade of grass (at least three inches long) between your thumbs and blow gently. As students practice, suggest they adjust the tension to get different sounds.
Savannahs of the World

Savannahs are tropical grasslands which are found around the world near the equator. A warm climate with a dry season and a rainy season helps savannahs grow. Color the savannahs shown on the map.
Africa Political Map
Label the oceans and the missing countries.
Airplane Ticket

Choose a city in Africa that you wish to visit. Measure the distance from your home to that African city. Use a map of the world. Don’t forget to use the scale of miles on the map.

Name of the African city you will visit: _____________________________________________

How far is it from your home to that city in miles? __________________________________

How far is it from your home to that city in inches? __________________________________

Determine the cost of your airplane ticket, based on the information above. It costs 50 cents to travel one mile.

How much does a one-way ticket cost? _____________________________________________

How much will a round-trip ticket cost? _____________________________________________

African Savannah Airlines
Passenger Ticket

Name ___________________________ Row ___________________________
Destination ______________________ Seat ___________________________
Departure Time ____________________ Meal ☐ Yes ☐ No
Arrival Time _______________________
Distance _________________________ Ticket Cost ________________
**Passport Application**

When traveling outside of the United States, each U.S. citizen must carry a passport to prove their citizenship. Customs officers will ask to see your passport and stamp it when you arrive in each country.

Fill out the information below. Use it to make your “passport” for your imaginary trip to Africa.

![Passport Application Form](image-url)

I, _________________________________________________________________

(first name)   (middle name)   (last name)

do hereby apply to the United States Department of State for a passport.

<table>
<thead>
<tr>
<th>Male</th>
<th>Birthplace</th>
<th>Birth date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Month</td>
<td>Day</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Female</th>
<th>Height</th>
<th>Weight</th>
<th>Hair Color</th>
<th>Eye Color</th>
</tr>
</thead>
</table>

Street Address    City    State    ZIP

I solemnly swear that the information given above is true and the picture is a likeness of me.

______________________________

Signed

______________________________

Date

**Travel Plans**

<table>
<thead>
<tr>
<th>Purpose of your trip</th>
<th>Means of transportation</th>
<th>Passport Agent (Teacher)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>♦ ship   ♦ air   ♦ other</td>
<td>Picture of Applicant</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Length of stay</th>
<th>Have you traveled abroad before?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>♦ yes   ♦ no</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Do you expect to take another trip?</th>
<th>Countries to be visited:</th>
</tr>
</thead>
<tbody>
<tr>
<td>♦ yes    ♦ no</td>
<td></td>
</tr>
</tbody>
</table>
Cut apart, assemble, and fill in the needed information.

<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street</td>
<td>Entry Date</td>
</tr>
<tr>
<td>City, State</td>
<td>Departure Date</td>
</tr>
<tr>
<td>Height</td>
<td>Grade</td>
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<tr>
<td>Birth Date</td>
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<td>Hair Color</td>
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<tr>
<td>Eye Color</td>
<td></td>
</tr>
<tr>
<td>Signed</td>
<td></td>
</tr>
</tbody>
</table>
World Map

Flight Plan

1. Label the continents.
2. Put a X on your city.
3. Add directions to the compass rose.
4. Label the oceans and the equator.
Grass, Grass, Everywhere!

Purpose: To help students notice where grass grows

Materials: Large sheets of drawing paper
Old magazines
Scissors
Glue

Activity:
1. Tell students that there are more than 8,000 different kinds of grass, making grass the largest family in the plant kingdom. Some type of grass grows on almost every surface on Earth, including the bottom of a pond, on rocky land, in a swamp, on the arctic tundra, in a desert, or between the cracks of a sidewalk.

2. As a group, think of places where grass grows and list the answers on the chalkboard. (Lawns, playgrounds, playing fields, etc.)

3. With students working in small groups, have them cut out pictures that include grass from the magazines. Have them glue the pictures on the drawing paper to make a collage. Ask the students to write a sentence about grass or give the collage a title.

Identify a Grass Plant

Purpose: To teach students to identify a grass plant

Materials: Samples of grass collected from lawns, fields, etc.
Samples of other wild plants
2 copies of page 20 for each student
Sheets of waxed paper or newspaper
Heavy books
Self sticking notes or permanent marker

Teacher preparation:
Collect a sample of grass and a wild plant for each student. Try to provide a variety of grasses, if possible. Check out rural roadsides or an unmowed field. Grasses with flower heads are especially interesting. Collect roots along with the samples if you can. Shake the soil from the roots before bringing the samples to the classroom. For wild plants, choose flowering plants and small plants with slender leaves.
Activity:
1. Give each student two plant samples (a grass plant and a wild flower, for example). Ask students to guess which is a grass plant. Tell them to place the grass plant on the left, and other plants on the right.

2. Give each student two copies of “Identify a Grass Plant,” one for each plant. Ask students to study the drawings, answer the questions, and decide if they guessed correctly. With younger students, you may want to read the questions together and examine the plants step by step.

3. After students have decided which of their samples is grass, tell them they will preserve their sample. Give each student a sheet of waxed paper or newspaper. Fold the sheet of paper in half and carefully place the grass sample inside the folded sheets. Ask each student to write their name on the paper or attach a self-sticking note to their sample.

4. Place all of the samples between the pages of several heavy books. Pile more books on top. Let the grasses dry for about a week before using the pressed grasses in the next activity.

Label the parts of a grass plant

Purpose: To have students identify and label parts of a grass plant

Materials: A copy of “A Grass Plant” on page 21 for each student
           The pressed grass that was dried in the previous activity
           Glue

Activity
1. Give each student a copy of “A Grass Plant.” As a group, identify the parts of a grass plant.

2. Give each student their pressed grass plant. Have students glue the grass in the space provided on page 21.

3. Ask students to label each part of the grass plant.
Identify a Grass Plant

Directions: Look carefully at a plant you think is grass, then answer the questions below. If you answer yes to each question then your plant is grass.

1. Are the stems smooth and shiny? Yes ___ No ___

2. Do the stems have joints? Yes ___ No ___

3. Does one leaf grow at each joint? Yes ___ No ___

4. Are the leaves long and narrow? Yes ___ No ___

5. Do the veins in the leaves all run in the same direction? Yes ___ No ___

6. Does each leaf have two parts, a sheath and a blade? Yes ___ No ___

   The sheath is the lower part of the leaf. It fits closely around the stem. The blade is the long, slender part of the leaf.

7. Are the roots like tiny threads? Yes ___ No ___

Here is some more information to help you decide:
Some grasses have hollow stems.
Some grasses have creeping stems called rhizomes that grow below the ground.
Some grasses have creeping stems called stolons that grow along the ground.
New grass plants start from rhizomes and stolons.
A Grass Plant

Directions: Study the drawing of the grass plant, then glue a pressed grass plant in the space provided. Draw a line from each label to the part of the pressed grass plant that matches it.
Create a Mini-grassland

Purpose: To give students a chance to grow several different types of grasses.

Materials: For each student or group of students:
Small sponge
Plastic container (such as a deli container or cottage cheese container)
Grass seed
Plastic wrap
Plant mister or spray bottle filled with water

Activity:
1. Plan to plant as many different types of grasses as you can.
   Ask the students to help find sources. Ask a garden center, feed store, or nature center for help. Buy a packet of seeds for an ornamental grass at a garden center. Collect seeds from the tops of wild grasses.

2. Plant only one type of grass in each container. Be sure to label each container. Wet each sponge and place it in the dish or tray. Scatter grass seed thickly and evenly on top of the sponge. Be sure to mist the sponges daily. Cover overnight with some plastic wrap to keep warmth and moisture in. The seeds should begin to sprout within a few days. Within a week, students should have a fresh green patch of grass.

3. Have students observe the grasses as they grow and encourage them to make comparisons. Note differences in color, coarseness, germination time, growth rate, etc.

4. As the plants begin to grow, have students record their observations in logs or journals. Suggest they include descriptions of what they see, feel, and smell. Are they surprised by anything? Students can also discover how fast grass plants grow by taking measurements daily. Have them choose and mark one shoot and measure it from top to bottom. They can record their findings in both numbers and actual-size drawings. They could graph the results, using increments of 1/8 or 1/4 inch on the vertical axis and spans of 1, 2, 3, or 4 days on the horizontal axis.

5. You can’t bring African gazelles, zebras, and wildebeest into the classroom, but you can help students understand why these grazing animals depend on grass for food by having students “mow” their mini-savannas. When the grass is well-established, have the students cut the grass with scissors, trimming away as much or as little as they wish. Over the next few days, measure and compare the growth of their cut grass. Does it grow back? Explain that grasses grow from the base of the stem, not the tip. That is why grass is not harmed when animals graze on it or people mow it. Also, tell students that each kind of animal on the savannah eats a different part of the grass plant.
African Savannah Animal Research

Purpose: Students will conduct research to learn how a savannah animal is adapted to survive in its habitat.

Materials: Books for students to conduct research
Colored folders or large sheet of drawing paper to use as report covers
Paper
Markers or colored pencils for artwork (optional)

1. Instruct students to choose an animal that lives on the African savannah. They may wish to choose one that is found at the Fort Wayne Children’s Zoo’s African Journey exhibit (see list on page 9) or any other savannah animals (see list below).

2. Tell the students to design a cover for a folder in which they will keep their research. Ask students to fill out the African Savannah Animal Research sheet (see next page) with information about their animal. (For older students, you may choose not to use the Student Activity Sheet; instead have the students create their own research paper.)

3. Tell students to create other materials to include in their folders. Ideas include: a drawing of the animal or its habitat; a story, poem, cartoon, play, or newscast item about their animal; design a bumper sticker, t-shirt, or button that conveys information about the animal.

Some African savannah animals:

- jackal
- oryx
- hartebeest
- blesbok
- topi
- eland
- nyala
- crocodile
- meerkat
- secretary bird
- cheetah
- termites
- African elephant
- white rhinoceros
- black rhinoceros
- hippopotamus
African Savannah Animal Research
Student Activity Sheet

Name of Animal

Animal Group (mammal, bird, reptile)
___________________________________
___________________________________

Size (include weight & height)
___________________________________
___________________________________

Type of body covering_________________
___________________________________
___________________________________

What does your animal eat? ____________
___________________________________
___________________________________

How does your animal get its food? (grazing, stalking, wait and ambush, etc) ______
___________________________________
___________________________________

Where does it live? On the map, color the geographic range of your animal.

What do you think is the future of your animal in the wild? Why?______________
___________________________________
___________________________________

Describe how your animal is adapted to life on the African savannah. These could include skin coverings, ears, feet, teeth, horns, etc.
___________________________________
___________________________________
___________________________________

What in your opinion is the best plan to assure your animal’s future in the wild? Detail the steps in your plan.___________
___________________________________
___________________________________
___________________________________

Fort Wayne Children’s Zoo Activity Packet
**The Colobus Monkey**

**Purpose:** To make students aware of interesting facts about the endangered colobus monkey.

**Materials:** A copy of ”The Colobus Monkey” on page 26 for each student.

Give each student a copy of “The Colobus Monkey” to read and complete. Ask students to think of other black-and-white animals.

**Answers:**

1. penguin  
2. skunk  
3. zebra  
4. panda

**The Reticulated Giraffe**

**Purpose:** To make students aware of interesting facts about the giraffe

**Materials:** A copy of “The Giraffe” on page 27 for each student.

Give each student a copy of “The Giraffe.” Read the directions and have them complete the activity. If possible, read a book about giraffes together before doing the activity.
The Colobus Monkey

Interesting facts about the colobus monkey:

- Colobus monkeys have a white fur “cape” and a long white-tufted tail.

- Colobus monkeys eat the leaves of forest trees in Eastern Africa.

- Using their arms, colobus monkeys swing below tree branches. They rarely come to the ground.

- Colobus monkeys are an endangered species. They used to roam the forests in large numbers. But about 100 years ago, colobus were hunted for their beautiful fur.

Read the sentences below. Then fill in the name of a black-and-white animal that is described in the sentence.

1. An upright bird that lives in Antarctica. ____________________________

2. This animal defends itself with an unpleasant smell. ____________________________

3. An African animal related to the horse. ____________________________

4. This animal looks like a big teddy bear. ____________________________
The Giraffe

Interesting facts about the giraffe:

- There are three types of giraffes in east Africa: reticulated, Masai, and Rothschild’s. Each has a different pattern of spots.

- Giraffes eat the leaves, twigs, and bark of acacia and other trees and shrubs.

- Giraffes are about 17 feet tall, making them the world’s tallest animal.

- The giraffe’s tongue is 20 inches long. Their lips are flexible and can grab onto leaves and twigs.

To drink, giraffes must spread their legs wide and bend low. At this time they are vulnerable to attacks from lions and other predators. Thanks to their height, giraffes can see great distances across the African plain.

Use each letter in the word giraffe to begin a word. Write words that describe a giraffe or make a sentence about giraffes.

G____________________________
I____________________________
R____________________________
A____________________________
F____________________________
F____________________________
E____________________________
Quick Frozen Critters

Adapted from *Project Wild*

**Purpose:** Students will understand the relationship between predators and prey and the limitations that affect wildlife populations.

**Materials:**
- Food tokens (pieces of cardboard), three per student
- Gym vests or other device to mark predators
- Four or five hula hoops to serve as shelters (string can be used, or chalk on asphalt)

**Background:** Some prey animals, when threatened, will “freeze” in place, especially when a predator is close by. Fleeing to safety is an option when the predator is still a safe distance away.

**Activity:**
1. Select any of these following pairs of animals:
   - **Predators**
     - cheetah
     - lion
     - crocodile
     - hyena
   - **Prey**
     - dik-dik
     - zebra
     - wildebeest
     - gazelle

2. Identify one end of a gym or field as the “food source” and the other end as the “permanent shelter.”

3. Place the hula hoops in the open area between the permanent shelter and the food. These are “temporary shelters.”

4. Place the food tokens in the food source area. Allow three tokens for each prey animal.

5. Predators should be clearly identified with gym vests or safety patrol vests.

6. Use a whistle or other signal to begin each round. The prey animals should move from their shelter toward the food source, collecting one food token each trip, and returning to the permanent shelter. To survive, the prey have to obtain three food tokens. They must be alert to predators, and can alert other prey with a warning. Prey have two ways to avoid being caught by predators: they can “freeze” any time the predator is within five feet of them; or they may run for cover. Frozen prey may blink, but must otherwise remain still without talking.

7. Predators begin by standing anywhere in the open field. They must capture prey to survive, and can only moving prey (not “frozen” prey). Predators must capture two prey to survive. Captured prey are taken to the sidelines by the predator who captured them.

8. A time limit of five to seven minutes is suggested for each round. Play four rounds, allowing each student to be both predator and prey. Remind prey that they can remain frozen for as long as they like, but if they do not have enough food at the end of the activity, they will starve to death. In nature, an animal must sometimes balance the need for food with the conflicting need for safety.
Yipes, Zebra Stripes

Zebras are members of the horse family that live on the open grasslands of Africa. There are three main species of zebras. Each has a different kind of stripe pattern. Some even have brownish stripes between the black and white stripes.

When zebras are out in the open, the stripes are not a good camouflage. But when they’re standing in shadowy bushes or are on the run as a herd, the stripes help confuse their enemies.

Look at the stripe patterns of the three main species of zebras. Then write the name of the species under each picture to help you decide which two zebras are exactly alike.

Which two zebras look alike? ___________ and ____________
Swahili Dictionary

Swahili is a language spoken in the countries of east Africa. Below are some Swahili words to learn:

<table>
<thead>
<tr>
<th>Swahili Word</th>
<th>Pronunciation</th>
<th>English Word</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jambo</td>
<td>JAHM-bo</td>
<td>Hello</td>
</tr>
<tr>
<td>Kwaheri</td>
<td>kwah-HEAR-ee</td>
<td>Goodbye</td>
</tr>
<tr>
<td>Ndiyo</td>
<td>ni-DEE-yo</td>
<td>Yes</td>
</tr>
<tr>
<td>Hapana</td>
<td>ha-PON-ah</td>
<td>No</td>
</tr>
<tr>
<td>Tafadhali</td>
<td>tah-fawd-HAHL-ee</td>
<td>Please</td>
</tr>
<tr>
<td>Asante</td>
<td>ah-SAHN-tay</td>
<td>Thank you</td>
</tr>
<tr>
<td>Nakupenda</td>
<td>na-coo-PEN-dah</td>
<td>I love you</td>
</tr>
</tbody>
</table>

COUNTING

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moja</td>
<td>MOW-ja</td>
<td>One</td>
</tr>
<tr>
<td>Mbili</td>
<td>ma-BEE-lee</td>
<td>Two</td>
</tr>
<tr>
<td>Tatu</td>
<td>TAH-too</td>
<td>Three</td>
</tr>
<tr>
<td>Ine</td>
<td>EE-nee</td>
<td>Four</td>
</tr>
<tr>
<td>Tano</td>
<td>TAH-no</td>
<td>Five</td>
</tr>
</tbody>
</table>
At the Zoo Activities

- Make the most of your zoo visit by encouraging students to spend time observing the animals. The unique behavior habits of some animals can only be seen when we look carefully.

- Several observation worksheets are included in this Zoo Activity Packet. Choose a worksheet best suited for your students’ abilities. Be sure each student has a pencil and clipboard available.

- Inexpensive clipboards for your zoo worksheets can be made from a piece of cardboard; use a rubber band to hold papers in place.

- You may want to limit your visit to one zoo area, such as the African Journey, to provide more observation time for your students.

- Have students make a detailed sketch of a zoo animal. Sketching encourages careful observation.
Observing African Animals

My animal is ____________________________

Find your animal. Use all your senses to answer these questions:

1. Sketch your animal carefully on a blank page.

2. Guess how much your animal weighs (in pounds):

3. Guess how long or tall your animal is (in inches):

4. How does the animal move from place to place?


6. Compare the front and back legs.

7. How many toes on each foot? Does it have toenails?

8. Observe the animal for 10 minutes. Make a check mark each time it does one of the following:

<table>
<thead>
<tr>
<th>Walks</th>
<th>Runs</th>
<th>Lies down</th>
<th>Eats</th>
<th>Drinks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grooms itself</td>
<td>Grooms others</td>
<td>Yawns</td>
<td>Looks at people</td>
<td></td>
</tr>
</tbody>
</table>
9. If there are several animals in the group, can you tell which ones are the leaders? How can you tell?

10. Describe the coat and coloring of the animal. Include body color, face color, and markings or patterns.

11. Describe the eyes. Include color, size, shape of pupils. Are the eyes located on the front or the sides of the head?

12. Describe the ears.

13. Describe the sounds made by the animal.

14. Describe the smell of the animal.

15. How is the animal like you? How is it different?
Be a Giraffe Watcher

Draw a map of the zoo’s giraffe yard on the grid below. Show landmarks like trees, fences, paths, and buildings.

Pick a giraffe to observe at the zoo. Give your giraffe a name. __________________________

Every 2 minutes, record the time. Write down the area of the grid in which your giraffe is standing. Then describe exactly what your giraffe is doing.

<table>
<thead>
<tr>
<th>TIME</th>
<th>AREA#</th>
<th>OBSERVATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</table>

Name__________________________
Feed a Giraffe!

Feeding the giraffes at the Fort Wayne Children’s Zoo is a really neat way to experience giraffes up close! After you have fed the giraffes, answer the following questions:

1.) What did you feed the giraffes?

2.) How interested were the giraffes in the food? (Were they hungry? Did they come right to you? Did they ignore you? etc.) Give many details about your observation.

3.) Describe any part(s) of the giraffe that you felt when you were feeding it. Use as many descriptive words as possible.

4.) Record any interesting behaviors you saw as you fed the giraffes.
Summing Up the African Veldt

All animals have developed adaptations that help them find food and hide from predators. The sum total of all these adaptations is SURVIVAL. Stalk the African Journey at the zoo to see how many animal adaptations you can spot. It’s guaranteed to multiply into a fun experience!

Fill in each line in the sentences with the total number of each animal seen during your visit. Calculate a solution to each problem and put your answer on the line to the right.

1. An average ZEBRA may have as many as 50 stripes.  
   _______ zebras were spotted in the African Journey today. 
   _______ total stripes

   If the average herd of zebras in Africa has 1,000 animals, how many stripes would be found in a herd?

2. The drawing of an OSTRICH’S foot shows _______ toes.  
   _______ ostriches were out on the savannah today. 
   _______ ostrich toes

3. Marabou, white, and black STORKS, on the other hand, have _____ toes. Therefore, _______ storks equals ..... 

4. GIRAFFES have long, flexible tongues to grab leaves off the thorny acacia trees in Africa. If the average giraffe is able to eat 25 leaves off an acacia tree in one hour, how many acacia leaves would be eaten by the giraffes in the African Journey today in _______ one hour? (Hint: How many giraffes are in the African Journey?)

5. The WILDEBEEST eat grass and hay all day. If each wildebeest eats 20 pounds of grass and hay every day, how many pounds of grass and hay will be eaten by the wildebeest in the African Journey today?

6. The CROWNED CRANES near the pond sport a beautiful crown of yellow feathers. If each crown has 24 feathers, what is the total number of yellow feathers on the savannah today?

Name______________
African Monkey Business

As you travel through the African Journey, answer these questions about the zoo’s three species of African monkeys.

**de Brazza’s Monkey**

1. If danger is near, what does this monkey do first?___________________________.

2. The de Brazza’s monkey has a long, white_________________________________.

3. The color above the eyes on the forehead is ________________________________.

4. The de Brazza’s monkey’s tail is shorter, the same as, or longer that its body and legs. (circle one)

5. How many toes are on each foot?_______________________________________.

**Colobus Monkey**

1. Why does the colobus monkey have black and white fur?

2. Look at the handprint on the colobus monkey sign. When scientists first discovered the colobus monkey they thought one of the monkey’s fingers had been cut off. They chose the name “colobus” because it means “mutilated one.” Which digit do you think is missing? How can you tell?

3. The colobus has excellent color vision, depth perception, and visual acuity. Where are the eyes located and why are they placed this way?

4. What color fur is on the sides of the body and at the end of the long tail?

5. How does the colobus use the hair on its flanks (sides) while jumping through the jungle trees?
# Predators and Prey on the Savannah

Complete the chart below as you walk through the African Journey. Your observation skills and knowledge of animals will help you answer the questions.

<table>
<thead>
<tr>
<th>Predator</th>
<th>Their Prey (what they eat)</th>
<th>How do they capture their prey? (stalking, ambush, etc.)</th>
<th>Special adaptations for hunting (claws, speed, eyesight, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serval</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hyena</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Honey Badger</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prey Animals</td>
<td>Their food</td>
<td>Their predators</td>
<td>How do they avoid being eaten?</td>
</tr>
<tr>
<td>Zebra</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wildebeest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reticulated Giraffe</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Savannah Safari

Circle each animal when you see it on the African Journey. On the lines below, describe where the animal was located (example: near the path, under a tree, etc.) and what the animal was doing at the time you saw it (resting, grazing, walking, etc.).

Banded Mongoose

Location

Location

Activity

Activity

Giraffe

Location

Location

Activity

Activity

Hyena

Location

Location

Activity

Activity

Bat-eared Fox

Location

Activity

Wildebeest

Location

Activity

Continued on next page
Savannah Safari, continued

**Black Stork**
Location

Activity

**Marabou Stork**
Location

Activity

**White Stork**
Location

Activity

**Zebra**
Location

Activity

**Ostrich**
Location

Activity
Whose Footprints?

Look for footprints in the mud as you walk through the African Journey. Can you identify the animals that made them? Use this key:

- Ostrich
- Dik-Dik
- Stork

The ostrich has only two toes. Its huge toenails can be used as powerful weapons.

Dik Diks, gazelles, and giraffes walk on their toes. The hoof acts like a giant toenail to protect the toes on the hard ground.
Post-Visit Activities

- Reinforce students’ understanding of predators and prey by playing the “Web of Life Game” on page 43. Plan to utilize a grassy field or playground. Use the discussion questions to complete the activity.

- Incorporate a language activity by having students write “Animal Poetry” on page 44.

- Stimulate discussion and reasoning with “Think About It” on page 45. Place students in small groups and assign roles to each group. Use the questions at the bottom of the page to start discussion.
The Web of Life Game

Have the students sit in a circle in a grassy area. Each student should be a different plant or animal that might be found in an ecosystem (you may need to supply a list to choose from). Be sure to include many plants, several herbivores, a few carnivores, and a few omnivores. Ask one “plant” to hold on to the end of a spool of string. Have the students determine which animal or plant might be connected in some way to the prior organism and pass the spool of string to that student. The second student wraps the string around one hand. Continue the process until all students are connected in a giant web.

The students should move back and out until the slack in the string is taken up; juggle the string to feel the system’s “vibrations.”

Ask the students which link in the system is least important and have that link drop out. Take up the slack again. Continue to remove “unnecessary” links or those which cannot survive when other links are removed.

As links are removed, discuss:

- What happens when we remove a link in the ecosystem?
- Can the system withstand the loss of these links forever? Why or why not?
- What will eventually happen to a system which becomes less and less complex? Why?
- Were the changes more dramatic when the system was composed of many parts (links) or when it had fewer parts?
- Is a complex ecosystem more or less stable than a simple ecosystem?
- Can you think of any systems which people have created which might be considered ecologically unstable because of their lack of diversity? What might be done to reduce the hazards of such systems?

Sample food chains:

<table>
<thead>
<tr>
<th>African Savannah</th>
<th>Indiana Woodland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant: grass, acacia tree</td>
<td>Plant: grass</td>
</tr>
<tr>
<td>Herbivore: zebra, giraffe</td>
<td>Herbivore: mouse, rabbit</td>
</tr>
<tr>
<td>Carnivore: lion</td>
<td>Carnivore: bobcat</td>
</tr>
<tr>
<td>Omnivore: honey badger</td>
<td>Omnivore: raccoon</td>
</tr>
</tbody>
</table>
Animal Poetry

Choose an African animal. Imagine your animal in its natural environment. Think about how it lives, how it looks, and what it eats. Then try your hand at writing a poem.

Haiku
Originating in Japan, haiku consists of three lines of five, seven, and five syllables each. The lines do not have to rhyme. For example:

Black and white zebra
Running over savannah
Stops to eat green grass.

Compose your own haiku on the lines below.

______________________________________________________ (five syllables)
_____________________________________________________________ (seven syllables)
______________________________________________________ (five syllables)

Cinquain
Cinquain derives from the Spanish word for five. A cinquain uses a defined number of words on each line. For example:

Leopard
Spotted and sly
Stalking wary antelope
So quick and powerful
Predator

Write your own cinquain on the lines below:

__________________ (one word -- an animal)
__________________     _________________
__________________ (two words that describe it)
__________________     _________________     _________________
__________________ (three words expressing action)
__________________     _________________    ___________________
__________________ (four words telling what you feel about it)
__________________

(sum up with one word)
Think About It

Many African animals are endangered, some almost to the point of extinction. The animals are endangered for many reasons. Elephants are killed for their ivory tusks, which are often carved and made into jewelry. This illegal killing is called poaching. In recent years, poaching has declined, but it still remains a threat to elephants.

Solving these problems is a complex task. Ask your students to read or role play the following situation, then answer the questions at the bottom of the page.

**African farmer:** My family is poor. I can barely raise enough crops to feed my wife and children. Money is hard to come by. Sometimes I can sell extra eggs from my chickens, or get a little work in town, but even then I only earn $300-400 a year. We use this money for seed and clothing. When my children are sick, it’s nice to have extra money for medicine. Recently, a man told me that he would pay me $500 for a set of elephant tusks! Imagine, more than I can earn in one year would be paid to me if I can kill an elephant. Just think how happy my children would be. We could buy milk and meat to keep them healthy. Maybe even a toy for them to play with!

**African Wildlife Official:** We must stop illegal hunting at all costs. If we allow just one elephant to be killed, that is too many. I am asking the government to enact stronger laws to protect the elephants and other game animals. The poacher may make a few hundred dollars, but it is the ivory dealer who can make thousands of dollars selling this ivory illegally. The elephant is a powerful symbol of the African savannah. They are unique and beautiful. We must protect them at all costs.

**American Tourist:** My dream is to take a trip to Africa and see all the beautiful wildlife of the savannah. I know that a trip like this costs a lot of money, but I am willing to spend it to see these awesome animals in the wild. But I want to go soon, before all the animals become extinct. Elephants are my favorite. If there were no more elephants to see, I don’t think I would bother going to Africa.

- Would you be willing to go without toys, food, or medicine to save an endangered species?
- Who should get the money spent by tourists in Africa’s national parks?
- Who should receive the greater punishment – the poacher or the dealer (middleman)?
- Based on the information you just heard, how would you solve the problem of elephant poaching?
- Who benefits the most from your proposal? Do you think it is fair to everyone?
- What other solutions can you suggest?
- Can you give examples of other situations that have occurred near your home that were similar to this one? What were the results?
Africa Political Map
Label the oceans and the missing countries

ANSWER KEY

Fort Wayne Children's Zoo Activity Packet
Animal Facts:  
Reticulated Giraffe

Class:  Mammalia

Scientific Name:  *Giraffa camelopardalis*

Range:  Northeast Africa, Somalia, northern Kenya

Habitat:  Grasslands

Natural Diet:  Leaves, twigs, and bark of acacia tree and other trees and shrubs.

Zoo Diet:  Hay and exotic ruminant pellets

Physical Characteristics:  Giraffes are the world’s tallest mammal, averaging 14-19 feet high and weighing 1,700 to 2,800 pounds. Its long neck has only seven vertebrae, just like humans. Giraffes have a prehensile (grasping) upper lip which is used to pull leaves off trees. The black tongue is 20” long. Giraffes are usually quiet but can make low moans and grunts.

Behavior:  Giraffes live in herds of up to 40 animals, led by a female and domi-
nated by a large bull. They have excellent sight and hearing and prefer grasslands where they can have a clear view of predators. Giraffe babies may be attacked by lions; adults may be attacked when they bend down to drink. Giraffes defend themselves by kicking.

Reproduction:  Mother giraffes are pregnant for 15 months and give birth to one baby. The baby is born while the mother stands. Baby giraffes are about 6 feet tall and weigh about 100 pounds at birth.
Animal Facts:

Leopard

Class: Mammalia

Scientific Name: *Panthera pardus*

Range: Western Turkey and Arabian Peninsula to southeastern Siberia and Malay Peninsula, Sri Lanka, Java, Kangean Islands; most of Africa

Habitat: Leopards occupy almost any habitat with sufficient food and cover, such as lowland forests, mountains, grasslands, brush country, and deserts.

Natural Diet: Deer, wildebeest, gazelles, antelope, domestic livestock, monkeys, rodents, rabbits, birds, and even arthropods.

Zoo Diet: Prepared meat diet

Physical Characteristics: The leopard’s fur is golden with dark spots arranged in rosettes. Black leopards (often called black panthers) are common in dense forests. Leopards weigh 100-200 pounds and are surprisingly strong for their size. They can easily climb a tree while carrying a carcass larger than themselves. The leopard’s eyesight, vision, and sense of smell are exceptional.

Behavior: The leopard is the most widely adapted of all the big cats. Their strength enables them to capture prey larger than themselves; if their preferred prey is not available, they will resort to eating spiders and insects. Leopards are excellent climbers, able to leap 10 feet into a tree or 18 feet over an obstacle. Leopards usually hunt at night by stalking their prey. The cats approach as close as possible before seizing their prey by the throat and killing by strangulation.

Reproduction: Leopards usually bear two or three cubs every one to two years. Cubs remain with their mother for about two years, learning to hunt at her side.

Conservation: Leopards are threatened with extinction in all parts of their range, although they are still fairly common in some parts of Africa. At one time, they were hunted for their beautiful spotted fur. Today, laws protect the leopard in some countries. Preserving the leopard’s habitat is the best hope for saving these cats.
Animal Facts:

Ostrich

Class: Aves

Scientific Name: Struthio camelus

Range: Southern Africa

Habitat: Open savannah, wide plains

Natural Diet: Fruits, seeds, leaves, herbs, grasses; occasionally ingest small stones to grind tough plant fibers

Zoo Diet: Commercial exotic ratite diet

Physical Characteristics: The ostrich is the largest living bird. The male can be up to nine feet tall; females are about five feet tall. Ostriches can weigh up to 350 pounds. Males have black and white plumage; females have dull brown feathers. The feathers are “shaggy” and not suited for flight. Ostriches can run up to 45 mph and can cover 12 feet in a single stride. Their large-clawed, two-toed feet are used as weapons: a kick from an ostrich can cause serious injury.

Behavior: Ostriches live in groups of hundreds of birds. They sleep seven to nine hours per night with their neck upright. A few times each night, the ostrich will lay its head down on the ground for a few minutes. Sometimes, they will warm up their head by burying it in the sand.

Reproduction: Each hen lays 10-12 hard-shelled eggs, weighing about three pounds apiece (as much as 25-30 chicken eggs). The male and female share incubation. Several hens will lay in the same nest, which is usually a simple scrape in the ground. Young ostriches can grow one foot per month. Ostriches live 20 to 40 years.

Notes: Ostrich eggs are cooked and eaten by some African people. Ostriches were once hunted extensively for their plumage, which was worn on women’s hats. Ostriches are now raised on ranches for their meat and leather.
Animal Facts:

Hyena

Class: Mammalia

Scientific Name: *Crocuta crocuta*

Range: Sub-Saharan Africa, especially in the Serengeti plains and Ngorongoro Crater areas of Tanzania.

Habitat: Open savannah, wide plains

Natural Diet: Small mammals up to large ungulates (hoofed animals) such as wildebeests or antelope; birds, lizards, snakes, and insects.

Zoo Diet: Commercial meat diet and bones

Physical Characteristics: Sandy, yellowish or gray coat with black or dark brown spots. The spots are darker in younger animals. A hyena’s head and body size ranges from 35 to 60 inches. They weigh from 100 to 190 pounds.

Behavior: Spotted hyenas live in groups called clans. Clans, which are led by females, may include up to 80 hyenas. Spotted hyenas are fast runners and can run long distances without tiring. They work together to isolate an animal and chase it to its death. They often kill large mammals such as a wildebeest or antelope, but they are also scavengers, eating leftovers from other predators. Spotted hyenas are vocal and make a variety of sounds. Sometimes spotted hyenas are called laughing hyenas. The name comes from their best known sound, the high pitched alarm call that sounds like a cackling “laugh.”

Reproduction: Females are capable of producing a litter an average of every 16 months. They have one to four offspring. The gestation period is about 110 days. Spotted hyena offspring are independent by 18 months.
Animal Facts:  
Ruppell’s Griffon Vulture

**Class:** Aves

**Scientific Name:** *Gyps rueppellii*

**Range:** Central Africa, including Ethiopia, the Sudan, Tanzania and Guinea

**Habitat:** They nest on high cliffs. They rely on sight to locate their food so they prefer open, arid land instead of forested areas.

**Natural Diet:** Scavengers; often eat animals who have died from old age, diseased animals or still-born young.

**Zoo Diet:** Commercial bird of prey diet, rats, small bones

**Physical Characteristics:** Adults are close to 3 feet in length. They weigh 15-20 pounds. Their bodies are mottled brown or black with a whitish-brown underbelly and thin white fluff covering the head and neck. They have long necks and small heads which allow them to dig deep inside animal carcasses. Also, their heads have very tiny feathers so they can feed without getting too messy.

**Behavior:** Ruppell’s vultures roost, nest, and gather to feed in large flocks. They make large nests of sticks lined with grass and leaves. They can eat rotting flesh that contains anthrax, botulism, and cholera bacteria. Their stomachs destroy the organisms so the vulture does not get sick. In order to get the food they need, vultures may eat at different times. The “early bird” is one of the first to locate the carcass. Some vultures may eat large chunks of flesh as quickly as possible. Others may prefer parts of the animal that can’t be reached until the animal is dismembered by other vultures.

**Reproduction:** Ruppell’s Griffon vultures pair up for life. Both parents share in incubating, brooding (sitting on the eggs), and feeding the chicks. A single egg is laid each year. The incubation period is 55 days. The young bird is ready to fly in 12 weeks.
Animal Facts: 
Banded Mongoose

**Class:** Mammalia

**Scientific Name:** *Mungos mungo*

**Range:** South of the Sahara Desert in Africa; from Gambia to Ethiopia to South Africa

**Habitat:** Savannah, brush, and open woodland areas

**Natural Diet:** Insects and other invertebrates, birds, reptiles, rodents, carrion, and snakes.

**Zoo Diet:** Chicks, mice, canine diet, insectivore diet, mealworms, variety of produce

**Physical Characteristics:** Their coat is dark brown to brownish grey with dark bands across the back. They are 12 to 16 inches long with an eight inch tail and weigh 3 to 5 pounds.

**Behavior:** They live in large groups, called troops, of 5 to 30 individuals. They mark their home ranges using a scent that they secrete. For dens they often use burrows abandoned by other animals. Banded mongooses typically stay on the ground but they are good climbers and can swim to avoid danger. When their prey has poisonous spines, such as a caterpillar, or noxious skin secretions, such as a toad, the banded mongoose will roll the prey in the dirt until the spines or skin secretion has been rubbed off.

**Reproduction:** The banded mongoose has a gestation period of about 60 days. Females give birth to 2-6 young in the den.
Animal Facts: Great White Pelican

**Class:** Aves

**Scientific Name:** *Pelecanus onocrotalus*

**Range:** Eastern Europe to Western Mongolia; Sub-Saharan Africa.

**Habitat:** Freshwater lakes, deltas, marshes or swamps

**Natural Diet:** Fish and some crustaceans

**Zoo Diet:** Fish

**Physical Characteristics:** Great white pelicans are white with black wing feathers, a large bill tipped with red, a yellow pouch under the bill, and yellow feet. Males are about 70 inches long and weigh 20-33 pounds; females are about 60 inches long and weigh 11-20 pounds.

**Behavior:** Great white pelicans live, breed, migrate, feed and fly in formation in large colonies. It scoops up fish in the skin pouch below the bill; then it tilts up its bill and swallows the fish whole. They are excellent swimmers. To defend its territory, a male will threaten intruders by clapping its bill and bowing. They will also attack with their bill.

**Reproduction:** Great white pelicans usually nest in colonies. The nest, a pile of sticks or little more than bare rock, is on the ground. The eggs have an incubation period of 29-36 days. The young are able to fly in 65-75 days.
Animal Facts: Marabou Stork

Class: Aves

Scientific Name: *Leptoptilos crumeniferus*

Range: Africa, especially between the Sahara Desert and South Africa

Habitat: Savanna, open areas, and around human habitation

Natural Diet: Carrion, fish, reptiles, insects, birds, frogs, and rodents.

Zoo Diet: fish (capelin), mice

Physical Characteristics: The marabou stork stands on long, grey legs, about 5 feet tall. Its upper body and wings are dark grey to black, and its underparts are white. There are no feathers on its neck and head. It has a long, reddish pouch hanging from its neck, which is used in courtship rituals. Their average weight is 20 pounds.

Behavior: Marabou storks often gather in groups. They are usually silent birds, but sometimes they grunt or croak using their throat pouch, or they rattle their bills.

Reproduction: Marabou storks usually mate for life. Known as colonial breeders, they breed during the dry season because the water levels are low and it is easier to catch frogs and fish to feed their young.

They lay 2 to 3 eggs in nests that are made of sticks. Eggs hatch in about 30 days.
Animal Facts:
Masked Lovebird

Class: Aves

Scientific Name: Agapornis personata

Range: Tanzania

Habitat: Shrubs and trees

Natural Diet: Seeds, grains, tree bark, and small insects

Zoo Diet: Cockatiel diet, mixed vegetables, and sunflower seeds as treats

Physical Characteristics: Masked lovebirds have a black head and a large yellow “collar” around their neck; the rest of their bodies are bright green. Their eyes are encircled with a white ring, and they have a red beak. They grow to six inches long on average.

Behavior: Masked lovebirds live in small flocks; occasionally they are in a larger flock when feeding.

Reproduction: Females may lay eggs, in groups of 3 to 6, several times in one year. The female usually makes the nest where the eggs incubate for 23 days. The female also cares for the hatchlings until they leave the nest at about six weeks of age.
Animal Facts:
Bat-Eared Fox

**Class:** Mammalia

**Scientific Name:** *Otocyon megalotis*

**Range:** Eastern and southern Africa

**Habitat:** Savannas, brush, and grasslands

**Natural Diet:** Primarily insects; also scorpions, spiders, rodents, and lizards.

**Zoo Diet:** Carnivore diet, dog food, mice, mealworms, and crickets

**Physical Characteristics:** Bat-eared foxes have yellow-brown to gray fur, lighter on the belly, and darker around the eyes, muzzle, backs of the ears, feet, and tail tip. Their large ears, over five inches long, help them hear insects moving underground. Their ears also help keep the fox cool by allowing blood to circulate near the skin’s surface. Bat-eared foxes are 18 to 26 inches long and 12 to 16 inches tall. They weigh 7 to 12 pounds.

**Behavior:** Most bat-eared foxes are nocturnal. However, in South Africa they are diurnal (active in the day) in the winter and nocturnal in the summer. They spend their days in their dens, away from the hot sun. Their dens are usually found near large animals like zebras and wildebeests because that is where many insects, such as dung beetles, are found. They may dig the den themselves or use dens left behind by other animals. They usually live in groups of two to five. Each group usually has one adult male and one or two adult females.

**Reproduction:** Females give birth to two to six babies called kits. The mother nurses the kits for 15 weeks. Young are fully grown by about six months.
Resources for Students and Teachers

Books

Brett, Jan. *Honey...Honey...Lion!* Putnam Juvenile. 2005.
Murphy, Patricia J. *Tanzania (Countries of the World)*. Social Studies Collections. 2002.
Resources for Students and Teachers

Internet

Fort Wayne Children’s Zoo  www.kidszoo.org

U.S. Fish and Wildlife Service  www.fws.gov
Includes list of endangered plants and animals; species accounts, images, maps, links.

The Electronic Zoo  http://netvet.wustl.edu/e-zoo.htm

American Zoo and Aquarium Association  www.aza.org
Animal information and links to 180 zoos

National Geographic  www.nationalgeographic.com

University of Michigan Museum of Zoology  http://animaldiversity.ummz.umich.edu

San Diego Zoo  www.sandiegozoo.org

African Wildlife Foundation  www.awf.org

Note: There are many zoo websites that have an “Ask the Zookeeper” feature. To find a current list of websites, use “ask the zookeeper” as a Google search and follow the links.
Dear Teacher:

Please take a few minutes to fill out and return this evaluation form. Your input will help us improve our teacher resource materials in the future.

Mail to Education Department, Fort Wayne Children’s Zoo, 3411 Sherman Blvd., Fort Wayne, IN 46808. Thank you for your time and effort!

SCHOOL or GROUP NAME: ___________________________________________

GRADE LEVEL: ______________________ DATE OF VISIT: ______________________

1. Were the materials and activities appropriate for your grade level? ______________________

2. Which worksheets did you use? __________________________________________

3. Which activities did you try? __________________________________________

4. Which of these did your students enjoy the most? ______________________

5. Did you create or modify any activities to supplement this packet? If so, we would appreciate receiving a copy to include in future packets or to distribute to teachers on request.

6. What other materials would you like to see included in the packet? ______________________

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