



3rd Grade - EdZoocalational Adventure Guide

Theme: Animal Adaptations – Body parts

Grade level: 3rd

DESE Standard: 3-LS4-2 Use evidence to construct an explanation for how the variations in characteristics among individuals may provide advantages in surviving, finding mates, and reproducing.

Overview: Animals use a variety of body parts to survive their environments and to help find mates to produce offspring. Bird beaks differ based on the type of food they are eating. Woodpeckers have slender, very strong beaks for digging insects out of trees. Ducks have bills with combs along the edge to strain water from their mouths after they catch a fish underwater. Some animals have horns or antlers. They use them to defend themselves and their families but also for impressing females. Foot structure varies greatly as well. Hooves, paws, toes, and even the absence of feet altogether can be linked with the terrain in which an animal must travel. Tails on an animal can be used for numerous reasons: peacocks impress females, elephants swat away flies, squirrels shade or warm themselves, dogs communicate emotion, and wasps defend themselves.

Activity: Spend a few minutes reviewing the definition of *adaptation*. Discuss how to quietly observe an animal species noting its various body parts. As a group, choose an animal to discuss its body parts and how they help it to survive and thrive within its individual environment. Provide students with the “field guide”. Explain to the students how to document their observations during their visit to the Little Rock Zoo. Using their observations and the information they find at the various exhibits, students should be able to provide possible reasons for the development of certain body parts.

Activity Extension: Have students focus only on animals from a specific region or habitat type (like rainforest or African savannah). Note and document interesting body parts for animals within this region and discuss how different body parts on various animals help them within the same environment.

3rd Grade Tour Guide

This self-guided tour takes your class along a path to exhibits with animals that have distinctive adaptive body parts. This path does not cover the entirety of the zoo, but is meant to accentuate the lesson narrative.

- As you enter, head to the right. You should see a sign for Penguin Pointe.
- Remind students that calm, quiet guests see more animals. Loud noises send them into hiding making them harder to find.
- **Penguin Pointe:** Penguins don't have wings like other birds. They have tapered, flattened flippers for swimming. These work like boat paddles; helping them to swim fast and make quick turns to catch live fish. Our penguins are banded for identification: boys on the right flipper, girls on the left flipper. Look for our special girl, Dory, who was born with a curved back and is still able to swim well with her flippers.
- **The Aviary (inside the Reptile House):** Bird beaks and bills differ greatly depending on what foods the bird eats. The spoonbills are able to scoop food up from shallow water with their spoon-shaped bill. They eat minnows, small crustaceans, insects, and bits of plants. Pesos is our catalina macaw. Her beak is large and very strong so that she can open the toughest shells of nuts.
- **Kudu:** Mombo and Fiona are obviously different. Samba has long, spiral horns; Fiona doesn't. His horns can grow up to 6 feet long and typically make 2 ½ twists. His horns make one complete twist in about 2 years, so kudu can be aged by the direction that their horn tips are pointed. They use these horns to spar with other males over the rights of a female.
- **Cheetah:** Most know that cheetahs are the world's fastest land animal (up to 70 mph), but why? Their skeleton was built for speed. A smaller frame gives them a lighter weight skeleton. They also have long leg and foot bones which help to propel them forward. They have a unique flexible spine which allows for extreme flexion which places the cat's legs directly underneath its body. They also have hips and shoulder blades which rotate to such an extreme angle that their front and hind legs overlap. The boys, Padfoot and Prongs, are usually napping together.
- **Rhinoceros:** Our rhino family includes dad Jahari, mom Andazi, and baby boy Kevin. Their horns are very different from the kudu, and all of them are born with it. Their horn is made of keratin, just like our fingernails. Males use them for defense similar to kudu but they can also use them to dig up water and break branches from trees so they can eat the leaves. Mothers will use them to help guide their calves.
- **Caracals:** Caracals can be found in the small carnivore area. We have two: Binti and Nico. This small cat looks very different from the cheetah, especially the ears. Their ears are large, pointy, and tipped with a black tuft of fur. Their ears have over 20 muscles that help them swivel around to detect the sounds of their prey. Some scientists believe that the tufts are also used as a lure in tall grasses. Birds see the black tufts and not the camouflaged cat. Once they approach, the caracal jumps to grab it.
- **Flamingoes:** Flamingo legs are very unique and appear to bend backwards. When we look at them, we think that the middle joint is a knee, but it is actually an ankle and heel. Their knee is hidden underneath their lower feathers. This allows them to easily tuck one leg up and stand on the other. Scientists believe this helps them to save heat from escaping both legs as they sleep.
- **Elephants:** Our elephant girls, Babe, Sophie, and Zina, stand and walk for hours a day. Babe (the star) weighs nearly 12,000 pounds and all that weight sits on those four, wide feet. The bones of her foot are positioned so that she is actually walking on her five toes; similar to a person wearing high heeled shoes. A large pad of fat is found behind those toes, under the heel, to cushion the weight on them. They can even pick up sound and register low frequency rumbles caused by other animals up to 20 miles away through their feet. This pad also muffles sound, making their own footsteps almost silent. Their feet get daily checks and care from the keepers.

