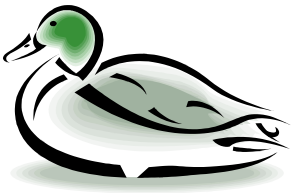
Body Covering Tour

Self Guided Preschool – K

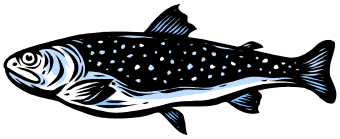
John Ball Zoo



1. **Waterfowl:** There are many birds in this area. They all have feathers and are cold blooded. Have you noticed that waterfowl stay dry even when they are sitting in water? Look for a bird that is preening. Explain that it is taking oil from its preen gland and coating its feathers with the oil. This waterproofs the feathers to keep the water and the cold away from the bird's body. Many birds need to protect themselves from water even if it is only rain! Feathers also aid in mate selection. Colors help in recognizing same species and the opposite gender. Neutral colors will help camouflage the female when she is sitting on the nest, keeping predators away from her and her offspring. Look at the duck's beaks. What shape are they? (Mostly broad and flat.) This helps them eat the aquatic and shore plants they like so much. Can you see their feet? The webbing between toes helps them swim.

2. **Bald Eagles:** These, too, are birds. Point out the similarities and differences between these and the waterfowl. Hooked beaks and sharp talons without webbing help these birds catch and eat meat (mostly fish).

3. **Living Shores:** There are many birds and fish in this building, but there are also many invertebrates in here that have no backbone and therefore do not have the same characteristics as vertebrates. You may wish to leave out the anemones, crabs, urchins, sea stars, etc., from this tour. The following descriptions will only cover vertebrates.



A. **Michigan Stream:** Trout are fish. They have scales and slime covering their bodies. The scales act like armor to protect the fish. The slime also helps cushion against cuts and disease and infections. Can you see the fish breathing? How do they breathe? What body parts do they use? All fish breathe with gills. Gills take the oxygen the fish need out of the water. If you look closely, you should see their mouths open and shut and little slots on the side of their head open and shut too. These slots are the gill covers. Water is drawn in through the mouth and passes over the gills and out the gill covers.

Fish are ectothermic. That means that their body temperature is dependent on their surroundings. They cannot put on or take off a coat if they get too hot or cold. They have to swim to a warmer spot to warm up or a cooler spot to cool off. If you watch the trout, you may be able to tell if they are trying to cool down or warm up by where they are in the exhibit. (e.g., sunny or shady spot)

Most fish lay eggs. Sometimes you can see the trout scooping out nests on the bottom of the exhibit by moving stones around.

B. **Patagonia:** There are many birds and fish in here, plus a mammal (weasel), and a reptile (a Chaco Tortoise). Penguins are birds because they have feathers. Their feathers are very small and compact, giving them the appearance of fur or hair. These feathers are very good insulators against the cold water that penguins swim in to find their food. On land, the feathers insulate against the extreme heat common to the Magellanic Penguins' nesting areas in Argentina. Penguins do not fly thorough the air. They are speedy swimmers, however, using their wings and feet to go as fast as 25mph. Penguins, like all birds, breathe with lungs. Even though they can stay under water for lengthy periods, they still need to breathe air at the surface. Compare the penguins to the Kelp Gulls, Finches, Ducks, and Cardinals. All these birds have feathers, all (ex. Penguins) fly, all lay eggs, and all are warm blooded. The different colors of feathers and body shapes help them in their search for food and to stay away from predators.

C. **Pacific Northwest:**

Kelp Forest: Several species of fish are in here. Also more invertebrates such as anemones, sea stars, crabs, etc. Point out the differences in these fish – scales colors, body shape, etc. Look for fish hiding in the kelp and along cracks in the rocks. Can you find the wolf eel and the shark?

Octopus: You should see an octopus and anemones in here. Compare the

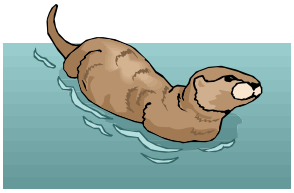
invertebrates to see how alike but different they are!

Tide Pool: Look for the fish hiding in here. Can you see why scales are a good body cover for them?

4. **Adventure World/Children's Zoo:** Look for many different types of birds in this area – owls, magpies, chickens. Compare their feathers, body shapes and beaks to see how they might be adapted to their habitats.

5. **Golden Eagles:** These are very similar to the Bald Eagles except they eat fewer fish and more rabbits and rodents. Notice they have more feathers on their feet/legs than the bald eagles.

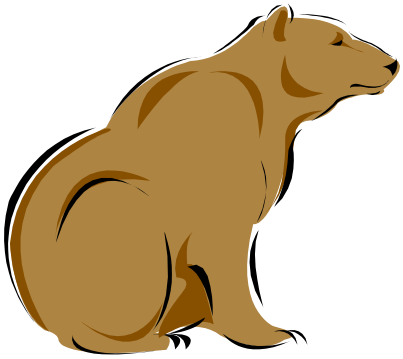
6. **North American River Otters:** The fur of these mammals is well suited to life in the water. It helps keep the otter dry and warm, camouflages the otter and provides protection from scrapes, bumps, etc. Like all mammals, otter babies are born alive and drink milk. Otters are excellent swimmers and divers, making them capable of catching fish rather well. You might be able to catch them practicing with rocks in the water.



7. **Turtles:** Turtles are reptiles. They have eggs, dry scales, breathe will lungs, and are cold-blooded. There are over 300 species of turtles. All turtles have a shell, some are hard and others are soft. The turtles we have all have hard shells connected to their back backbone. The hard shells protect the turtle from predators.

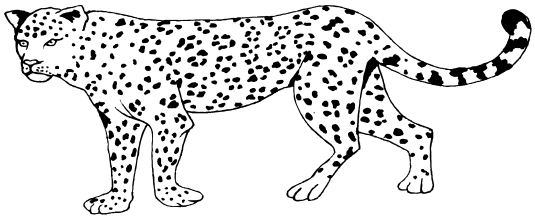
8. **Wolverines:** Wolverines are also warm blooded mammals. They are cousins to the otter, along with skunks and ferrets. You may smell an odor from them. They are called mustelids. Wolverines are known to have a mean temper, with which they are able to scare away bears!

9. **Dall Sheep:** Mammals, live birth, breathe with lungs, covered with fur, endothermic. Dall sheep live in the rocky mountain areas of Canada and Alaska. They have sure footing, and are able to run and leap around steep slippery cliffs with ease.



10. **Bears:** Grizzly Bears are mammals have the basic mammal characteristics. Grizzly Bears get the name not from their fierceness, but from the grizzled (or white/gray) appearance of fur around their face and head as they get older. Grizzly Bears live in the northern part of North America where it can be quite cold. Thick fur provides insulation against the cold.

11. **Pumas/Snow Leopards:** These similar mammals (although found in different areas in the world) are kept extremely warm with their fur. It also helps them to camouflage well. Try and find them! Sometimes it is more difficult than you think!



12. **South American Exhibit:** Depending on when you visit the zoo, you may see any of the following:

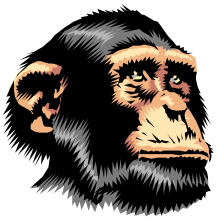
Guanacos: Wild cousins to the llama, their fur helps them keep warm in the mountainous regions of South America.

Crested Screamer: These birds' feathers help them stay warm and cool, camouflaged, and are essential for flight.

Maned Wolves: These shy and secretive mammals have very long legs to help them see over the tall grass in their native habitats.

Tapir: The fur on Tapirs is short and can range in a variety of colors from reddish-brown to grey, and even black. Young Tapirs have stripes and spots on their fur to blend into their habitat.

13. **African Wildlife:** Bongos, Warthogs, White-backed Turkey Vultures, Yellow-backed Duiker, Helmeted Guinea Fowl, and African Crowned Cranes all live together in the wild and here. It shows how they live and work together. Warthogs do not have much fur or hair, but they wallow in mud to cool off their skin and to protect it from the mud and insects. The bongos' striped fur helps them camouflage in the wilderness. The Vultures do not have many feathers on their heads since they eat carrion; it helps to keep their heads clean even while feeding deep into the bodies of dead animals.



14. **Chimpanzees:** Chimpanzees, or Chimps, are also mammals. They are born live, warm-blooded, breathe air, and have hair for body covering. The young nurse or drink milk from their mothers. Chimps belong to the class Primates. They are not monkeys, because monkeys have tails. Chimps are considered apes, which do not have tails. Chimps will groom themselves and each other constantly. This is a way of communication to keep close bonds. They also are adapted for trees and climbing. They are considered to be very strong, much stronger than humans.

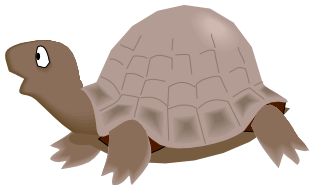
15. **Treasures of the Tropics Building:** The animals in the first part of the building are active at night and sleep during the day. Most of these animals range into Central America where it can be warm and moist. While here, look at the fur of the various mammals to compare color and texture to see how each is adapted to its habitat.

    Further into this building, you will find many reptiles and amphibians and some mammals. This building tends to be quite warm because most of the residents here are ectothermic (cold blooded). Their body temperature is dependent on their surroundings.

    Reptiles have dry, scaly skin, lay eggs which are leathery, breathe air, and are cold blooded or ectothermic. There are many different species of snakes here and they all have dry scales covering their bodies. The bright colors help them hide in a variety of places.

    Turtles have dry scales covering their shells, head, legs, and necks. Lizards also are reptiles with dry scales.

    Amphibians, however, are covered with moist or wet skin whether or not they are in the water or on dry land. Breathe with gills when they are young and then grow lungs and breathe air. They lay jelly-like eggs, and are also cold blooded or ectothermic.

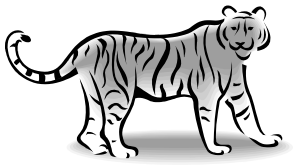


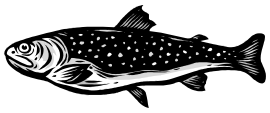
16. **Frogs**: Frogs and toads have a wet or moist skin, even while they are on land. They need water to keep their skin moist, and drink. Frogs do not swallow water, but absorb it through their skin. They shed their skin frequently to keep it healthy. Some even shed their skin weekly. Notice how the coloration of most frogs in the exhibit either helps them remain camouflaged in their environment or helps them warn predators of the harm they can do to their predators if attacked.

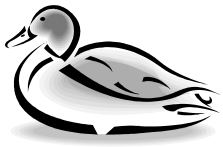
ZOO TOUR ACTIVITY

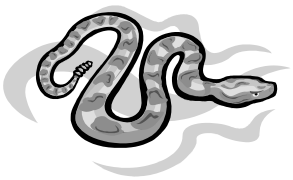
Body Covering Tour

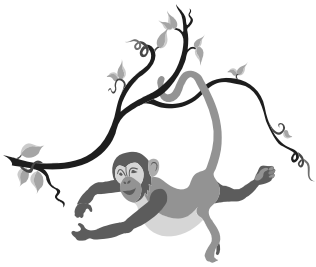
Circle each animal when you see it in the Zoo.
What is its body covering?

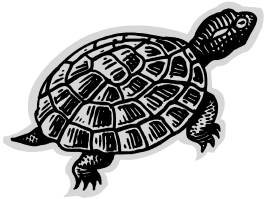


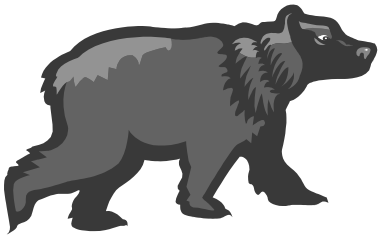




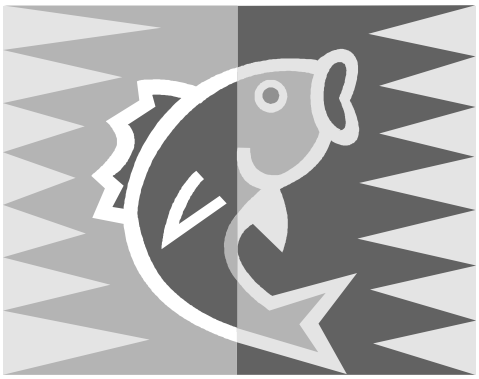








JOHN BALL ZOO SAFARI



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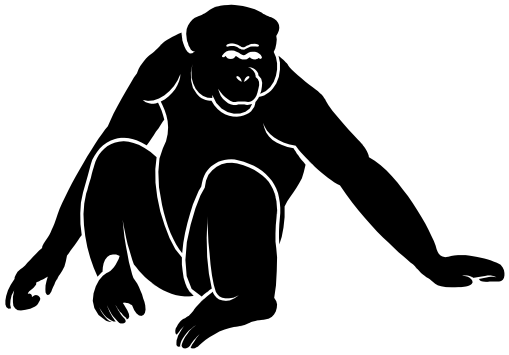

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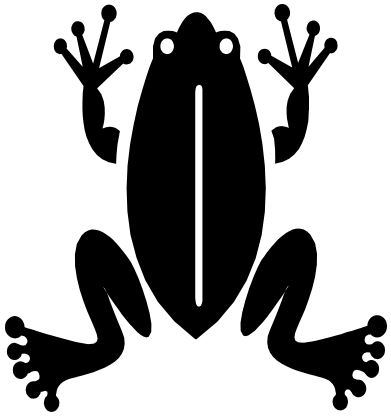

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Leader: This is a sample of the animals you might see in the zoo today. As the children find each one have them write the type of animal below its picture. Also, talk about what body coverings each one has. Answers: Fish, Reptile, Bird, Amphibian, Mammal.