Animal Feet

Have you ever wondered why animals have all sorts of different feet? Animals have adapted specialized feet to help them survive in their habitat. Explore animal adaptations and answer the question: what if you had animal feet?

Part One- Adaptations

Key Terms

Adaptation- changes within the structure of an organism that helps it better fit to survive in a particular environment

1. Match the type of animal foot to the function it best performs:
    a. Running
    b. Climbing
    c. Walking on a steep, rocky slope
    d. Swimming
    e. Grasping
    f. Perching

Brown Thrasher Feet

Opossum Feet

Goat Feet

Gecko Feet

Wolf Feet

Alligator Feet

Animal Feet

Explanations

A. Running: those furry wolf feet are great for running! Think about a dog, whose feet look very similar.The protective toe pads allow these animals, and others with the same style foot, to run very fast!
B. Climbing: the gecko feet have hundreds of tiny hairs called setae. The setae then split into even smaller bristles called spatulae. These microscopic hairs and bristles can get so close to surfaces, that they nearly form an electromagnetic bond with the surface. This allows geckos to climb nearly vertical surfaces and even hang upside down from walls!
C. Walking on a steep, rocky slope: Goats' feet are perfect for steep slopes and rocky areas because they have cloven hooves. Cloven hooves are hooves split into two toes. The split allows these toes to almost grip rocks as the animal walks. Some other animals with similar feet include cows, deer, gazelles and sheep!
D. Swimming: Alligator feet are good for swimming because their feet are webbed! The skin that connects the toes allows the foot to act as a paddle and propel the animal through the water. Some other animals with webbed feet include birds like ducks, geese, beavers, and otters.
E. Grasping: Opossum feet are perfect for grasping because they have opposable thumbs. Do you know who else has opposable thumbs? Humans! Opposable thumbs means thumbs that can be moved around and touch other fingers, which is great for grabbing onto things. Humans, monkeys, orangutans, and many other primates are all animals that have opposable thumbs!
F. Perching: Brown thrasher feet are perfect for perching because they have one toe that points the opposite direction. Song birds, or Passerines, all have this same foot structure: three toes that point forward, and one toe that points backward. This allows them to wrap their feet around branches and perch there!

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Part Two- Experimentation
To experiment with different animal feet adaptations, you'll be making your own animal feet out of household items.

Materials
Two gallon milk jugs, cleaned out
Ruler
Hole puncher or scissors
String
Pair of thin winter gloves
Plastic forks
Tape
Plastic ziploc bag
Rubber band
Pencil and paper
Stuffed animal
Bathtub or sink filled with water
A computer

Procedure

1. Animal foot number one:
    a. Cut the tops off your gallon milk jugs about 5 inches from the bottom.
    b. Using your hold puncher or scissors (and adult supervision) make a hole on each side of the milk jug for your string.
    c. Cut your string long enough to fit through the holes and over your foot. The string will keep your milk jugs in place while they are on your feet.
    d. Test your animal feet in two ways:
        i. Standing high, jump! From a flat foot position, how high can you jump in your new animal feet? Here is the catch: when you bend your legs to jump, stop when your shin touches the milk jug.
        ii. Test which surfaces are easiest to walk on? Do you notice a difference walking on wood, tile, carpet, or grass? Which surface pairs best with your animal feet? What issues, if any, did you find while walking?
2. Animal foot number two:
    a. Put on your pair of thin winter gloves.
    b. Using the tape, attach the plastic forks to the ends of your fingers. The base of the plastic fork (where the prongs side meets the handle) should be right where your finger meets your hand.
    c. Test your animal feet in two ways:
        i. Write your name with a pencil

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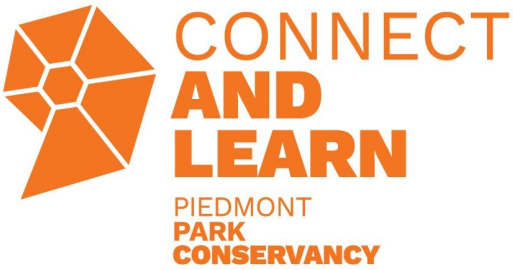

   ii. Pick up a stuffed animal from above using only the prongs of the fork
3. Animal foot number three:
   a. Place your hand inside the ziploc bag and spread out all five of your fingers.
   b. Attach the bag to your wrist by placing the rubber band around the bag and your wrist (be careful, you don't want to make it too tight! You just want the bag to stay on your wrist and hand for a short time, soonce around it good) Alternatively, you can tape it if the rubber band is too tight.
   c. Test your animal feet in two ways:
      i. Type a sentence on your computer with your fingers still completely spread out
      ii. In a bathtub or sink filled part way with water, see which of the following works better. Moving your hand through the water without the bag or with the hand inside the bag (with fingers completely spread out)?

Guiding Questions

1. If you could have the feet of any other animal, what would you choose, and why?
2. What other animal feet might you be able to model with items found in your home?
3. Besides feet, what other adaptations do animals have to help them survive in their habitats? Can you think of any specific examples? What function do these adaptations serve? Where do these animals live and what does their habitat look like?

Extension

Make a Mismatched Animal Flipbook from our online resources. If you have already completed the activity, grab your flipbook. Once it is completed, start creating wacky animals! Select one (or more if you like) of these animals and describe their adaptations: front paws, and mouth like a lion? Tail of a fish? Once you make a list of all the adaptations, use your knowledge of adaptation from this activity and try to figure out where an animal like that might live! What habitat is your new wacky animal adapted to? How do they move around? How and what do they eat?