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PAWS AND CLAWS!

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Animal feet are fascinating!

Across the animal kingdom, different species use a huge range of paws, claws, feet and flippers to get around and catch food! By studying the shape of a foot, we can learn a lot about an animal's behavior and how it adapted to its environment!

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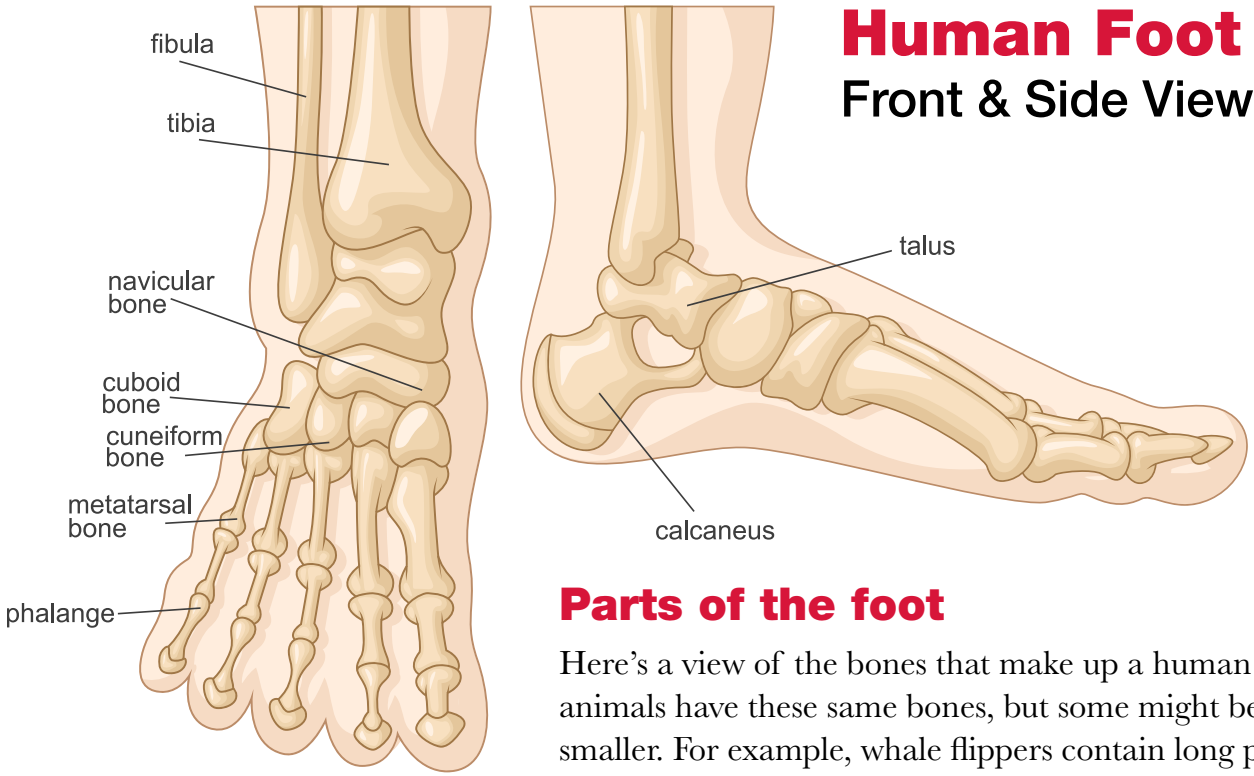

Human Foot Bones

Front & Side View

Parts of the foot

Here's a view of the bones that make up a human foot! Many animals have these same bones, but some might be bigger or smaller. For example, whale flippers contain long phalanges too!

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Feet for climbing!

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Geckos are crazy climbers. They use their special, super-gripping foot pads to cling to slippery surfaces as they climb. They can even stick upside-down on glass. Only Spider-Man has the same skills!

Geckos are amazing climbers because their feet are covered with millions of tiny hairs. These hairs are too tiny for us to see, but scientists have found that they actually bond with particles in the walls, trees or windows a gecko climbs with. It is sort of like they are a magnet that sticks the gecko to a climbing surface!

Photo: iStock / Bob_Eastman

Feet for swimming!

Capybaras are the largest members of the rodent family, which means they are related to mice and rats. Capybaras live in South America and can grow to be the size of pigs! These unusual animals sleep and raise their babies on land, but they spend a lot of time eating plants that grow in water. To help them swim, capybaras have developed partially webbed feet that work a lot like swim fins!

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Feet for hunting!

Polar bear paws and claws are awesome for two big reasons! First, their long claws are fantastic hunting tools. Each claw is almost 3.5 inches long, and the claws are curved so they can "scoop" up the snow and ice when they dig. These claws are especially useful for "scooping" seals out of their lairs when hunting!

Second, polar bear paws have a natural "no-slip grip." The rough pads on their paws help the polar bears not slip on slick ice! This paw-some power helps the polar bears stay out of the water as they travel across ice floes. If they do go swimming, polar bears can use their sharp claws to grip the ice and pull themselves out of the water.

Feet for running!

Strong legs and hooves make horses really good at outrunning their predators. Horses are pretty unique on the farm because they don't have two-sided "cloven" hooves like pigs, cattle or camels. Instead, a horse's hoof is made up of one big, rounded toe.

This single toe is an example of how horses have changed over time. Fossils show us that wild horses lived in forests and jungles long ago. These horses had between three and five toes to help them walk across the uneven ground. Over the years, the trees were replaced by grasslands in many places. Instead of balancing on tree roots, the horses needed to be able to run fast through the grass. In these environments, it was better to have one big toe for pushing off the ground quickly!

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Feet for digging!

Mole claws are long and tough. In fact, they make the perfect shovels for digging. Moles dig so quickly, that it is like they "swim" through the dirt. So perhaps their shovel-like paws work a bit like flippers too!

Fun fact: Wriggling worms

How do you dig with no hands or feet? Worms have figured out how to dig using very small hairs on their bodies called setae. Earthworms push their front-halves forward to eat the dirt ahead of them. As they do this, they anchor their back-halves with the tiny setae. The worms then use the setae to stick their front-halves in the ground as they move their back-halves forward. This front-and-back motion eventually gets the worm where it wants to go!

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The history of zoos

Many animal scientists work in zoos! They study animal behaviors, reproduction and nutrition as a way of taking care of zoo animals and helping wildlife thrive worldwide. People have actually been running zoos for thousands of years, but zoos have changed a lot since ancient times.

The history of the zoo is fascinating! Before zoos were places for learning, they were built to show off wealth. The word zoo comes from the term "zoological garden," which means garden of living things. As far back as ancient Mesopotomia, a civilization more than 4,500 years ago, wealthy and powerful people such as emperors and kings would keep wild animals in cages and exhibits. The rulers of ancient Mesopotamia even hired explorers to travel and capture exotic animals such as lions and giraffes. Keeping these animals in a garden or "menagerie" was a way to show the world how rich you were.

Many ancient rulers were given animals as gifts or as tributes between kingdoms. In the 8th century, Emperor Charlemagne was given elephants as gifts from rulers in Africa. In modern-day Mexico, Emperor Montezuma II was known for having a zoo filled with colorful birds and fish.

These animal collections were the first zoos, but they were different in many important ways. First, these zoos were not public. They were only for the wealthy to enjoy. Second, they were not meant to be educational. To maintain the zoos, zookeepers would learn how to feed animals and help them breed, but they didn't have the same research methods or funding that zoos have today.

All this changed about 200 years ago, when more scientists started using the "scientific method" of learning things by asking questions and making observations. In 1828, the London Zoo opened and championed the study of animals for scientific purposes. More zoos of this kind started opening across Europe, and more

Photo: iStock / zilli

Caring for baby animals is an important part of being a zookeeper. In the wild, a baby tiger might die if it doesn't get enough milk. In a zoo, keepers can step in and make sure each baby grows up strong.

people started studying animal behavior and anatomy. Zoos also started designing animal exhibits that looked more like their natural habitats.

The oldest zoo in the United States is the Philadelphia Zoo. The zoo opened on July 1, 1874! Today, the zoo is home to nearly 1,300 animals, including lemurs, maned wolves and giant otters.

Zoos continue to inspire people to learn about animals! Most zoos today have captive breeding programs, so no one needs to capture animals from the wild. In fact, many zoos have programs to help endangered species survive in their natural habitats.

ZOO CAMS!

Get a look at what animals are doing RIGHT NOW!

Check out these live critter cams:

Watch penguins at the Philadelphia Zoo:
https://philadelphiazoo.org/penguin-point-cam/

Watch hippos at the San Diego Zoo:
https://zoo.sandiegozoo.org/cams/hippo-cam

Watch black-footed ferrets at the Smithsonian's National Zoo:
https://nationalzoo.si.edu/webcams/black-footed-ferret-cam

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