

Animal Adaptations: Raccoons



When you walk past a dumpster, do you think "Mmm, dinner time!" Probably not. But a raccoon looks at that pile of garbage and gets ready to chow down. You see, a raccoon will eat just about anything, from leftovers in your garbage to insects, fruit, plants, mice, frogs and fish. The possibilities are endless!

Its broad diet is one of the raccoon's adaptations, allowing the raccoon to live in a variety of environments. While some animals become extinct when their natural habitats are destroyed to build cities and neighborhoods, raccoons are able to adapt. You might even find a raccoon making itself comfortable living in someone's basement or attic!

Behavioral adaptations

The raccoon's ability to eat basically anything isn't the only adaptation concerning food. Did you know that the raccoon's scientific name, *Procyon lotor*, means "washer dog"? This name comes from a unique behavioral adaptation--the raccoon will douse its food, which means it will dunk its food in water.

It may look like the raccoon is cleaning the food before chowing down. However, in reality, the raccoon does not douse its food to clean it. Scientists are still unsure what function dousing the food actually serves, but it may be to make their hands even more sensitive.

Think about how useful your hands are. Seriously, you can do so much with your hands. You can grab a pencil, throw a ball and paint a picture. There are many animals that can't do those things. Raccoons, however, have paws with five-fingers that are a lot like yours.

Their paws are dexterous, meaning that they have great physical ability and can handle small things well. In other words, raccoons' dexterous paws can do things like untie your shoe or steal a quarter from your wallet. Their dexterous paws come in handy when lifting the lids off of those trash cans!

Physical Adaptations

Did you know that raccoons can fall 40 feet and walk it off? Their bodies are so solid that they are protected against such falls. This is helpful in case they fall from trees, which they are excellent at climbing. Their hind feet are able to turn a full 180 degrees in order to climb down from the trees headfirst. Pretty awesome! Another amazing thing about their little legs is that, despite their short height, they are able to run as fast as 15 miles per hour.

They say that you should pick on someone your own size, but this doesn't always apply in the animal world. In order to defend themselves against animals like wolves and coyotes, a raccoon's first line of defense is to make loud sounds like shrieking or hissing. If this first warning doesn't work, it will show aggressive body language, like sticking its fur up, leaping up and down, and thrashing its tail. If all else fails, it will go into attack mode and bite its attacker.

Winter

Winter can be a tough time for animals, but raccoons have adaptations to help them survive. For one thing, they go into torpor, which is a state of rest a lot like hibernation. During torpor, the raccoon will basically "chill out" and sleep in its den, which is normally in a hollow tree, cave, or abandoned building. Raccoons will also grow a thicker coat and store extra fat in order to stay warm.

Lesson Summary

Raccoons have many adaptations that help them survive in a variety of environments. They douse their food by dunking it into water, though they aren't sure why. They have strong bodies, and their hands are dexterous, meaning that they have great physical ability and can handle small things well, which helps them to gather their food. During winter, raccoons' fur gets thicker, and they often go into torpor, a state of rest a lot like hibernation.

Animal Adaptations: Bobcats



Imagine that you're hiking in the desert with your friends. The ground is rocky and there is dry, scrubby brush everywhere. You don't notice the two golden eyes hiding in the bushes, watching your every move. As you move, the creature follows, but they're silent while your footsteps crunch across the ground. You're being followed by a bobcat!

Bobcats are North American wildcats with very short tails. They may weigh as much as 30 pounds, which is about the same as an English cocker spaniel. Their short tails are usually between two and eight inches long. That "bobbed" tail is how they got their name!

Bobcats live in parts of Canada, the United States, and Mexico. They like to hang out in different kinds of habitats like deserts, mountains, forests, farms, and swamps. They even sometimes live in suburban areas near people.

Bobcats have some cool adaptations, which are special characteristics that help them survive in these different kinds of North American habitats. These adaptations also help them live in places where there may not be a lot of food or shelter.

Physical adaptations

If you lived in the wild, you would want to blend in with your surroundings so you could hunt for food and hide from predators who want to make you their next snack. A bobcat's camouflaged fur makes it hard for prey and enemies to see it. The fur even changes color depending on the season.

In warmer months, a bobcat's fur is a golden-brown color with black stripes and spots. During the winter, its fur becomes more grayish to match the color of the dead plants around it. Bobcats hide so well; you may never see them even when they're around!

Bobcats are carnivores, which means they eat meat. Before bobcats can eat their dinner, they have to find it first, which is why their ears are so important. They have great hearing and ears that twist around in different directions to catch any little sound that their prey might make.

They also have spiky fringes of fur that stick up from their pointy ears. Scientists think this also helps their ears catch the sounds around them, the way you can hear really well if you pull your ears forward.

Behavioral Adaptations

One of the special adaptations that help bobcats catch their dinner are sharp, retractable claws. Just like a housecat, they can push the claws out when they need them to catch an animal or do some climbing and can pull them in when they aren't using them.

Bobcats also have big, sharp teeth. They use these teeth to grab and bite the neck of animals like rabbits, squirrels, raccoons, and even sometimes deer. They kill and eat the smaller animals right away but save and hide some of the larger animals' meat for a later meal, the way your mom might serve leftovers from dinner the night before.

Lesson Summary

Bobcats are North American wildcats with short tails that live in habitats like deserts, mountains, forests, swamps, and even suburban areas close to people. They have adaptations that let them survive in these habitats including fur that changes color and helps camouflage, or hide, them. They also have ears designed to pick up little sounds, retractable claws that they can push out and pull in on command that help them climb and catch food, and sharp teeth that help them kill and eat a meal.

Animal Adaptations: Black Bears



Weighing in at 240 pounds, with large razor sharp claws and a roar that can send the bravest person running, black bears may seem like ferocious killing machines that attack for no reason. However, they are actually afraid of humans and are shy, peaceful animals. Generally, they only become aggressive when people or other animals threaten them or their cubs.

Physical Adaptations

The black bear's greatest adaptation is its ability to eat many different things. Just like humans, their dinner plates may include a variety of foods. Their favorite meals are fruits and nuts, grasses, twigs, and honey. They will also eat grubs, insects, fish, and small mammals. Bears who find little food in their habitat will come into areas where humans live and will forage for food in trash cans or dumpsters.

They have molars that are great for grinding up foods and large canine teeth for ripping apart fish and other food. If bears and dogs had a competition to see who could more easily sniff out food, the bear would easily win! Bears can smell food up to 20 miles away. This amazing sense of smell also helps the bear find mates and detect and avoid danger. Remember, they are shy animals and prefer to avoid conflict.

Once the bear's sniffer guides him to food, he has some pretty great adaptations for getting and eating the food. Those huge, strong legs allow the bear to move or bend large objects like rocks, tree trunks or limbs that get in the way of him and the food. The large, padded feet and strong, curved claws allow the bear to climb trees easily to get to fruit, nuts, and honey.

They also have a long and sticky tongue. Gross! They use that tongue to reach ants or to swipe up a bunch of nuts. Bears can even separate and spit out unwanted nuts or berries without using their paws.

Behavioral Adaptations

While their physical adaptations make black bears great at getting food, their behavioral adaptations allow them to be more efficient hunters. They don't mind sharing the area they live in with other animals and can be very social, but black bears need to hunt and forage all of the time, and this makes them solitary animals.

Imagine having a map in your head where you could mark every place you found a tasty treat. This is how bears' brains work when it comes to food. They form mental maps of where the great sources of food are and can go back to those areas as needed.

Food, food, food. Black bears need to constantly eat to keep their bodies healthy, but they must also store layers of fat to be able to hibernate during the winter. When they hibernate, or sleep for a long period of time, they make a safe den somewhere in their habitat.

Mama bears usually give birth in the safety of this den, where her cubs, or babies, can drink milk from her and grow in safety until the spring. Then in spring, the cubs come out and are mature enough to follow her lead in learning survival skills.

Lesson Summary

Although black bears are shy and not very aggressive, they can become very aggressive if they or their cubs are threatened. Their greatest physical and behavioral adaptations help them eat plenty of food to be able to hibernate, have cubs, and survive in most environments.

Animal Adaptations: Coyotes



You may hear them howling in the night as they call to their family members. You may have seen one and mistaken it for a medium-sized dog. If you live in a dense urban area, a sprawling suburban neighborhood, or the rural countryside, they are not far from you. We're talking about coyotes. Coyotes have adapted, or become better suited to their surroundings, so they can live in many different environments and habitats.

Physical Adaptations

These wild relatives of dogs share many of the same traits and behaviors as dogs. Just like man's best friend, coyotes are built for hunting prey. They typically hunt alone unless hunting large animals, and they have very sharp claws and teeth for catching and eating their prey. They are not picky eaters, which allows them to live in both urban or rural settings. Their menu includes small animals like frogs, rabbits, mice, and fish, but it may also include deer or fruits and grasses.

These adaptations that coyotes have not only make them great hunters, but also allow them to avoid becoming prey themselves. Like dogs, coyotes have a great sense of smell and great vision. If they do spot prey or are in danger, they can run up to 40 miles per hour to catch their dinner or avoid becoming dinner. When they get close enough to their prey, they will often pounce on it to catch it.

As with most wild animals, coyotes benefit from their natural camouflage. Their fur varies from light brown to grayish, which helps them blend in with the many habitats they live in. Coyotes that live in the desert regions have a lighter coat than coyotes that live in the cooler northern climates.

Behavioral Adaptations

If you've never seen a coyote, don't feel left out. Most people haven't, even though coyotes are everywhere. After all, they are nocturnal, which means they are awake at night and sleep during the day.

When you want to talk to one of your family members, you can text or call them. Coyotes obviously can't do that, so when they need to find a family member, they howl. They can tell who is who by each coyote's distinct howl, and they can even tell the howling coyote's distance and direction. They may be semi-solitary, but their social and family bonds are very important

to their well-being and survival. In fall and winter when food is harder to come by, they may form larger packs for more effective hunting.

Not only do they need the family bonds for hunting and survival, but they need them to raise and care for their pups, or baby coyotes. Coyotes have a central den where they live and babies are born. The adult parents use their urine to scent-mark the territory around their den. This tells others to stay out, and if an intruder comes in, the coyotes will defend their territory and den aggressively.

The babies are taken care of by the female and male parents. While the mother feeds the babies milk, the father hunts and defends the family from predators. The babies are born in the spring, and they are ready to hunt and live on their own by the fall.

Lesson Summary

Coyotes have adapted or become better suited to their surroundings so they can live in many different environments and habitats, both urban and rural settings. They are not picky eaters and can live in virtually any type of weather. They have a great sense of smell and great vision, sharp claws and teeth for catching and eating prey, and their natural camouflage helps them blend in with their environment.

Their singing howls ring through the night to communicate with their families while we humans sleep safely in our homes.

Animal Adaptations: Bullfrogs



If you live in North America, you have probably heard their deep, moo-like croak. They are large, slimy, and can jump with amazing power. Native to North America, bullfrogs are well adapted to living in their habitat. This means they have physical and behavioral features that help them survive in their particular environment.

Physical Adaptations

If you've ever swam with flippers on, you know it is much easier than swimming without them. The bullfrog, who lives in warm water, has naturally webbed feet. The frog's webbed feet have a large surface area, which allows them to push the water behind them and move around quickly and easily.

If you think bullfrogs have cool feet, wait until you hear what their skin can do! It actually soaks up the water they need for their body. This means that they don't have to drink water at all, because their skin does it for them. Their skin also produces a protective mucus, a slimy substance, to protect them from the sun, which can dry them out - that's why they're slimy when you pick them up. And last but not least, they shed their skin once a week by pulling it off over their head like we pull off our shirts. We use our arms and they use their strong, long legs.

Living in the warm waters of ponds, rivers, and marshes of North America, bullfrogs have some great adaptations to help them catch their dinner. Their menu consists of fish, worms, small mammals, reptiles, other amphibians and many other aquatic animals. They are nocturnal, or awake at night, and have excellent vision with eyes that can see in all directions to help them spot their prey. When they do spot a potential snack, they use their long powerful legs to jump from a long distance to pounce on the victim. They then use their strong tongues to help overpower the animal and munch them up with their sharp teeth.

Protective Adaptations

Bullfrogs are predators, but they also have to protect themselves from becoming lunch or a victim of another aggressive frog taking over their territory.

Their skin is a grey-green, muddy color that camouflages them in the muddy waters of their habitat. Predators and prey have a very hard time spotting these slimy guys. If they do feel

threatened, they secrete a toxic substance on their skin that will poison whatever is trying to harm them. It has been known to poison dogs and other animals that try to eat them.

Staying safe from predators is a huge job, but bullfrogs also aggressively defend their territory. They have a loud, deep call that lets other bullfrogs know where they are. If another male does come into their territory, they will chase or attack them to get them to move on.

They must also keep their babies safe. The female lays up to 20,000 sticky eggs in a sheet or clump under the leaves of plants. These clumps of eggs taste bad to other animals, so they're usually safe from harm until the babies are born. Bullfrogs are born as tadpoles, or baby larva with no legs that breathe through gills, and transition through multiple stages over the first year of life into an adult bullfrog.

Lesson Summary

Bullfrogs are nocturnal animals that live in water. They start off as tadpoles and grow into slimy adult frogs who eat other small animals. These and other adaptations have helped them survive as a species.

Animal Adaptations: Owls



Did you know that there are around 200 different species of owls in the entire world? In fact, there are different owl species on every continent, other than Antarctica. Owls are known for being amazing hunters, and there are certain traits that they have to thank for this. These traits are known as adaptations, which help animals stay safe, find food, and survive within their environment.

Behavioral adaptations

When you're hungry, you get a fork, knife, or spoon and get ready to chow down. Owls, on the other hand, don't need silverware. Instead, they use their sharp talons, or hooked claws, to kill their prey (animals that are eaten by other animals). Each of the owl's feet has four toes with talons on the end of each toe. Some of the toes face forward, while the remaining toes face backwards. This allows the owl to get a tight and deadly grip on its prey. The owl spreads the talons out nice and wide and then. . . CHOMP! It's dinner time.

Even if the prey tries to hide from the owl, it will likely not end well. For one thing, the prey might not see the owl due to its adaptation of camouflage, or blending into its surroundings. Another adaptation that makes it difficult for prey to go unseen is the owl's ability to rotate its neck almost all the way around. Creepy!

While there are some birds that look like they are having a spaz attack when flapping their wings (like pigeons), owls fly with such grace and beauty. One of their adaptations is their feathers that are so soft, they can make virtually no noise when they fly. This silent flight allows the owls to sneak up on their prey.

Another adaptation of their wings is that they are very large for their lightweight body. Therefore, they can fly at a slow pace and don't have to hover over where they would like to land. This means that the owl has plenty of time to select the exact place that it wants to land before descent.

Physical adaptations

If you could have any superpower, what would it be? If you thought about having superior hearing and vision, owls already have both! Their vision is known as highly movement sensitive,

which means that they immediately notice when something moves ever so slightly. They're also able to see really well at night, which makes it a popular time for hunting.

Another vision adaptation is that owls don't have eyeballs. Instead, they have eyes shaped like tubes that function similar to binoculars with the ability to zoom in and out on what they're looking at. Their eyes don't move around like yours (remember, they just turn their necks), which helps them to fully focus forward. This gives the owl great depth perception for hunting, meaning that it can tell exactly how close or far away something is.

If you thought their vision was impressive, their hearing abilities are just as cool. Their hearing is so strong that they can hear the tiniest mouse move in complete darkness. This is because their flat faces act like a funnel of sound, which allows an owl to hear the sound ten times louder than it actually is.

Lesson Summary

Owls have many adaptations that have set them up for success, especially when it comes to hunting prey. An owl's sharp, curved claws, or talons, are its greatest weapon. Its superior vision and excellent depth perception (ability to see how close or far something is) enable the owl to pinpoint exactly where its next meal is, and its ability to make no noise when it flies, also referred to as silent flight, helps it sneak up on its dinner.

Animal Adaptations: Beavers



Beavers live near water like rivers, streams, and ponds. They work very hard to build dams, which are wooden homes that protect them. Their special body parts help them live near water and build dams. Let's see what they are.

Physical adaptations:

If you've ever seen a beaver in a cartoon, you know that they have huge front teeth! They look pretty goofy, but they actually really help beavers. Did you know that their teeth NEVER stop growing? This means that they are really strong and can help beavers chew wood to make their dams. Beavers have to sharpen their teeth too, and they do that by gnawing, or chewing, on branches and logs.

Another adaptation that beavers have is a huge tail. It almost looks like a paddle, which makes sense because they use it to help them swim. Beavers have to be able to move around in the water to live and to build their dams, so their tails help them with this. They also use their tails to hold extra fat in the winter. This way they can stay alive and full even when they don't have as much food as usual.

Did you know that a beaver's back two feet are webbed? This means that they have some skin between each toe. Along with their big tails, webbed feet also help the beavers with swimming. A beaver's front two feet are smaller and easier to move. This helps them pick up mud and sticks to build their homes. They also help beavers carry food.

Have you ever heard of glands? Glands are body parts that give off chemicals to help the body work better. People have glands, too. Beavers all have oil glands that help make their fur waterproof. This must really help them swim! Female beavers have glands called castor glands that help them mark their areas and attract male beavers.

Beavers have two full layers of fur! This important adaptation helps them stay warm in the cold water. Because of their oil glands, their outer layer of fur helps keep them waterproof, and their inner layer contains their body heat so they can stay warm.

We don't think of beavers as being very fat animals, but they do have an extra layer of fat under their fur, just like penguins or whales. The fat does two main things- it keeps them warm in winter, and it makes their bodies a better shape for swimming.

Lesson Summary

Beaver bodies have several adaptations that help them swim, eat, and build their homes called dams. They have big, sharp teeth that help them gnaw, or chew, logs and branches. They also have glands that make their fur waterproof, and extra fat to keep them warm in winter.