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Animal Senses

Take a look at the heads of the animals on these two pages. Are they all the same? Yes and no. Yes, each animal has ears, eyes, a mouth, and a nose. But no, they don't have the same kind of mouth and nose. Why? Because, through many thousands of years, the animals' bodies slowly changed. The giraffe is a good example of evolution. With its long neck, it reaches food at the top of trees. Then it pulls the branches to its mouth. Finally, with special teeth like a comb, it can quickly strip the leaves off the branches.

The chimpanzee uses facial expressions for communication. For example, a mouth with closed lips can mean "I am not very happy". An open mouth showing top and bottom teeth can mean "I am frightened".

Dogs and rabbits have highly developed senses of smell and touch. They communicate with each other by using pheromones (scent from their bodies). And the sensitive hairs on their faces help the animals to find their way in the dark.

The hippopotamus also uses its mouth for communication. Here, with mouth wide open, it is warning another hippo and saying "Go away!".

Whose mouths are these? Can you guess? They all belong to carnivores (meat-eaters).

A long time ago the "king of beasts" lived in northern India, the Middle East, and even in Europe. Today, the lion lives only in Africa, and in one nature reserve in north-west India. In fact, there are very few lions left in the world. In the past, hunters killed them and kept their heads and skins as trophies. Nowadays, lion hunting is strictly controlled.

This dog's mouth contains sharp teeth like the lion's. The teeth tell a story about the dog's evolution. His ancestors needed these teeth for killing and eating prey.

The frog is an amphibian, which means it can live on land and in water. It is a carnivore, but it doesn't have any teeth. This is because frogs catch mainly soft animals like worms and snails. So why is a frog's mouth

so big? Perhaps because it is like a sound box, adapted for communication. Frogs can "sing" and make many different sounds.

The crocodile uses its powerful jaws and sharp teeth for catching prey such as buffalo, zebra, and other animals. It pulls the unlucky animal under water and drowns it. It tears pieces of meat off by twisting the animal over and over. The crocodile must swallow whole pieces because it can't chew. Sometimes, some of the crocodile's teeth fall out. But this doesn't matter, because new ones soon grow. Crocodiles always have a lot of teeth.

Lions communicate with their whole bodies, but especially with their faces. They can show anger, fear, and contentment.

Lions also make different noises that mean different things. A snarl means they are attacking another animal, or defending their cubs (young lions). A roar keeps lions in touch over long distances. And a roar can mark territory.

Lions have very good noses. Their highly developed sense of smell gives them information about animals nearby, especially other lions and lionesses.

Dogs can make a lot of noise with their loud bark. But these animals are not as loud as lions. People often keep guard dogs to protect their homes. Most dogs prefer not to fight if possible. A barking dog is saying "Go away!".

The male frog on this leaf is calling to the female frogs in the water. He attracts them by croaking.

But he is not alone. Hundreds of other male frogs are croaking with him. They sound like small motorbike engines.

This crocodile is opening its huge mouth, but it isn't making a noise. Instead, it is probably keeping cool. Water from the skin inside the mouth evaporates and cools the crocodile. Or perhaps the crocodile wants clean teeth. It is inviting birds to find bits of food in its teeth.

The chameleon is a kind of lizard. Like crocodiles and snakes, lizards belong to the reptile group of animals. They evolved from amphibians millions of years ago.

A chameleon is a good hunter. Its success depends on three things: camouflage, stillness, and speed. The prey doesn't see the chameleon, which cleverly camouflages itself. This means the colour of its skin can be the same as its surroundings. It waits patiently for food to come along, turning its eyes in every direction. And all the time it remains as still as a rock. Then, suddenly, a long, sticky tongue shoots out of its mouth. Quick as a flash, the tongue and prey are back in the chameleon's mouth.

Cats also have useful tongues. The cat in the picture is washing its head. It is using its paw as a cleaning cloth. Cats spend a lot of time keeping clean.

The gecko is another kind of lizard. Here, it is using its tongue for cleaning its eyes. Unlike the cat, the gecko doesn't use its feet for cleaning. But the gecko's feet are unusual in another way: they can grip (hold on to) any surface, even glass.

All snakes are carnivores. They swallow their meals whole because they cannot chew. This is why they need special jaws that open very wide. The snake in the picture is swallowing a whole egg. Snakes do not have ears. They "hear" by feeling vibrations through the ground.

And they can "taste" the air with their tongues. In this way they get information about their prey, even in complete darkness. Many snakes have an extra sense, called a heat sensor. With this, they can detect a change in temperature. So warm-blooded animals are never safe near hungry snakes.

Unlike the snake, this monkey is not interested in swallowing an egg. But it is thinking about breakfast. It's a fine morning in a forest in Venezuela. Time to look for food. But first, the monkey must open its mouth and howl. Why? Because it is a howler monkey. The howl is a warning sound. It tells other monkeys in the forest to stay away, because howler monkeys are territorial.

A spotted hyena looks like a very large dog. But hyenas are not part of the dog family. Their closest relatives are aardwolves.

Hyenas are clever hunters. They hunt in small packs (groups) of 10-30 hyenas. Good senses of hearing and sight help them catch animals at night. They can run many kilometres and still not get tired. After the kill, the hunters begin to eat. At this time, they make their strange laughing sounds. They are often called "laughing hyenas" because of this noise.

Spotted hyenas don't waste food. They can eat nearly all of their prey. How do they do this? Look for the answer in the skill below, with its powerful biting jaws.

There are more than 350 species (kinds) of shark. Some of them are enormous, many are small, and most are harmless.

The hammerhead has a strange head. Its eyes are at the end of two wings shaped like hammers. Sharks often lose teeth. But this doesn't matter because inside the large mouth there are several rows of teeth. Another tooth is always there, ready to replace the lost one. A shark can use more than 20,000 teeth in its lifetime.

Like human beings, hamsters have only one row of teeth at the top and one row at the bottom. But their teeth are not the same as ours because they never stop growing. Luckily, hamsters eat a lot of hard food such as cereal grains, seeds, and roots. Continual gnawing (biting and chewing) keeps the hamster's teeth short.

Turtles don't have problems with teeth. The reason is simple - they don't have any! Instead of teeth, they have jaws with very hard, bony edges. They use these for biting and chewing. But their food is easy to bite, so teeth aren't necessary. Turtles eat mainly shellfish and worms. Many turtles also eat plants.

A bird's mouth is called a beak. Birds use their beaks to collect food and then eat it. But they can't chew their food because they don't have any teeth.

The shape of a bird's beak can tell you a lot about its diet. This heron's long, pointed beak is like a fisherman's spear. It helps the heron to catch its food in lakes and rivers. The heron's long legs are also adapted to fishing. It can stand still in the water for a long time. It watches and waits for the fish.

The parrot's beak is much smaller than the heron's, because it has a different diet. The beak is short and strong for opening nuts.

The parrot's beak is also a kind of foot, helping the parrot as it climbs around the branches of a tree. Many people keep pet parrots. They can imitate sounds, and sometimes they learn to talk.

The woodpecker has a long beak and an even longer tongue. The beak hits against the side of a tree and makes a drumming sound. Woodpeckers make holes in this way, and often find insects inside trees.

Hunting dogs, like this beagle, have a well- developed sense of smell. They can follow the scent of other animals.

A dog's urine contains its own individual scent. With their noses, dogs can "read" messages from each other. But the messages are always simple - they say "I am a female/male dog and I was here".

Pigs also have specialized noses, called snouts. They use them for finding food in the ground. Pigs are noisy animals, and can make a lot of different sounds with their snouts.

It is important for the mother horse and her foal to recognise and communicate with each other. They do this with their mouths and noses, as you can see in the picture.

The cat is a naturally curious animal. Perhaps there is something tasty in the paper basket.

Or maybe the cat is just having fun.

Can you recognise the noses on these pages? Which animals do they belong to?

This one has white fur on its face. But it has black circles of fur round its eyes. Here are three more clues: the animal lives in Chinese forests, it eats bamboo, and it is becoming very rare.

This nose belongs to an animal that swings from tree to tree. It isn't a chimpanzee or a howler monkey. It has long orange hair, and lives in tropical rainforests in parts of Sumatra and Borneo. It has very long arms. When the animal stands up, its hands almost touch the ground.

This pink nose belongs to a much smaller animal that lives under the ground. It has very strong legs for digging. With these it makes tunnels and pushes the soil into little mounds or heaps above ground. People with gardens do not like this animal.

Can you recognise the nose of this animal that lives around the North Pole? It is more than twice the size of a lion. The Inuit, who live in the Arctic, call the animal "Nanook", which means "great white bear".

Did you guess the animals correctly on the previous two pages? Pandas have a good sense of smell. They use it to detect messages from one another.

But perhaps one of the most interesting things about pandas is their diet. They eat enormous amounts of bamboo. In fact, they can eat as much as 36 kilograms of food in one day. But they actually have the intestines of a carnivore.

And a carnivore's intestines cannot digest plant food easily. Why does this plant-eating animal have the intestines of a carnivore? Millions of years ago, its ancestors were meat-eaters. But their habitat changed and there was less meat. Gradually the panda's ancestors changed their diet and became herbivores.

The orangutan is a herbivore most of the time. Its diet consists mainly of plants, but sometimes it eats a few insects as well. It lives in forests in parts of Sumatra and Borneo. The males spend a lot of time alone.

Moles live in a dark world under the ground. Without light, they don't need good eyesight. In fact, they are nearly blind. The mole's survival depends mainly on its highly sensitive nose.

Polar bears, on the other hand, have good eyesight, good hearing and an excellent sense of smell. They can detect food more than 32 kilometres away. Their well-developed senses make them expert hunters. They are huge animals, but they can move silently across the ice.

And they are almost invisible in their white coats. What is this dog doing? The answer is that it is helping a policewoman. It is a tracker dog. But why can't a human being do this job? Because a dog's sense of smell is much better than a human being's.

Dogs can detect very small amounts of chemical with their noses. And because they are intelligent animals, they can learn fast. The police use them in the war against drugs.

The echidna is an insect-eater. It comes from Australia and New Guinea. These places are paradise for these spiky animals because there are so many insects. With strong claws for digging and long, sensitive snouts, they can easily find food. They use their sticky tongues for collecting ants and other insects.

Bears are very adaptable animals. This means they can live successfully in different kinds of environments. And they eat plants as well as insects and small animals. Perhaps they are best known for their love of honey. A bear will climb a tree to pull down a beehive. Then it often gets bee stings on its nose. The honey has a lot of sugar in it, so bears sometimes develop bad teeth, unlike most other wild animals. Even with toothache, they still eat honey.

This sea bird is a puffin. Its beak has several uses: as a digging tool, as a weapon, and as a tool for catching small fish. The beak digs a nest-hole on high cliffs. Sometimes a puffin collects grass and feathers to put inside the nest.

These make the nest softer and more comfortable. In summer, the red, yellow, and blue colours of the beak become very bright.

The beaks of sea birds are not like those of other birds.

They are different because they can help with the problem of a salty diet. Everybody knows that a very salty diet is unhealthy. And sea birds eat salty fish all the time. How do their beaks help? Well, they produce a special substance that removes unwanted salt. It comes out of their noses in the form of very salty water.

This black guillemot is also a sea bird. It is enjoying a meal of salty fish.

Camels don't have a problem with salt. But they have a difficult time with sand. It blows everywhere. How can they keep sand out of their eyes, ears, mouths, and noses? Camels are adapted, of course, for life in the desert. They have thick eyebrows and a double row of eyelashes. Inside their ears they have special hairs. And they can keep their noses and mouths shut tightly for long periods of time.

This small animal has very little stress in its life. It doesn't have to hide and run away from predators all the time. Most other animals don't want to meet a skunk. In fact, they will try to avoid a skunk if they can. Why? Because an angry skunk has a horrible weapon - an evil-smelling spray. The liquid comes from stink glands under its tail. The smell is very strong and it can remain for several days. An angry skunk prefers not to use its spray, if possible. It will warn an enemy first by stamping its feet and waving its bushy tail.

Skunks live in the woodlands, fields, prairies, and deserts of North and South America. Their diet consists of insects, worms, eggs, reptiles, small animals, fish, fruit, and plants.

This small animal with a hard shell is a stinkpot turtle. Turtles are usually easy to catch because they can't move fast. But turtles are a problem for hunters. How can they reach the meat inside the hard shell? It's difficult,

but not impossible. But the stinkpot turtle doesn't worry about its enemies, because it can make a horrible smell.

Predators hate the stink of this unusual turtle.

Unfortunately, many species of turtle are becoming rare. Some of them may soon become extinct. People hunt them for their meat, skin, and shell. In many parts of the world, you can buy turtle- shell jewellery and leather goods. And in some countries, people keep them as pets.

The largest of all living animals are elephants. They are herbivores and live in Africa and Asia. They can weigh more than 5,400 kilograms. Most elephants have huge, pointed, ivory tusks (teeth). These continue to grow during the animal's life. Elephants use their tusks as tools. For example, they can dig up a small bush for its tasty roots. An elephant's nose is called a trunk. This also has many uses. A trunk can lift and carry a heavy object. It can give the elephant a shower or a drink. And it can pick up food such as grass or leaves.

The elephant can make a loud trumpet sound with its trunk. In this way, it communicates with other elephants.

African and Asian elephants are not exactly the same. African elephants are a little taller and heavier than their Asian relatives. Male and female African elephants both have tusks. But only the male Asian elephant has tusks. And their ears are not the same. Look closely at the ears on these pages. Do you notice the difference? The ears of the African elephant are much larger. And their shape is also a bit like the continent of Africa.

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