

AMPHIBIANS



There are less than 4000 species of amphibians alive today. Scientists believe amphibians were the first group of vertebrates that were able to come onto land. Vertebrate is a name used to describe an animal that has a backbone. Humans, dogs, snakes, fish, birds are all examples of vertebrates.

Most amphibians live part of their lives in water and part of their lives on land. In fact, the word amphibian comes from the Greek word "amphibios" which means "double life" ("amphi" means "both" or "double" and "bios" means "life"). Usually, amphibians spend their larval stage in water using gills to breathe. As these amphibians develop, their gills begin to disappear and lungs start to form, allowing them to live on land.

Amphibians possess certain characteristics that separate them from all other animals.

Amphibians are cold-blooded

Amphibians are cold-blooded animals; this means that their body temperature is about the same temperature as their environment. Warm-blooded animals, like humans, use energy from the food they eat to keep their body warmer than the surrounding environment. Amphibians, reptiles, fish and other cold-blooded animals do not do this, and consequently require a lot less food to survive.

Amphibians have a backbone

Amphibians have a backbone. Animals that have a backbone are referred to as vertebrates. Most animals living in the world today do not have a backbone. We call animals that do not have a backbone invertebrates. Slugs, squid, scorpions, clams and butterflies are all invertebrates.

Amphibians live a double life

Most amphibians go through a metamorphosis during some point in their lifecycle. This metamorphosis changes the gill-breathing larva into a lung-breathing adult. The metamorphosis from an aquatic larva to a terrestrial adult is perhaps the most recognizable characteristic of amphibians.

MUDPUPPY
(TAILED AMPHIBIAN)



Amphibians have smooth, moist skin

The skin of most amphibians is smooth and moist. Many amphibians depend on their skin to help with respiration and because of this their skin needs to remain constantly moist.

Amphibians lay eggs in water

Most amphibians lay soft, jelly-like eggs in water. Unlike reptiles and birds, amphibian eggs do not have a shell and will dry out very quickly if not in water. Even though almost all adult amphibians breathe air and live on land, they need to go back to water to lay their eggs.

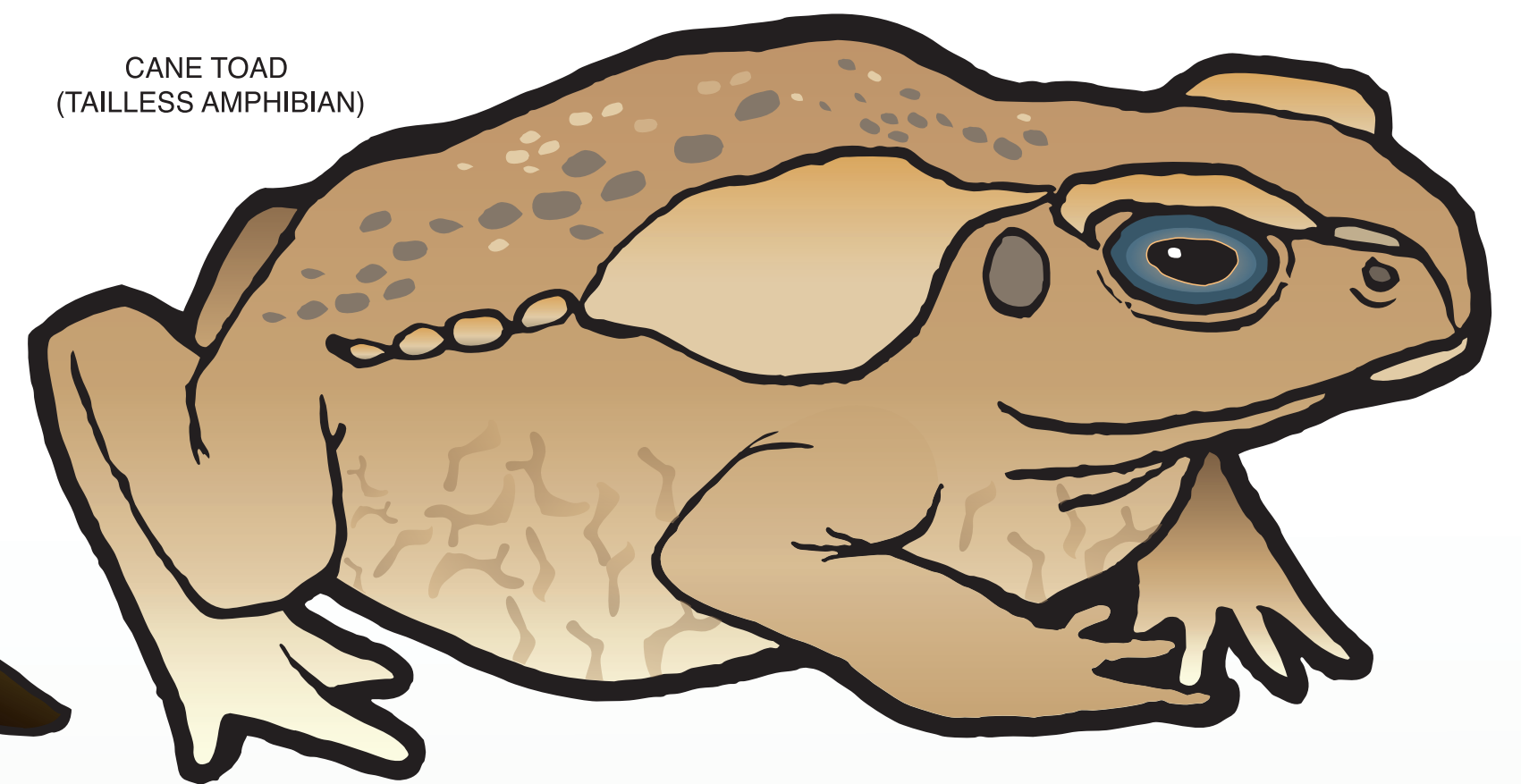
AMERICAN BULL FROG
(TAILLESS AMPHIBIAN)



FIRE BELLED NEWT
(TAILED AMPHIBIAN)



CANE TOAD
(TAILLESS AMPHIBIAN)



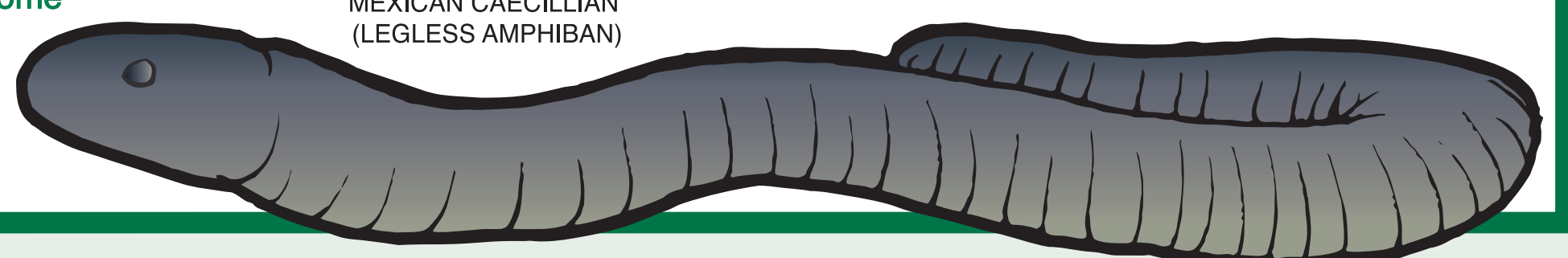
Amphibians are divided into three groups based on body structure.

LEGLESS AMPHIBIANS

Caecilians are strange worm-like amphibians that are mostly found in tropical regions. Caecilian's bodies are long and slender, and they do not have arms or legs. These amphibians are well adapted to life underground. A few species of caecilian, however, live an aquatic life.

Caecilians are considered to be blind. Some caecilians have small eyes, but they probably rely more on the two tentacles near the front of their faces to feel out food. Unlike earthworms, caecilians have jaws and teeth. These strange amphibians eat insects, and earthworms. Caecilians are rarely seen because of their subterranean (underground) life. The Mexican caecilian is a medium-size terrestrial caecilian. This caecilian resembles a large blue earthworm.

MEXICAN CAECILIAN
(LEGLESS AMPHIBIAN)



TAILED AMPHIBIANS

Salamanders, newts and sirens are all tailed amphibians. These amphibians retain their tails into adulthood. Salamanders usually have five toes on their back feet and four toes on their front feet. Unlike frog and toad eggs, salamander eggs are fertilized inside the female's body and then deposited in water or another moist environment. The salamander lifecycle is similar to that of other amphibians. One difference between frog and salamander larvae is diet. Frog tadpoles are usually herbivores, feeding on plankton and plant material.

Salamander larvae are carnivorous, usually feeding on aquatic worms and insects. Most larval salamanders breathe with gills and develop lungs as they mature. Some salamanders never lose their gills and retain them throughout their entire life.

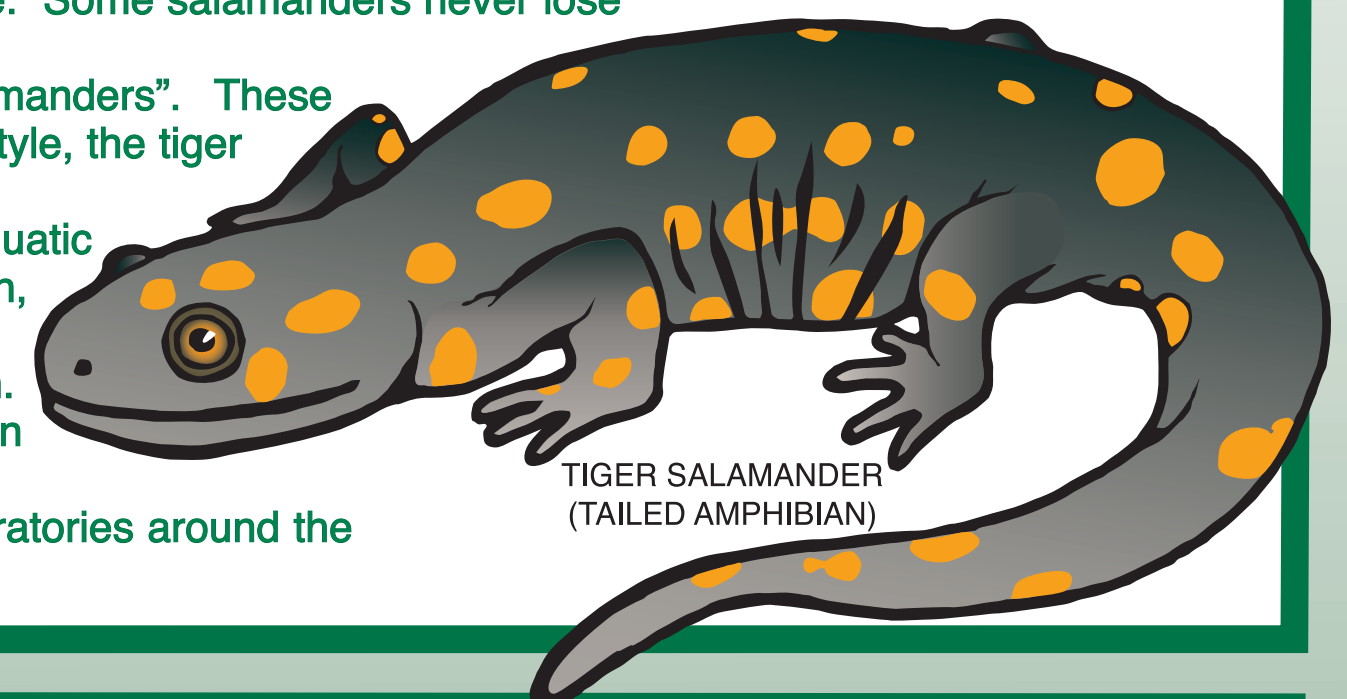
Tiger salamanders are impressive terrestrial salamanders that reach sizes of over 30 cm in length. The tiger salamander is part of a group of "mole salamanders". These salamanders spend much of their time underground, digging their own burrows or using abandoned rodent holes. Due to their subterranean (underground) lifestyle, the tiger salamander is rarely seen outside its breeding season in early spring.

The **mudpuppy** is quite large, with some reaching sizes of 50 cm in length. **Mudpuppies** are reddish-brown with several spots on their backs. These aquatic salamanders retain their gills into adulthood. **Mudpuppies** live on the bottom of ponds, streams, rivers and lakes. This nocturnal predator eats worms, crayfish, fish, insects and even other amphibians.

Japanese giant salamanders can reach lengths of more than 120 cm. They are found in cold, fast-flowing mountain streams in various regions of Japan. These giant amphibians eat anything they can fit into their mouths from insects and fish to small mammals. This amphibian has a very slow metabolism and can go for weeks without eating.

The **axolotl** is an endangered aquatic salamander that keeps its gills into adulthood. These unusual salamanders, originally from Mexico, can be found in laboratories around the world. They are of interest to scientists due to their ability to regenerate lost limbs.

TIGER SALAMANDER
(TAILED AMPHIBIAN)



TAILLESS AMPHIBIANS

Frogs and toads do not retain their tails into adulthood. This group of amphibians is the most numerous and successful. There are more frogs and toads than any other type of amphibian. Frog and toad eggs are fertilized externally. This means that the eggs laid by the female are not fertilized. The male must be with the female to fertilize the eggs as she lays them. Frog and toad larvae are called tadpoles. These gilled-larvae absorb their tails and gills as they develop into adult frogs or toads. Frogs and toads can range in size from

1.5 cm to more than 30 cm in length.

The **American bullfrog** can be found throughout eastern North America. Bullfrogs can reach 20 cm in length and can live for more than 5 years. Bullfrogs have powerful back legs with webbed feet. Bullfrogs are very adept jumpers and swimmers.

African bullfrogs can reach sizes of 25 cm in length. **African bullfrogs** spend much of the year underground waiting for the rainy season. Once they emerge from the ground, these frogs will eat anything they can get into their mouths.

Cane toads are found in a variety of habitats ranging from sand dunes to freshwater ponds. These resilient toads can be found naturally from the southern United States to tropical South America. **Cane toads** have a voracious appetite and can eat just about anything, including insects, snails, smaller frogs and toads, small snakes and mammals.

The **White's tree frog** can be found in Northeast Australia, New Guinea, and Indonesia. These large tree frogs have large sticky pads at the ends of their fingers and toes to help them climb trees. **White's tree frogs** are nocturnal and have been known to live up to 21 years in captivity.

WHITE'S TREE FROG
(TAILLESS AMPHIBIAN)



JAPANESE GIANT SALAMANDER
(TAILED AMPHIBIAN)



AXOLOTL
(TAILED AMPHIBIAN)

