

VERTEBRATE CLASSIFICATION

Vertebrates are animals who have a backbone and internal skeleton (endoskeleton). We humans, along with many other animals, are vertebrates. **Invertebrates** are animals who do not have a backbone, such as insects or worms. Many invertebrates have an exoskeleton. (Some vertebrates, such as tortoises, have both an endoskeleton and an exoskeleton.)

VERTEBRATES

Fish

Aquatic animals
Most develop from eggs that the female lays outside her body
Breathe through gills
Most have scales
* Cold-blooded

Amphibians

Live part of lives in water and part on land
Most lay eggs in water
Have gills when young (water-breathing)
Later develop lungs (air-breathing)
Usually have moist skin
* Cold-blooded

Reptiles

Most hatch from eggs
Air-breathing
Dry, thick, scaly skin
* Cold-blooded

Birds

Most can fly
Hatch from eggs
Most build nests
Most babies are fed by parents and cared for until they can survive on their own
Have wings and feathers
* Warm-blooded

Mammals

Hair on their bodies (even marine mammals, such as dolphins, have fine or course hair on their bodies)
Parents care for their young until they can survive on their own or, in some species, offspring remain with their family group for life
Females produce milk for their babies and nurse them

Breathe through lungs

Are either terrestrial (live on land) or aquatic (live in water)

* Warm-blooded

* **Warm-blooded** and **cold-blooded**

Although we say *warm-blooded*, we really mean that in most *warm-blooded* species, blood temperature is a reflection of internal body temperature, which remains at a roughly constant level regardless of the surrounding temperature. For humans, this is about 37 degrees Celsius (about 98 degrees Fahrenheit). Rather than saying "warm-blooded," it would be more accurate to say *homoeothermic*. *Homoeothermic* means that the body has the ability to generate its own heat when the surrounding temperature is low and can cool down when the surrounding temperature is too high.

Species referred to as *cold-blooded* are those whose internal temperature varies along with that of the environmental temperature. *Cold-blooded* species, such as reptiles, can have warmer blood than mammals if they are experiencing hot weather.