The color of bird feathers varies tremendously. Some birds have ***protective coloration*** that helps them blend in with their surroundings; others have brightly colored feathers that may help them attract a mate or identify other birds of the same species.

As feathers become worn and damaged, birds lose and replace their feathers through a process called ***molting***. For most birds, molting is a gradual process. They replace their feathers a few at a time each year, often after breeding season. (Sometimes when a large bird flies overhead you can see where one of its flight feathers is missing.) Ducks, however, molt all their flight feathers so rapidly that they are unable to fly for a few weeks.

Two Wings

All birds have two wings. The majority of birds use their wings to fly, but even flightless birds, like penguins and ostriches, use their wings. For example, the wings of a penguin help it to swim and the wings of an ostrich help it to balance as it moves. A bird's wing is shaped like an airfoil, thicker in front and thinner behind. This causes the air to move slower over the lower surface, which increases the upward pressure, or ***lift***, which allows the bird to get into the air and fly. The shape and size of a bird's wings determine whether it is a fast or slow flyer. For example, soaring birds like eagles have long, wide wings; most songbirds have short wings for flying among trees and shrubs.

Beaks or Bills

All birds have a beak or bill (the words are used interchangeably). A beak is the bird's jaw and its horn-like covering. It is bony inside, but the outside is made of ***keratin***, the same living, growing material that makes up your fingernails. Beaks come in many different shapes and sizes, and they are used for many different purposes. For example, hummingbirds have long hollow beaks to get nectar from flowers; herons have long, sharp beaks for spearing fish; and woodpeckers have strong beaks for chiseling wood. Beaks help birds to get food, tear or break the food into pieces, drink water, gather nesting materials, preen feathers, feed their babies, protect themselves from enemies, and more. Birds do have tongues, but not teeth.

Diversity

There are approximately 9,000 species of birds. In North America about 650 species nest and about 150 migrate through each year. Birds' ability to fly (in most cases) and unique skin covering (feathers) makes them one of the most successful vertebrates. Their variety allows them to exist in many places and in many forms, including hummingbirds, eagles, penguins, ducks, pigeons, peacocks, roadrunners, chickens, sparrows, and many more.

Body Temperature

All birds are ***endothermic*** (often referred to as ***warm-blooded***), which means they can maintain a relatively high and constant body temperature independent of the surrounding air and water temperatures.

Eggs

All birds are hatched from hard-shelled eggs. The protective outer shell keeps the developing chick from drying out. Once the eggs are laid, they must be kept at the proper temperature or the developing embryos will not survive.

Two Legs and Two Feet

All birds have two legs and two feet. Depending on the species, birds use their legs and feet for many different purposes, including walking, standing, hopping, running, perching, carrying things, grabbing prey, swimming, wading, digging, or fighting.