



# Flight

A Bald Eagle soars far overhead. Turkey Vultures use thermals of rising air to glide higher. Canada Geese fly in a V formation to conserve energy.

Who hasn't dreamt of flying? A bird's ability to fly is one of its most remarkable traits. It helps birds escape predators, hunt for food, migrate long distances, and find new territory.

What birds are the most amazing fliers? It's a tough competition. Hummingbirds can hover and even fly backwards. Wandering Albatross glide over the Southern Ocean on remarkably long wings. Common Swifts can fly for months without ever landing. Great Frigatebirds may sleep in flight. Bar-headed Geese can fly over the Himalayan Mountains. Arctic Terns migrate from the Arctic to the Antarctic and back every year. Peregrine falcons can dive at 200 miles per hour. Certainly, birds are masters of the air.

Not every bird can fly, of course. Ostriches and Emus run along the ground. Emperor Penguins in Antarctica are expert swimmers, reaching depths of over half a kilometer below the surface!

How do birds fly? They have many adaptations: They use feathered wings to catch the air. Strong muscles, located in their breasts, provide power. Many birds have hollow bones, making their bones light but strong. Nerves in their wings can likely feel winds and updrafts. Since their waste is concentrated, birds don't need to carry as much water, making them lighter.

Birds also have strategies to make flying easier. Some birds fly in V formations, where leading birds help provide lift to those behind. Others glide in thermals to gain altitude, using rising air to save energy. For migration, some birds seem to use prevailing winds to help determine their routes. And many birds, similar to planes, take off into the wind.

For flight, feathers are a true wonder of nature. They are light but strong. Birds spend a lot of time preening to keep them in good condition. Some birds have special adaptations, like owls, whose feathers are extra quiet for hunting in silence. Be glad you're not a mouse when a Barn Owl sweeps silently overhead.

Birds aren't the only animals that can fly, of course. Bats and bugs can fly too. But among fliers, birds are the undisputed champs.