



WILD Kids



Avian Flight

Flying Trivia

Fastest Flier:

Swifts fly at speeds of over 100 mph.

Fastest Diver:

Peregrine falcon can attain speeds of 175 mph during a dive.

High Flier:

Ruppell's griffon (a vulture) can fly as high as an airplane at 37,000 feet.

Fastest Flapper:

Ruby-throated hummingbird at 700 beats per second.

Longest Flight:

Albatross' (13 species) soar out over the ocean for months at a time without coming to land.

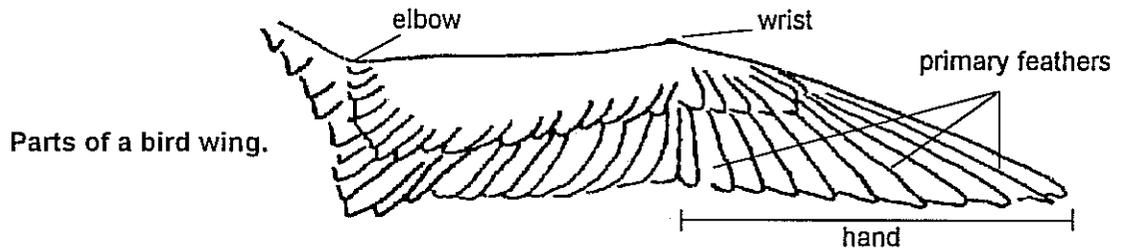
Cross Country Flier:

the Artic tern travels approximately 25,000 miles, round trip, between its wintering and nesting grounds.

Marathon Flier:

the European swift will fly 560 miles a day during the nesting season.

Birds are the largest group of vertebrates that can truly fly. (Vertebrates are animals that have a backbone. Vertebrates include mammals, birds, reptiles, amphibians and fish.) Bird flight is similar to airplane flight. Both use wings for support and steering. Both use tails for steering, braking and for control when landing. So, how do birds fly?



Lift and drag are the main forces working on both airplanes and birds in flight. The basic lifting surfaces are wings. The wing of a bird consists of two parts - the inner part nearest the body and the outer part or "hand" section. The flight feathers, also called **primary feathers**, are located in the hand section. It is the flight feathers that act as a propeller when the bird flaps its wings to fly. Primary feathers force more air under the wings for added lift.

A bird can control its hand section just as humans can control their hands and fingers. Controlling primary feathers is an important part of flying. Birds use their primary feathers just as a plane uses its propeller, wing flaps and wing slots - to turn, to decrease or increase speed and for braking when landing.

There are four different types of flight that birds can use;

-  In **flapping flight**, the whole wing beats up and down from the shoulder. During the downstroke the wings are fully extended. The upsweep begins with the wrists, followed by the rest of the arm. It is the downstroke that moves the bird forward.
-  **Gliding flight** is the simplest and easiest form of flight. When gliding, birds do not move their wings. They are moving 'downhill' by using their body weight to overcome their forward movement. If a bird does not begin flapping flight or find an updraft of air current, it will land.
-  **Soaring flight** occurs when a bird maintains or even increases its altitude without flapping its wings. In order to soar efficiently a bird must have three things: large size, ability to make small and/or tight turns, and long wings in comparison to its body size. Soaring birds keep aloft mainly by riding the rising air currents (**thermals**).
-  **Hovering flight** is used by many different birds. Hovering flight occurs when a bird flaps its wings fast enough to hold its position in midair. The bird is not moving forward, backward, upward or downward. It is standing still while flying.

Most birds use at least flapping and gliding flight. Birds with special adaptations use soaring and hovering flight.

Can you name some of the adaptations a bird would need to be able to use hovering and soaring flight?

Activity: Flying Bird Thumb Book (Taken from Ranger Rick's NatureScope: Birds, Birds, Birds)

- ✓ Cut 8 index card in half to make 16 smaller cards, all the same size (do some trimming if needed).
- ✓ Color each of the pictures below using the same colors in each picture.
- ✓ Cut out the pictures on the solid lines and glue one to the bottom right-hand corner of each card.
- ✓ Arrange the cards in numeric order, with picture 16 on the bottom and picture 1 on the top. Staple all the pictures together down the left-hand side. Flip through the cards and watch your bird "fly".

