Audubon for Kids

These Paper Airplanes Fly Like Birds

To learn firsthand about flight, kids fold paper airplanes to mimic birds' four different wing shapes.

The ability of flight sets birds apart from many other creatures. While insects, bats, and even some gliding squirrels and fish can take flight into the air, none of them can match the speed, agility, and strength of birds. Some birds can fly as fast as 55-65 mph, which is the speed of a car on a highway. The Peregrine Falcon can reach speeds up to 200 mph in a dive! Some birds, like the American Woodcock, fly as slow as 5 mph. And

then there are hummingbirds, which have the special ability of hovering in one place while searching for or consuming food.

While not all birds fly, they can still be quite speedy. Penguins are thought to be the 'flyers' of the ocean. Gentoo Penguins move at speeds of up to 22 mph underwater. The Ostrich is the largest of all land birds, and is known to reach running speeds of up to 60mph. Without a doubt, birds are strong and fast movers.

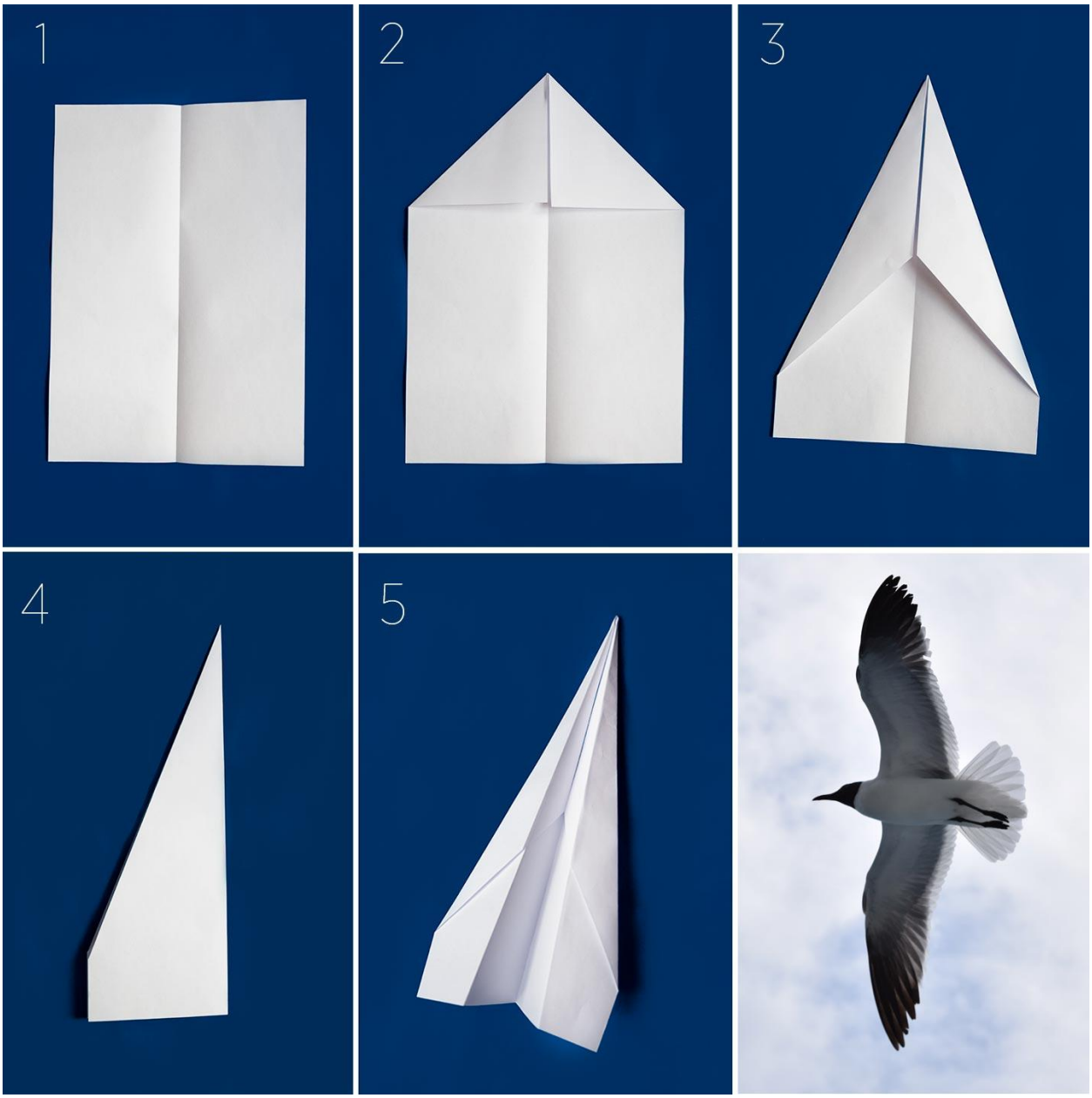
We all know that not all birds look alike. Birds look so different because over a long period of time they have adapted to use their environment. Think about an **Emperor Penguin** and a **Turkey Vulture**. All birds have wings, but the way they look and the way they are used changes based upon the need of the species. Emperor Penguins need to quickly dive underwater, so their wings are stunted like flippers. A Turkey Vulture needs to soar high in the sky, so it has large, wide wings to ride air currents.

In this activity, kids build paper airplanes that correspond to the four different major wing shapes, based upon the need of the bird.!

- Make all four paper airplanes and then fly them one at a time.
- Observe how each one flies. How far does it go? How fast does it go? Does it go straight?
- Which paper airplane flew the best? Why?
- Optional: use measuring tape and measure how far each paper airplane goes.

Laughing Gull—Active Soaring Wings

Difficulty: Easy



Cómo doblar un avion de papel casi como aerodinámico como un Gaviota Reidora. Todos los fotos de los aviones de papel: Camilla Cerea/Audubon. Gaviota Reidora. Foto: Stephen Greub/ Premios de Fotografía Audubon

1. Fold Paper in half lengthwise.

2. Fold corners down to meet in the middle along the center crease.
3. Fold top edges to the center line again.
4. Fold plane in half.
5. Fold wings diagonally to meet the bottom of the plane.

Active Soaring Wings: These wings are longer and narrower compared to the body size of the bird. These birds depend on wind more than thermals to soar, and can fly for longer distances without flapping compared to all other wing types. Birds you may know with Active Soaring Wings are the **Laughing Gull** and Wandering Albatross—a bird with a wingspan up to 12 feet, which can eat and sleep while flying, and flies 10,000 miles without stopping.

Watch video of Wandering Albatross

Turkey Vulture — Passive Soaring Wings

Difficulty: Medium

Direcciones para doblar un Zopilote de Aura de papel. Todos los fotos de los aviones de papel: Camilla Cerea/Audubon. Zopilote de Aura. Foto: John Comisky/Premios de Fotografía Audubon.

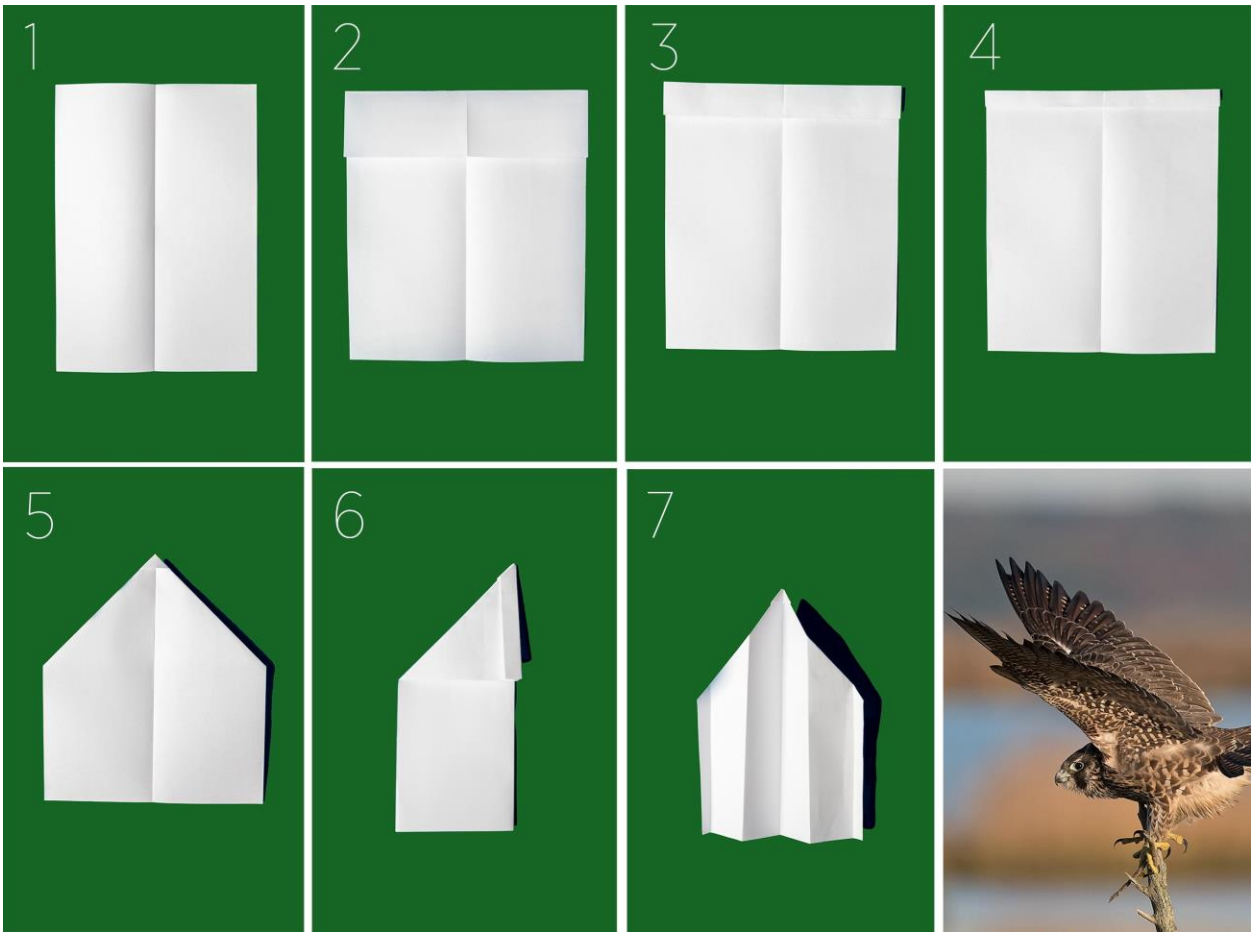
1. Fold the top two corners of the paper, bringing them to meet in the middle of the paper.
2. Fold the top edge of the paper 1/2 inch.
3. Repeat eight times.
4. Turn the plane over and then fold the plane in half.
5. Fold edges of the wing down to meet the crease at the bottom of the plane.

Passive Soaring Wings: What does passive mean? It describes things that use little to no energy, like a raptor's wings. Long, primary feathers help birds to catch and soar atop thermals (currents of warm air rising upwards from the Earth). Some birds that have Passive Soaring Wings are the **Bald Eagle** and the **Turkey Vulture**. These birds soar for long distances looking for prey.

Watch video of Turkey Vulture

Peregrine Falcon—High-speed Wings

Difficulty: Medium



Direcciones para doblar un avion de papel como un Halcón Peregrino. Todos los fotos de los aviones de papel: Camilla Cerea/Audubon. Halcón Peregrino. Foto: Thomas Sangemino/Premios de Fotografía Audubon.

1. Fold the paper in half.
2. Fold the top down 2”.
3. Fold the top again in order to double the thick edge.
4. Fold the top edge in half again.
5. Turn the paper over and fold the top corners to meet at the center line.
6. Turn the paper over again and fold the plane in half towards you.

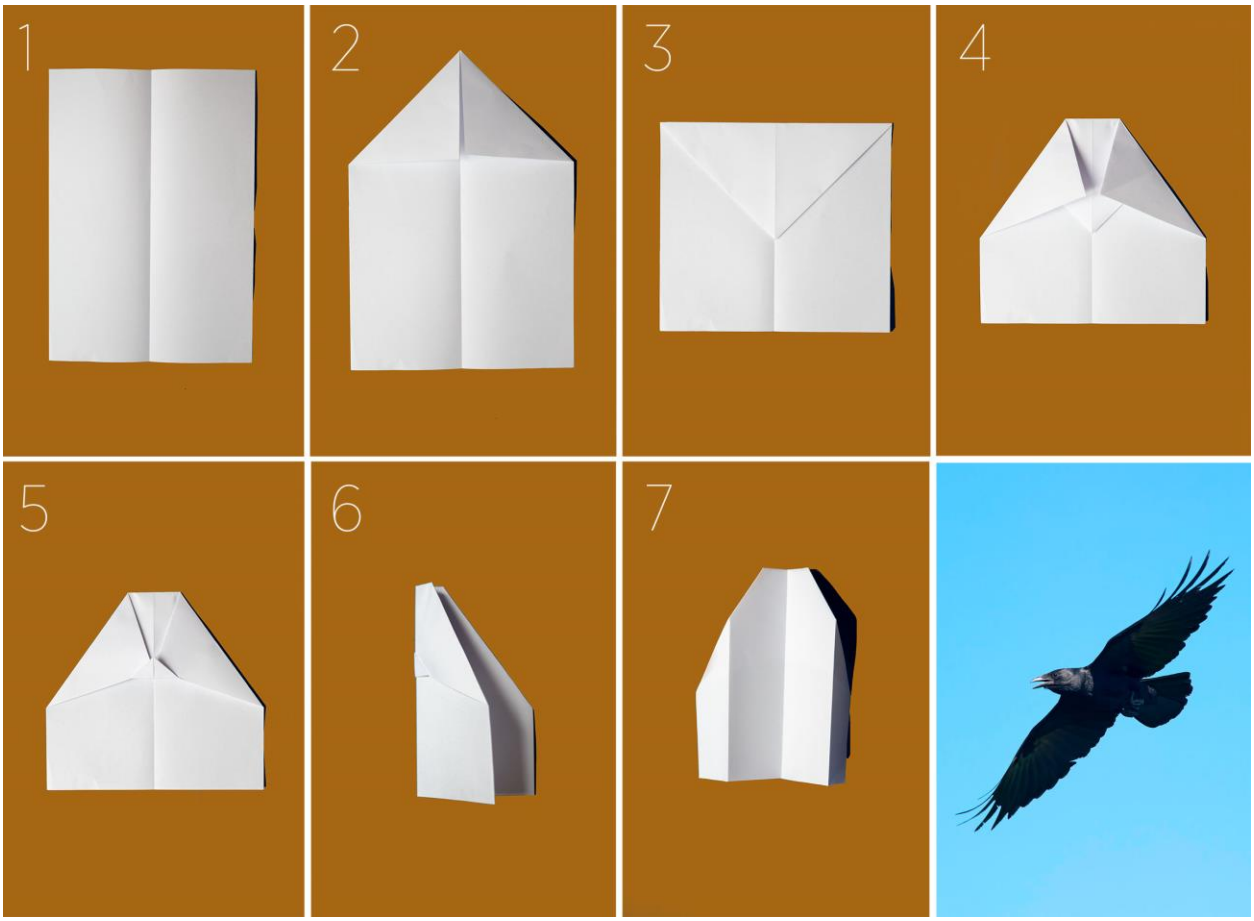
7. Fold the sides down along the line formed by the folds of paper to make the wings.
8. Fold the edge of the wings up approximately 1/2".

High-Speed Wings: These wings are long and thin, but less long than Active Soaring Wings. These wings can create higher speeds than can be sustained by birds' continued flapping. Common birds with these wings are the **Forster's Tern** and the **Peregrine Falcon** (which can reach dive speeds up to 240 mph).

Watch video of Forster's Tern

American Crow—Eliptical Wings

Difficulty: Hard



Direcciones para doblar un avion de papel como un Cuervo Norteamericano. Todos los fotos de los aviones de papel: Camilla Cerea/Audubon. Cuervo Norteamericano. Foto: Brian Kushner

1. Fold paper in half length-wise, then unfold.
2. Fold Corners to meet at center line.
3. Fold the peak down to create a square.
4. Fold top two corners to center line, one inch above downward facing point, to make a triangle on top and a diamond on bottom.
5. Fold point up to secure the flaps.
6. Fold the plane in half away from you.
7. Fold the edges down to create the wide wings.

Elliptical Wings: These wings are great for creating short bursts of speed, but the momentum cannot be maintained. This causes the birds to flap hard and flap often. Birds you may know with Elliptical Wings are the **Northern Cardinal** and the **American Crow**.

Watch video of American Crow

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*Audubon New York's **For the Birds!** is a place-based environmental education program that promotes awareness and appreciation of nature through the study of birds. For the Birds! started in New York City in 1997 and provides not only knowledge of local species and habitats, but also encourages a sense of pride in one's own community and empowers students to take an active interest in protecting their local environment.*