# All About Birds

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You **can** print this set **front to back**, although each printer is different, most are similar.

I added a tiny black arrow showing the way I insert my page back in {face up} so that they line up exactly. Be sure to run a test on fast draft/grayscale to make sure yours line up right! We printed ours on white cardstock, laminated them, then cut them out!

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**Calendar Connections** 

## Helpful Items

~these are the *exact* products we use~





<u>laminator</u>



<u>laminating film</u>



calendar



Birds 1



What makes a bird, a bird?





Home Sweet Home 3



Baby Birds (



Birds of a Feather

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Get a Grip

## 3 - Home

The nest is the home of a bird. Most birds build their nests in high places – trees, cliffs, tall buildings, even chimneys. Some birds build their nests on the ground. Birds build their nest to have a safe and secure place to lay their eggs and raise their babies. Birds use a number of different materials to build their nests. Most common are grasses and twigs, but birds will use just about anything from ribbon to human hair. It's all sealed together with mud and saliva (spit). Birds will line their nests with soft things like feathers to make it comfy for the family.

#### 2 - What makes a bird, a bird?

First, all birds have wings, even those that cannot fly. Second, all birds have feathers. Feathers are necessary for flying, but they also help with camouflage and keeping the bird warm. Each bird has different types of feathers: down, body, and flight feathers. A third characteristic is all flying birds have hollow bones, similar to straws. This makes the bones lighter, allowing the bird to fly. If they were solid birds would be too heavy to fly. The last trait is that birds have beaks, or bills. They use them to pick, catch, and carry their food. Birds don't have teeth so they have to break their food into smaller bits before they eat it.

## 1 – Birds

Birds live all over the earth - from the warm and rainy tropical forests to the frigid Antarctic! There are millions of birds here on Earth that make up more than 9,000 different species and this number continues to grow as scientists discover new species found in unexplored areas. This many birds are divided into specific families to make them easier to study. Those families include: birds of prey, songbirds, parrots, waterfowl, and waders.

## 6 - Get a Grip

Bird feet are very important - they aid in landing, walking, perching, catching/holding food, and swimming. Most birds have three or four toes – two to three pointing forward and one or two pointing backward for grasping. When we look at a birds' leg, we often think the joint we see is the knee and that it bends opposite to how human knees bend when in fact it is their ankle. Birds then walk on their toes. Birds have feet suited to their needs. Waterfowl have webbed feet to assist in pushing the bird through water while birds of prey have long talons on their toes to help them catch and grasp their food.

## 5 - Birds of a Feather

To be a bird means to have feathers. Feathers are crucial for flying. There are four different types of plumage that cover a bird and each has a job to perform. Down feathers are the closest to the skin and provide insulation. The next set are body feathers. These feathers help to streamline a birds body for flight. Tail feathers are used for steering while in flight, balance while standing, and for display. There are two types of wing feathers: inner wing and outer wing feathers. The inner wing feathers help to smooth the air flow over the bird's wing. The outer wing feathers are the strongest feathers on a bird. Their shape and structure provide the power needed for flight.

## 4 - Baby Birds

All mother birds lay eggs to have their babies. If mothers grew their babies inside their bodies, they would be too heavy to fly and would be in danger from predators. After the eggs are laid the mother or father sits on the eggs to incubate (keep at the right temperature) them until they hatch. Eggs have a unique shape. Most are tapered at one end and rounded at the other. This shape allows multiple eggs to fit carefully together in a nest.



#### 9 - What Big Eyes You Have!

Birds have a highly developed sense of sight, so much so, that three of their four senses - touch, smell, and taste - are largely immaterial. Most birds have keen eyesight and can see at great distances, even while in flight. Birds of prey have eyes that point forward. This allows them to judge distances precisely and easily obtain their meal. Those birds that are hunted have their eyes pointing in opposite directions so they can see all around without moving its head. Birds also have extra semi-transparent eyelids. These eyelids move from left to right rather than top to bottom like the main eyelids. The extra eyelids help protect and keep the eyes clean.

## 8 - Soaring

Birds were created to fly! How they manage this is determined by body size, wing shape, and how fast and far they need to travel. If you have ever watched a bird take off, you know the main way they stay in the air is by flapping their wings. They don't merely flap them up and down, however. They actually move the tips of their wings in a figure eight motion. As a bird pushes its wings in a downward/ forward motion it gains lift into the air. As the wings move upward its feathers open to let the air through. When the feathers close its ready to push down again. The smaller the wing, the faster a bird has to flap to stay in flight. The larger, more broader the wing, the less flapping needs to occur because the larger surface area provides more push power.

#### 7 - Beaks and Bills

Like feet, beaks are designed according to the job they must perform. Most birds use only their beaks to catch and hold their food. Birds whose main food are seeds have short coneshaped beaks which allows them to break open the seed with great force. Waders have extremely long beaks so as to be able to pull worms and insect larvae from the damp ground. Birds of prey, or meat-eaters, have a hooked beak so as to be able to pull apart animals that are too big to swallow whole. Parrots have a "combination" beak - short and cone-shaped to break open seeds with a hook on the end to pull apart a piece of fruit. Waterfowl have a flattened beak. Water enters the beak and anythina that is in the water is strained out and swallowed.

## 12 - Birds of Prey

"Prey" is a word that means an animal that is hunted for food. Birds such as hawks, falcons, and eagles are birds of prey. These birds have exceptional eyesight, strong, sharp, hookshaped beaks, and deadly feet. Birds of prey are one of only two types of birds (parrots being the other) that use their feet to catch and hold their food. Some birds kill their prey by stabbing them with their sharp talons. Another example of a bird of prey is a vulture. Vultures, however, do not hunt for their food but eat animals that have died naturally or by another animal. Vultures have no feathers on their heads so that they can reach into a carcass and not get their feathers clogged with blood.

## 11 - You Eat Like a Bird!

Has anyone ever told you that you eat like a bird? Next time you can tell them that is simply not true! Most birds eat half their weight in food! That would be like a 50 pound child eating 25 pounds of food! As an experiment measure all the food you eat for an entire day and see just how much you eat! Birds have a very varied diet - seeds, grass, nectar, insects, worms, and many other small creatures exist in mass supply and make up the majority of the food supply for them. Geese are one of the few birds that live solely on grass. Geese, however, have a difficult time digesting grass and it passes through their body within two hours. This is why you see them eating constantly!

#### 10 - Tails

Bird tails vary according to their use. Some tails, like those of a peacock, are long and fancy and make flight very difficult but are extremely useful in attracting a mate. Other birds that spend a great deal of time flying have lightweight streamlined tails. And still other birds that spend the majority of time on the ground have tails designed to help them keep balanced. Whatever the tail, each is created with three different types of feathers. The rump feathers are at the base of the bird and provide insulation. Tail covert feathers lie over the base of the tail and help to smooth the airflow. There are 12 final feathers making up the tail feathers. These feathers are designed for either flight, balance, or attracting attention.



Songbirds (13)



Waders (16



Parrots 14



Waterfowl 15



Opposites Attract





Symbiotic Relationships

#### 15 - Waterfowl

Water-loving birds can be found all over the world! If there is a river, pond, or lake in the area you will most likely find ducks, geese, or swans living there. All waterfowl have webbed feet that act as flippers to push them through the water. Female waterfowl are generally duller in color and pattern. The female, however, usually has a louder quack than the male. Swans have longer necks than other waterfowl so that they are able to reach the under water vegetation that other waterfowl can't reach. Swans also have the most feathers. Most birds have between 1,500-3,000 but swans have up to 25,000.

#### 14 - Parrots

If songbirds are the most beautiful sounding birds, parrots are the most beautiful in appearance. The parrot family contains more than 300 different species who display the most beautiful and brightly colored feathers. Parrots live in warm climates and mainly eat fruit, nuts, and seeds. Though many birds use their feet to hold their food, parrot are the only bird whose feet act like fingers and lift the food up to their beaks. Parrots are playful intelligent birds and some can even be taught to mimic human speech.

## 13 - Songbirds

Songbirds are probably the most popular of the five families. Their beautiful songs not only fill us with joy, but have an important purpose. Songbirds usually live in thick foliage which makes it difficult to see one another. Their singing helps them communicate to each other. Songbirds have a special voice box called a syrinx. It has thin walls that vibrate and allows songbirds to create more complex and beautiful sounds than other birds. Generally, it is the male that creates such lovely music. During breeding season they also use their songs to attract females and warn other males away.

#### 18 - Symbiotic Relationships

Several birds have developed a special relationship with animals in which both creatures benefit. One bird that you may have seen in pictures is the cattle earet. This large white bird is found on the backs of hippopotamuses and elephants and eat the ticks that live on these animals bodies. Oxpeckers live on the backs of large mammals such as giraffes and rhinos. Sometimes entire families live on back of one of these animals! These birds also feed off the insects that are found on these animals and the animals provide a useful way of traveling. Some other birds, such as the rufous-naped wren build their nests near wasps in hopes that predators will stay away.

#### 17 - Opposites Attract

In the bird world it is usually the male that has to impress the female. They do this in a variety of ways. Males usually have brighter, fancier feathers which they display to females by spreading them out in all their glory. The bird-of-paradise has very extravagant feathers and swings upside-down to display them. Some birds dance and sing to attract the attention of their future mate. Some birds use architecture to attract a mate. Male bowerbirds create a structure which they decorate with berries, petals, and feathers. Females then fly around and inspect them and choose the most remarkable one.

#### 16 - Waders

You may be wondering what the difference is between waterfowl and waders. Waders live in and around marshes, swamps, and along the edges of rivers and lakes. The shallow water and drenched land are full of food and make an ideal home for waders. Waders have long legs so that while they walk in the water their bodies don't get wet. They also have feet with slender toes to make walking around in silt and mud easier. Their extra-long necks are created for reaching down into the water to eat their regular diet of tiny plants, fish and crustaceans.



Camouflage



Taking a Trip (20)





Flightless Birds





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Owls

## 21 - Flightless Birds

If you are a bird, you have wings. But not all winged creatures can fly! There are several birds, such as ostriches, kiwis, penguins, and roadrunners who are flightless. As a result they are land bound and are easy prey for other animals. Ostriches and roadrunners are fast runners and use their speed to escape capture. Kiwis are unusual in that they burrow into the ground and only come out at night so as to avoid most animals that would want to do them harm. Penguins are amazing swimmers and use their wings to "fly" through the water.

#### 20 - Taking a Trip

Every year we see it – birds flying in a V formation or in large flocks heading to their winter or summer homes. In the winter they leave their homes for warmer climates and a better selection of food. In the spring they return to their summer homes, or breeding grounds, to nest and raise their chicks. We call this migration. The longest traveler is the Arctic tern. They travel twice a year from the Arctic to the Antarctic and back again. Each trip takes about four months to complete. They travel these great distances because when it is summer in the Arctic it is winter in the Antarctic and vice versa. They are then able to escape the severest weather conditions of each place. Scientists are unsure of how birds manage to find their way over such great distances.

They may use landmarks such as rivers and mountains or it may be the sun that helps them find their way. Still some scientists believe that some birds use the earth's magnetism to guide them to their seasonal home.

## 19 - Camouflage

When you think of a bird protecting itself you probably imagine it taking off in flight. Some birds, however, prefer to stay on the ground whether it be to protect its young or if they feed or roost on the around. Whatever the case, they need to have another way of protection and God has designed each bird accordingly. Those birds that live on the ground are created with plumage which has the coloring and patterning of feathers that matches a certain environment such as the forest floor, the tropical jungle, or the snowy mountains. Some birds even change the color of their feathers! The white-tailed ptarmigan is a snowy white during the winter months, but changes to a rich brown for the summer months.

#### 24 - Owls

Owls are fascinating birds! They are one of the few birds that are nocturnal, which means they sleep during the day and come out at night to hunt. Owls have exceptionally good eyesight and hearing which assists them in hunting in the dark. Most birds have eves placed on the sides of their heads, owls eyes are placed forward. This gives them better binocular vision so they can focus on fast-moving prey in the dark. As a result of their eye placement God created owls with the ability to rotate their heads to see behind them. They can't rotate their heads completely around as it appears. Owls appear to have ears, but what look like ears are really tufts of feathers. Their actual ears are hidden under their feathers at the side of their head. They have round disks around their eyes that help direct sounds towards their ears to help improve their hearing.

#### 23 - Vultures

Upon first look, vultures are not the most attractive birds! They belong to the bird of prey family, but don't technically hunt down their food. They feed on carrion which are dead rotting carcasses. Their stomachs are especially designed to handle rotten and decaying flesh. As mentioned before, vultures have no feathers on their heads. This helps them not get their heads stuck in a carcass. It is also less messy as their feathers don't get soaked in the blood of its meal. As a result of being featherless the bare skin around its neck and face turns dark pink when it is in an aggressive or excited mood, indicating to other vultures what mood he is in! Vultures have strong necks and beaks to assist them in tearing through the tough skin of their prey. They also have excellent eyesight so as to identify its prey from great distances.

#### 22 - Seabirds

There are several birds that spend the majority of their lives down by or on the sea. The open ocean has some of the harshest weather conditions, strong storms and wild winds, which means these birds are strong fliers, able to sail the winds, rarely coming to land. Gulls are one such bird. They chase after fishing vessels and scoop up the leftovers. Skuas are an aggressive seabird who steal most of their food by chasing and attacking other birds in the air. The European storm-petrels are so used to flying that when they do move around on land it is quite awkward! Their legs aren't strong enough to carry their weight so they haul themselves around on their bellies and use their wings to help them move. A popular seabird is the pelican. It flies over the water and scoops up water and fish like a fishing net. It's pouch can hold up to three more times the amount than its stomach! The water gets filtered out and the pelican swallows down its meal.



Birding (25



Attracting Birds



Slowest Bird







Fastest Bird 28



Smallest Bird (29)



Biggest Bird 30

#### 27 - Slowest Bird

Usually when we think of birds we think speedy! Birds take off in flight in what seems to be a blink of an eye. But there is one bird, the American woodcock, that only flies 5mph! It is the slowest bird of all! Time yourself the next time you run one mile. If you run it faster than 12 minutes you run faster than this bird flies!

## 26 - Attracting Birds

One of the best ways to observe birds is by attracting them to your yard. How does one attract birds? The easiest way to bring a bird to your area is by feeding it! Birds burn a tenth of their weight just trying to survive! By placing a bird feeder in your yard and providing a regular supply of food, especially during the winter months, will provide you hours of closeup observation. Seeds, nuts, peanut butter, fat, and water all help keep birds fed and alive. In the spring you could place birdhouses around the yard, out of a cats reach, to maybe persuade your feathered friends to spend the summer months. If you want a particular bird to come visit make sure you research what type of food he eats and what style of home he prefers to draw them near.

## 25 - Birding

Ornithology is the science of studying birds. Professionals have all kinds of equipment and methods to discovering information about birds. But if you have a decent pair of binoculars, a notebook and pencil, and a good field guide, you can learn a great deal about our feathered friends! You can identify different birds by looking at their body shape and feather markings.

Ornithologists often learn a bird's song and can identify them after listening to just a few notes. After hours of observation you will soon become an expert at identifying birds in your local area.

## 30 - Biggest Bird

The biggest bird is also the heaviest and tallest bird in the world! This bird weighs up to 350 pounds and can reach heights of 9 feet! What is this gigantic specimen? It is the ostrich! This flightless bird (is it any wonder why?) is found in the open plains of Africa.

#### 29 - Smallest Bird

If you were to guess which bird is the smallest many of you would probably say the hummingbird, and you would be correct! The bee hummingbird found in Cuba is the smallest bird in the world. It measures just over 2 inches long. It's not much bigger than a bumblebee!

#### 28 - Fastest Bird

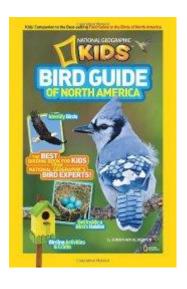
Birds can be fast! It is difficult to catch one by hand. There are two birds, however, that have been clocked at flying at 100 mph in level flight! That's fast! These birds are the spine-tailed swift, found in Australia, and the red-breasted merganser (a duck), found in North America.



Matthew 6:26 (31)

Look at the birds of the air; they do not sow or reap or store away in barns, and yet your heavenly Father feeds them. Are you not much more valuable than they?

Matthew 6:26



# Bird Books

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