BIRDS

MIRUS TOYS

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Introduction: Young children are very curious about birds esp. when they can observe them up close. This unit offers several facts and activities about birds that can be used to understand our feathered friends better.

Preparation: This packet can be done in one day by skipping sections that are not interesting or accessible or if any one feature fascinates the kid, it can be studied in depth.

Basic concepts

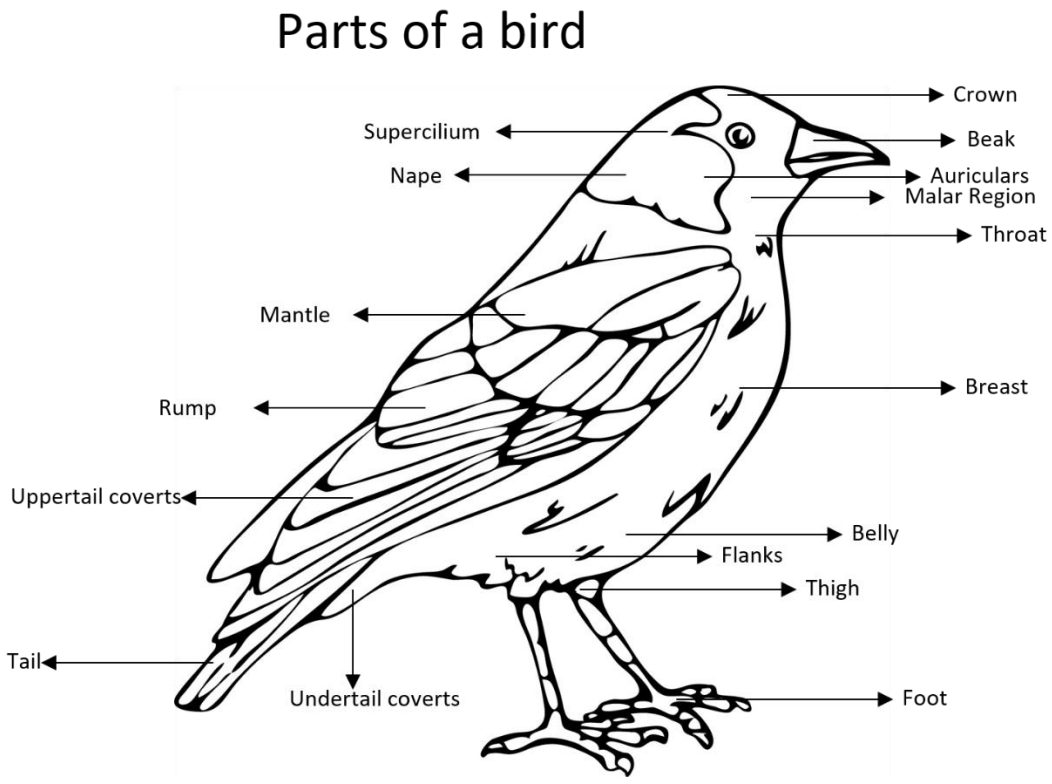
What makes a bird a bird?

Is it the pretty colors? The eggs? Wings? Nest? Beak? No. Feathers! Birds are the only living creatures with feathers. Feathers are made of keratin, the same protein that makes up bird beaks, lizard scales, mammal hair, human fingernails, and animal hooves and horns! Feathers help birds fly and keep them warm and dry. The color patterns of feathers, called “plumage,” can help birds stay camouflaged or find mates. (Source: allaboutbirds.com)

Fun fact

American Robins eat large numbers of both invertebrates and fruit. Particularly in spring and summer, they consume earthworms as well as insects and some snails. Robins also eat an enormous variety of fruits, including chokecherries, hawthorn, dogwood, and more. One study suggested robins may try to round out their diet by selectively eating fruits that have bugs in them.

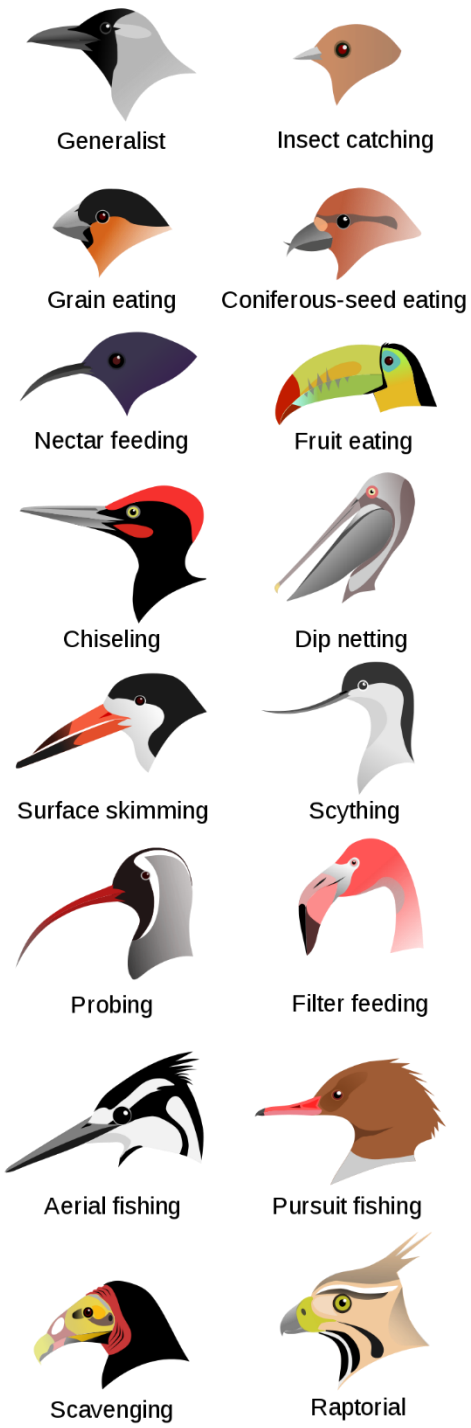
Parts of a bird



Bird beaks (Source: Mass Audubon)

All birds have a beak or a bill but they don't have any teeth. The shape of a bird's beak is adapted to the type of the food it easts. May of the ways that we eat/process our food has been inspired by them.

- Hummingbirds have long tubular beaks to reach into the bottom of the flower and drink nectar. This is how we drink our drink from a tall glass.
- Insect eating birds like robin have slender thin beaks that let them pick small insects with ease. Our tweezers are the replica of this beak model.
- A multipurpose bird bill is relatively short with a blunt point. It's good for small seeds, berries, and insects. (Black-capped Chickadee)
- Raptors have strong hooked beaks for tearing flesh. (Red-tailed Hawk)
- Seed-eating birds have short, thick, cone-shaped beaks for cracking nuts and seeds. (Northern Cardinal)
- Birds that stalk and strike at their prey have long, straight, broad beaks for stabbing and grabbing. (Great Blue Heron)
- Birds that catch insects out of the air also have small beaks but have large mouths (tree swallow)
- Birds that live in water and eat algae and aquatic insects have a flat, broad, rounded beaks that they use to strain food from the water



Not to scale

Activity 1: Study the different types of beak in this diagram and note down what unique characteristics you can find in each type of beak that is adapted to the food it eats.

Activity 2: Start this activity by brainstorming the variety of foods that birds eat and writing answers on a paper (various seeds, nuts, flower nectar, fruit, berries, fish, insects, worms, small animals).

Look at the food items one at a time, for each food type:

1. Where would you find this kind of food?
2. If you are a bird, what are the challenges to getting this food?

3. What kinds of tools might you (as a person) need to get and eat the food more easily? (Fingers, a spoon, tweezers, nutcracker, etc.)
4. How might a bird's beak be shaped to get and eat this food? (you can ask them to draw and share their response.)

Fun fact

The Arctic Tern makes the longest migration of any bird as it flies from one side of the globe to the other on an annual journey that can end up being more than 25,000 miles! Their migration route begins in Canada, where they breed, and ends in Antarctica every year for winter. Because an Arctic Tern can live to age 34, it is likely some have flown more than 800,000 miles in a lifetime!

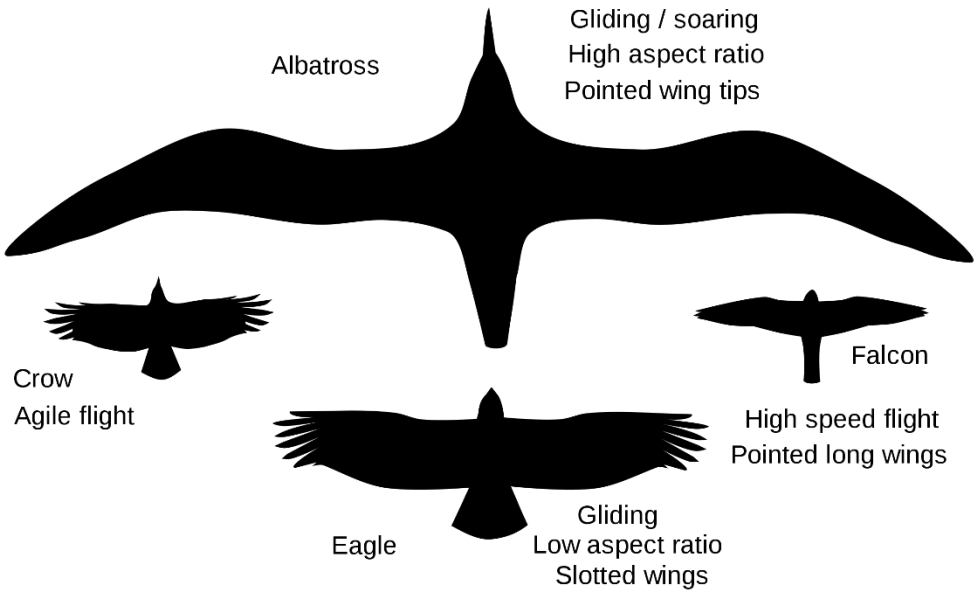
Activity 3: Collect whatever you have among these - Macaroni (small animals), goldfish crackers (fish), gummy worms (earth worms), chocolate sprinkles (ants), peanuts, sunflower seeds, raisins, mini-marshmallows (grubs/caterpillars), dry cereals (insects), fruit juice (nectar). And these - Clothespin, toothpick, straw, spoon, small plastic scoop, tweezers/small scissors, nut crush/lemon squeezer, strainer

Can you match each of these food with the instruments?

Go outside: Observe birds for 1 hour. How many different beaks can you find?

Bird Wings and Flight

The shape of the wing is important in determining the flight capabilities of a bird. Different shapes correspond to different trade-offs between advantages such as speed, low energy use, and maneuverability. Most kinds of bird wing can be grouped into four types, with some falling between two of these types. These types of wings are elliptical wings, high speed wings, high aspect ratio wings and soaring wings with slots.

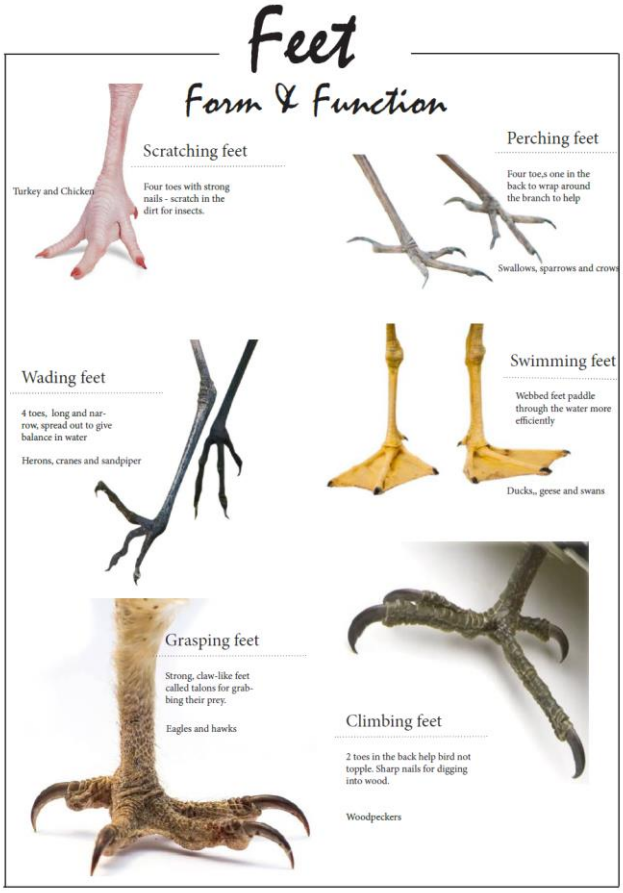


Activity 4: Can you make a paper airplane that is inspired by one of these wing shapes?

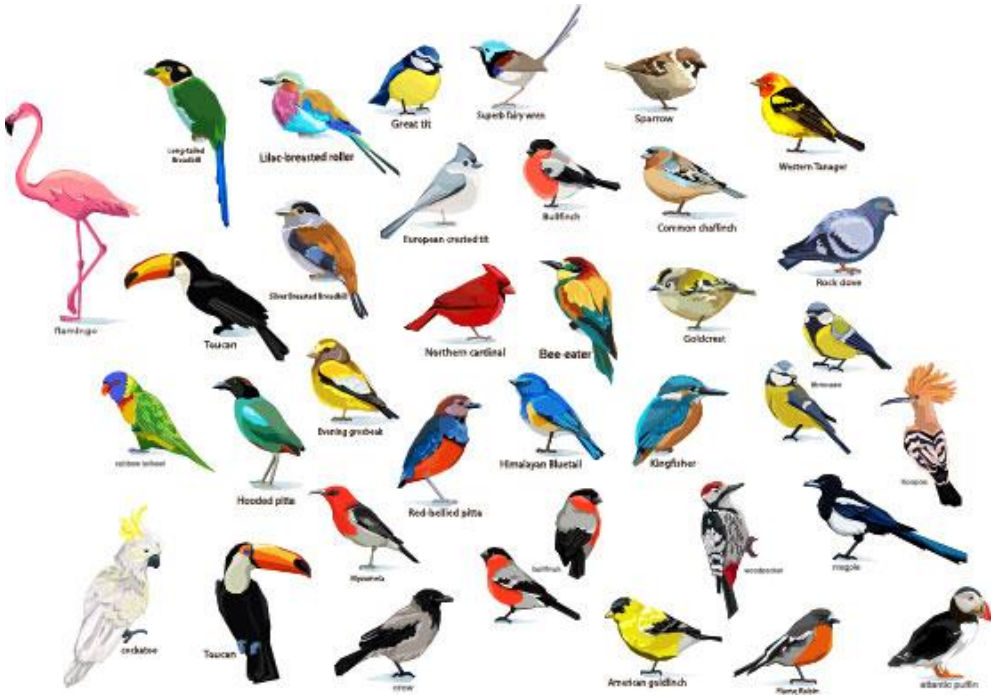
Activity 5: Fun Paper Airplanes- a great site with a variety of levels of ability www.funpaperairplanes.com/ Look at this site. What paper airplane models do you think reflect the wing types we just studied?

Bird feet

Some birds can walk, some birds can hop, and some can do both, but all birds have feet. Almost all birds have 4 toes arranged with 3 in front and 1 in back. However, bird feet are highly adapted to where they live and what they eat.



Activity 6: For each of these birds, what type of feet should they have to survive in their habitat?



Bird calls

Birds communicate by making a variety of sounds and songs. They warn each other, declare their territories, give information about food, and attract a mate by the songs or calls they use.

Listen to the bird calls and practice your favorites (If you can't find any of these https://www.bird-sounds.net/alphabetical/)

1. Chickadee
2. Wren
3. Dove
4. Cardinal
5. Meadowlark
6. Grouse
7. Tufted titmouse
8. Sparrow
9. Robin
10. Thrush
11. Crow
12. Blackbird
13. Warbler

Activity 7: Can you record what they sound like to you? For example American Robin call sounds "Cheerup", and Barred Owl calls " Who cooks for you".

After you record your answer, check here to see what other people thought what they sound like https://baltimorebirdclub.org/cn/cn9608a.html

Activity 8: Coloring page

Activity 9: Build a bird with leaves

Collect leaves, pinecone, needles or whatever natural materials you can find from the backyard and build a bird.

Activity 10: Cut and glue

(Future additions: Bird habitats, bird nests, bird feathers)

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	https://www.mirustoys.com/collections/birds/products/wooden-memory-puzzle-montessori-toys-bird-nest-puzzle-wooden-toys Match the bird to its nest
	https://www.mirustoys.com/collections/birds/products/bird-feet-playdough-stamps-playdough-stampers-educational-toys-montessori Stamp away! These fun bird feet playdough stamps are a great way for your child to build fine-motor skills, engage their sensory craving and to dig into some interesting bird study. So many different shapes and forms — it’s fantastic feathered fun!