



# Birds in the Classroom

Birds make fantastic subjects for teaching science/biology concepts to students. The Gulf Coast Bird Observatory would like to work closely with teachers to develop lesson plans that can be adapted and taught independently, that fit within their classrooms, that tie into our research and conservation projects, and that engage students in science through birds!

## Why Birds?

Students are instantly familiar with and can recognize birds. Some of them might even know a couple of urban species or be familiar with some of their behaviors before the lesson begins. Birds are common, easily observable, and can be enticed closer by hanging up a class feeder. They can be used to teach concepts such as:

- a. Life cycles
- b. Adaptations
- c. Food webs
- d. Habitats and niches
- e. How flight works
- f. Song and how sound travels



Just to name a few!

This mini packet contains several lesson plans that you, as a teacher, can implement in your classrooms. We will be constantly updating our teacher resources and providing downloadable content on our website: [gco.org](http://gco.org) (under community engagement – resources for teachers.) We encourage you to check back regularly and welcome your feedback/ideas for other activities. Email us at [eshelly@gco.org](mailto:eshelly@gco.org)

# The Right Beak for the Job



**Overview:** This activity will teach students about adaptation by showing them how some anatomical features (in this case, bird beaks) work well for certain tasks and poorly for others.

## Materials:

Strainer	Marbles in a bowl or plastic tub (no water)
Pliers	Swedish fish/candy in a tub (no water)
Tongs	Confetti floating in a tub of water
Chopsticks/tweezers	Beads/assorted plastic toys in a tub of water

**Questions for the students:** Before they start, ask students if they know what an **adaptation** is. Define an adaptation. Ask them to think about what kinds of adaptations people might have (Thumbs! Walking on two legs! How smart we are!) Ask them if they think other animals have adaptations. Inform them that today we will be looking at bird adaptations.

**Setup:** It's easiest to divide the room in half, with one half having the "dry" stations and the other having the "wet" stations. If the class is very large, having 2 of each station is a good idea, space permitting. Each station is going to have one type of food (marbles, candy, confetti, or beads), one type of each type of tool, and empty tub students can place their food in.

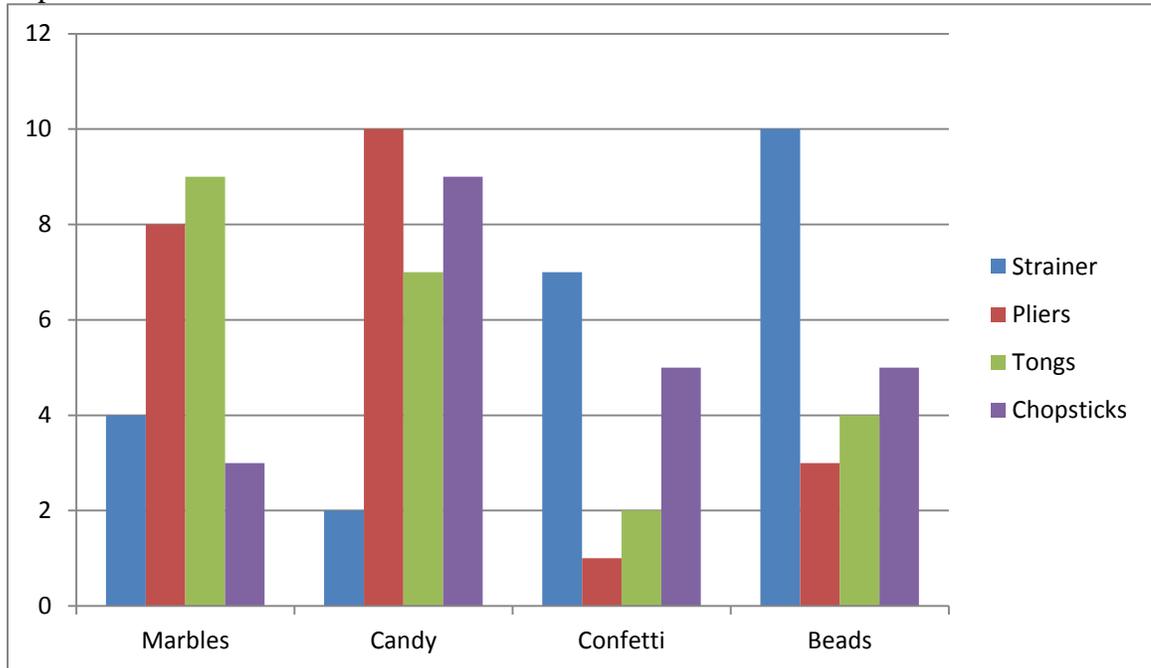
## Procedure:

1. On a projector or by using field guides, show students pictures of these four common birds.
  - a. Black-bellied whistling duck
  - b. Cardinal
  - c. Roseate Spoonbill
  - d. Great Blue Heron

Ask them to describe the different kinds of beaks they see as you show them each bird.

2. Divide the students into groups of 4 per station. Explain to them that the marbles, candy, confetti, and beads are "food" and the tools are their "beaks."
3. Establish the rules. They are birds. They cannot use their hands to pick up food or to help move the food from their tools into the empty tubs. The only things they can use are the tools.
4. At each station, students will have 1 minute to use each tool to move as much food from the food containers into the empty tub. Teachers will keep time. At the end of each "round" students will write down how many pieces of food they moved in a minute, the kind of tool they used, and the type of food they moved.
5. At the end of each round, ask students to replace the food back into the food container and swap tools until everyone has tried each one.

6. Rotate students through all four stations, making sure they each use each tool at every one. Make sure they record their data.
7. OPTIONAL: These data can be used to have students make bar graphs of this mini-experiment.



8. Ask students what beak type worked best for what kind of food.
9. Go through the bird pictures again and ask them to think about what tool most closely matches what kind of beak.
  - a. Black-bellied whistling duck (strainer – not visually obvious but explain that it strains food from the water)
  - b. Cardinal (pliers- great for cracking seeds)
  - c. Spoonbill (tongs – half strainer, half grabber, great for catching fish and invertebrates)
  - d. Great Blue Heron (chopsticks- spearing prey)

# The Hills are Alive with the Sound of Muuuusic!



**Overview:** Students know that birds sing but do they know WHY they sing? There are as many answers as there are different bird calls! Birds use songs to communicate about territory, danger, food, and to attract mates. Each species has its own different call but some birds (like the Northern Mockingbird we have here) can mimic the calls of other species.

## Materials:

Bird Call Sheets (part of this document)
Computer with working speakers

**Questions for the students:** Ask the students to put a couple of fingers on their throats as they speak or sing. Have them feel the vibrations of their vocal cords. Explain that birds have similar body parts as ours that allow them to make noise and produce song. Ask them why they think birds sing. Ask them if they think birds are born knowing how to sing. (For some species yes, for others no – they have to learn through their parents!)

**Setup:** Distribute the bird call sheets to the students. On the teacher's computer, visit the Cornell Lab of Ornithology, All about Birds website ([http://www.birds.cornell.edu/Page.aspx?pid=1478#\\_ga=2.260855108.831529795.1506696362-479887943.1501706280](http://www.birds.cornell.edu/Page.aspx?pid=1478#_ga=2.260855108.831529795.1506696362-479887943.1501706280)) and search for the following birds (or visit the links below). Each species has recorded calls.

**American Crow – typical caw:**

[https://www.allaboutbirds.org/guide/American\\_Crow/sounds](https://www.allaboutbirds.org/guide/American_Crow/sounds)

**Carolina Chickadee (song):**

[https://www.allaboutbirds.org/guide/Carolina\\_Chickadee/sounds](https://www.allaboutbirds.org/guide/Carolina_Chickadee/sounds)

**Belted Kingfisher (rattle call):**

[https://www.allaboutbirds.org/guide/Belted\\_Kingfisher/sounds](https://www.allaboutbirds.org/guide/Belted_Kingfisher/sounds)

**Mourning Dove:** [https://www.allaboutbirds.org/guide/Mourning\\_Dove/sounds](https://www.allaboutbirds.org/guide/Mourning_Dove/sounds)

**American kestrel (call):** [https://www.allaboutbirds.org/guide/American\\_Kestrel/sounds](https://www.allaboutbirds.org/guide/American_Kestrel/sounds)

**House Sparrow:** [https://www.allaboutbirds.org/guide/House\\_Sparrow/sounds](https://www.allaboutbirds.org/guide/House_Sparrow/sounds)

## Procedure:

1. Allow the students a chance to look over the bird call sheets. Explain to them that you will be playing the songs/calls of each of the different species, and that they have to match the name of the bird to the phonetic spelling of the call.

2. Before you play the song, name the bird they'll be listening to. Then play the songs (making sure to play them in a different order than what's on the sheet.) Play each call for about 30 seconds – 1 minute. At the end, repeat the name of the bird.
3. Students will listen to the call and try to match the sounds to the description. They will write the name of the bird they think best matches the phonetic description of the call.
4. Go through the list again at the end and give the answers!

## **Optional Activities:**

### **Why do Birds Call?**

Sometimes, it's easier to understand why birds make the noises they do if you can observe them. If the school has a feeder, or if your class hangs one, have the students sit quietly outside and observe the birds as they forage. Ask them to think about the different sounds they hear and what the birds are doing as they make them. Some of the species might be the same as the ones on the bird call activity sheet – keep a close eye out for chickadees and mourning doves.

### **Guess the Call!**

Students should now be familiar with using words to describe the kinds of sounds birds make. Ask 4-8 students to make up their own unique bird calls and write down how they think they sound (just like how the sounds were described in the activity) on notecards. (Students can practice their calls outside in the hallway.) Once they are set, have them turn in their notecards to you. Write down the phonetic spelling of their calls up on the blackboard. Then ask each student to perform their calls, one by one, in front of the class and see if the students can match each call to the phonetic spelling.