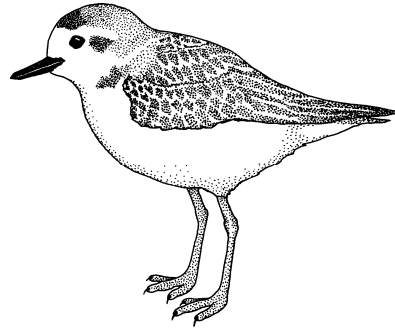


Bird Feeding Strategies



Topics

Birds, Adaptations

Grades

PreK-2

Site

Indoors

Duration

20 minutes

Materials

- **Shorebird Beaks** and other images of birds with different-shaped beaks
- Dishpan filled with water, plastic fish and floating pieces of Styrofoam
- Log with leaves, plastic insects and rice
- Tall flower vase with water, flowers and rocks
- Bowl of oatmeal with seeds, nuts, plastic insects and worms
- Various tools to represent bird beaks (eyedroppers, straws, nutcrackers, pliers, slotted spoons, strainers, small fish nets, tweezers, salad tongs, dinner knives, hammers, clothespins)

Vocabulary

adaptations, beak

National Science Education Standards

Science as Inquiry (K-4)

Abilities to do scientific inquiry

Life Science (K-4)

Characteristics of organisms
Organisms and environments

Overview

Birds use their beaks to perform many tasks, including catching, gathering and eating food. Students discover how bird beaks are similar to everyday tools. They experiment with different tool “beaks” to explore the relationship between beak shape and the food that a bird consumes.

Objectives

Students will be able to:

- Identify specialized body parts of birds, such as wings and beaks.
- Explain how birds use their beaks for many tasks; including feeding.
- Understand there is a relationship between the shape of a bird’s beak and the kind of food it eats.

Background

Birds use their **beaks** for many tasks. The beak is not only used for eating but for finding and catching food, filtering food from water, and carrying or killing prey. Birds also use their beaks for preening, nest building, digging, turning eggs, defending, attacking, displaying, scratching, carrying, hatching and climbing. These **adaptations** help a bird survive in its habitat.

Over time, the beaks of many birds have become specialized for the food they eat and the habitat in which they live. The pelican has a hooked upper beak tip and a pouch for catching fish. Wading birds hunt along the shore with their long, slender forceps-like beaks. Avocets swish their upward-curved beaks through the water to gather food. Oystercatchers have stout beaks for hammering and prying food off rocks. Skimmers forage by flying with the lower part of their beaks slicing through the water. Due to the pressure on the lower part of its beak, a skimmer’s lower jaw grows twice as fast as the upper part of its beak.



VOCABULARY

Adaptations: body parts and behaviors that help an animal survive

Beak: bill of a bird, mouth

Hummingbirds have long probing beaks used to gather nectar from flowers. Woodpeckers use their strong beaks for hunting and excavating wood. The woodpecker then sticks its long tongue into the hole to gather food. Whip-poor-wills have wide, bristle-fringed beaks for catching insects while flying. Kingbirds, pewees, phoebes and flycatchers have a hinge-like ligament that causes the jaw to snap tight when it catches an insect. Warblers and creepers have slender beaks for hunting in foliage and under bark for insects. Sparrows, buntings and finches all have short stout beaks for cracking and husking seeds.

Teacher Preparation

- Gather the materials to create simulated bird "habitats."
 - Pond/Ocean (pelicans, spoonbills, flamingos, some ducks): Fill a dishpan with water. Add plastic fish and floating pieces of Styrofoam to represent fish and other aquatic animals.
 - Forest (warblers, sparrows): Find a decaying log or piece of wood. Add plastic insects, nuts and rice to represent caterpillars, ants and other insects.
 - Meadow/Wetlands (hummingbirds): Fill a tall flower vase with water. Add flowers, rocks and nuts to represent nectar and wetland organisms.
 - Beach (avocets, snowy plover, other shore birds): Fill a large bowl with dry oatmeal. Add seeds, nuts, plastic insects and worms to represent sand dwelling organisms.
- Gather enough eyedroppers, straws, nutcrackers, pliers, slotted spoons, strainers, small fish nets, tweezers, salad tongs, dinner knives and hammers for the class to use as "bird beaks."
- Source bird images. Try to find birds with a variety of different beak shapes eating and in different habitats. You may also want to print **Shorebird Beaks** to share with students.



ELL TIPS

Birds are a very accessible new topic for English Language Learners since there are birds everywhere. Contextualize the new vocabulary by observing birds in the schoolyard and asking students about their prior knowledge.

Procedure

- LOOK AT IMAGES OF BIRD BEAKS.**
As a class, look at various images of birds. Have students look closely at their beaks. How are the beaks alike? How are they different? How might birds use their beaks in different ways to find, catch or gather food?
- COMPARE TOOLS TO BIRD BEAKS AS A CLASS.**
Show students the different tools. Use questions to guide students observations. *How might some of these tools be like bird beaks? What kind of food do you think a bird could eat with each "tool beak?"*
- STUDENTS MATCH THE "BEAKS" TO THE DIFFERENT BIRD HABITATS AND FOODS.**
Have students choose one "beak" and go to a "habitat" to gather different kinds of food. Which food items were easy for the bird to eat? Which food items were hard or impossible to eat? Have students use the "beak" in another "habitat." Was it able to eat the same kind of food items or different? Challenge students to choose another "beak." Could the bird eat similar foods or very different types of food in the "habitats?"

4. STUDENTS RECORD FINDINGS AND SHARE RESULTS.

In science notebooks, have students draw and label pictures of the tools used and the foods they were able to pick up. Ask them to explain how and why the “beak” worked and discuss it with a partner.

5. STUDENTS COMPARE TOOLS TO ACTUAL BIRD BEAKS.

Bring out the images of birds. Have students find a real bird whose beak is similar to one of the tools. They can write its name and description in their notebooks.

Extensions

- Print the bird beak images on card stock, laminate the pictures and attach them to popsicle sticks. Use them to probe into sand, dirt and water.
- Trade a bird picture with your partner and try to infer what that bird eats from the shape of its beak.

Resources

Websites

Monterey Bay Aquarium. www.montereybayaquarium.org

Learn about the animals on exhibit, including birds, at the Aquarium.

Backyard Nature. www.backyardnature.net/birdbeak.htm

Find images of bird beaks as well as other bird background information.

National Aviary. www.aviary.org/curric/curric.htm

Interactive curriculum on birds is available on this site.

Kid Wings. www.kidwings.com/index.htm

Contains interactive curriculum and background information about birds.

Books and Music

Bird Beaks. Ballinger, Amy. National Geographic, 2004.

Birds in Your Backyard. Herkert, Barbara. Dawn Publications, 2001.

Eyewitness Books: Bird. Burnie, David. Alfred A. Knopf, 1988.

Splash Zone CD. Arnold, Linda. Monterey Bay Aquarium, 2000. (“It’s A Penguin Party” on track 6)

Unbeatable Beaks. Swinburne, Stephen. Henry Holt and Co., 1999.

Standards

California Science Standards

Grade K: 2a, c; 4a, b, e

Grade 1: 2a, b, c, d; 4a, b

Grade 2: 2c; 4a



CONSERVATION TIPS

Bird feeders are a terrific way to attract and observe birds in your schoolyard. However, birds become accustomed to the food source so don't forget to keep up the supply during school breaks.

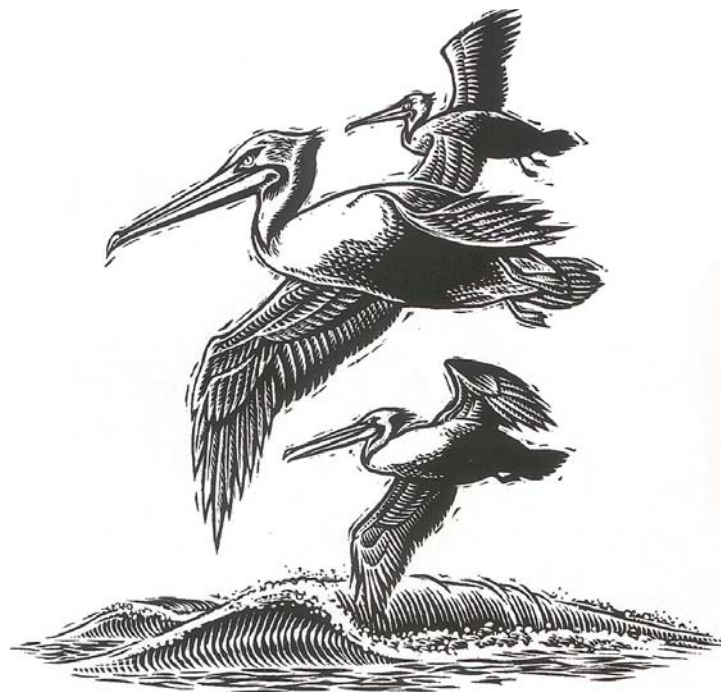
**THE MISSION OF THE
MONTEREY BAY
AQUARIUM
IS TO INSPIRE
CONSERVATION OF THE
OCEANS.**

Head Start Framework

- Begins to use senses and a variety of tools and measuring devices to gather information.
- Increases ability to observe, discuss, compare and contrast common properties among objects and materials.
- Begins to participate in simple investigations to test observations and draw conclusions.
- Develops abilities to collect, describe and record information.
- Expands knowledge of and abilities to observe, describe and discuss the natural world and living things.
- Describes and discusses predictions, explanations and generalizations based on experiences.

Acknowledgements

Adapted from "Fill the Bill" in Ranger Rick's *Nature Scope*.



Shorebird Beaks

