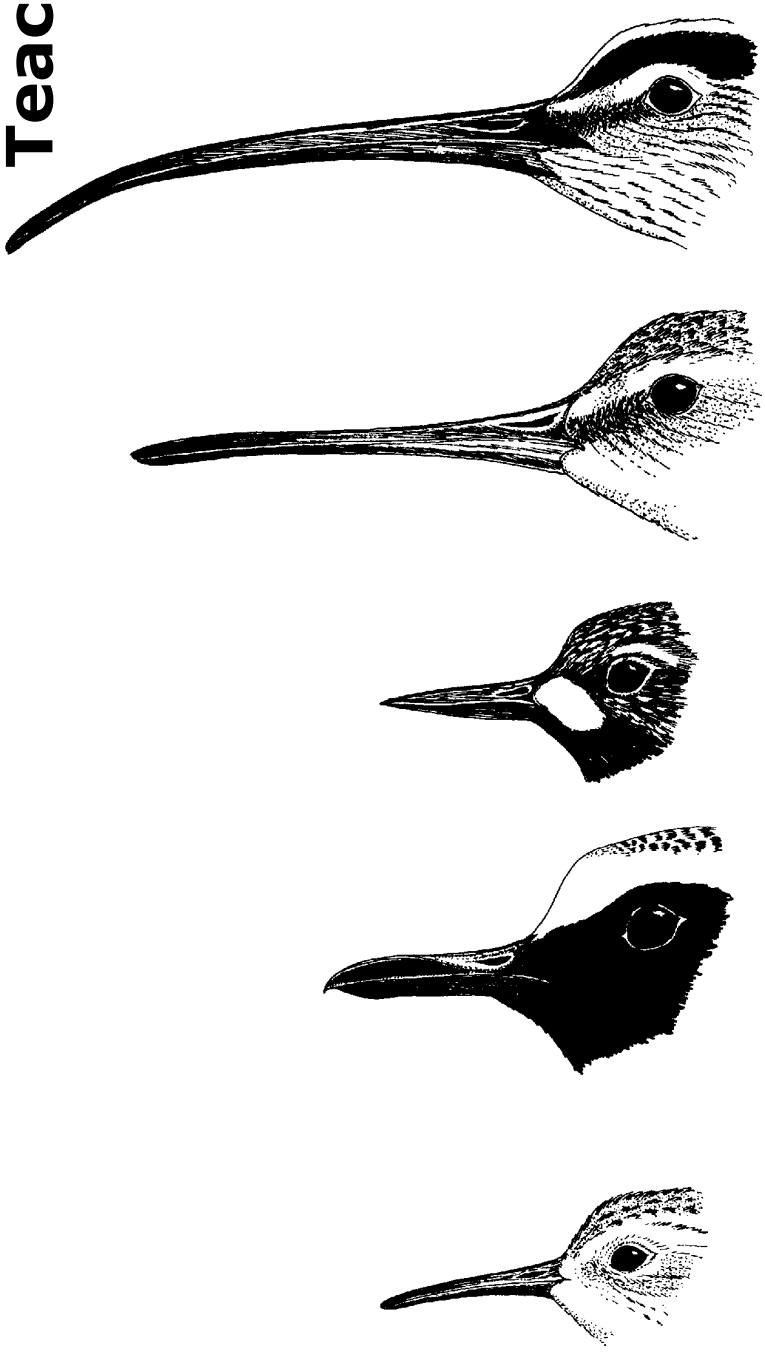
What Can I Eat With This Beak?

Short Version

Teacher



Background

Living in the mudflats are hundreds of different species of organisms that shorebirds will eat. These include worms, clams, snails, and crustaceans. Birds have different types of beaks that allow them to eat different kinds of prey items. Their beaks, also called bills, are adapted to match their food types.

Many shorebirds have tweezer-like beaks. A bird with a "short tweezer" beak will take food near the surface of the mud, while a "long tweezer" beak can reach animals that burrow deeper. Some birds, like eagles and owls, have tearing scissor-like beaks which rip their food apart into bite-sized pieces. Other birds have beaks which crush like a clothespin, and so are excellent for breaking the hard covering of seeds. Chickadees and Pine Grosbeaks are two clothespin-beaked forest birds. The oystercatcher, a type of shorebird, has a beak that looks like a red clothespin, but uses it in a way very different from seed-eaters. Oystercatchers pry mussels open and chisel limpets off rocks. Some birds have spoon-like beaks which can scoop up lots of small fish or strain plant material from the mud. Have you ever seen a Northern Shoveler or a Mallard duck do this?

Since birds eat different types of food, different species can all live in the same habitat at the same time (coexist). This is why you see many types of birds feeding together in one area. What other beak types can you think of besides the four we have considered in this activity?

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This activity is adapted from The Shorebird Sister School Arctic Nesting Shorebirds Curriculum.

Description

Students will learn about the unique adaptations of shorebird beaks to eat their particular prey by matching beaks to prey on a short activity sheet.

Objectives

Students will:

• Describe how shorebird beaks are adapted for the foods they eat.

Time Required

Preparation: 15 minutes (Longer if you get props described in the Procedure)

Activity: One 30-minute class period

Subjects

Environmental Science

Skills

Comparing, Prediction, Drawing conclusions

National Science Standards

K-4: Life Science
- Characteristics of Organisms
- Organisms and environment

Sciences and Technological
- Abilities of technological design

Unifying Concepts
- Form and Function

5-8: Life Science
- Diversity and Adaptations of Organisms

Science and Technology
- Abilities of Technological Design

Unifying Concepts and Processes
- Form and Function

Materials

Copies of the student activity sheet for each student

Procedure

1. Discuss with students that there are many different kinds of beak adaptations that relate to the foods that birds eat. What kinds of beaks do birds in their community have? Ask them how they have observed these birds using their bills. Optional: Show examples of beaks by using pictures, study skins, masks, or puppets. Examples might include hummingbirds that have long thin beak to eat nectar from flowers or ducks that have flat bills for straining, or eagles that have hook like bills for tearing. (Refer to National Wildlife Federation's Nature Scope "*Birds, Birds, Birds*" for additional examples.)

2. Tell the students that for this activity they are going to focus on shorebirds. Lead a discussion with the class about shorebirds using the background information provided in this activity.

3. Pass out a copy of the student activity sheet to each student. Depending on your class, you could have the students work in small groups. Have students look at each of the birds on the student activity sheet and the illustration. Then tell them that they are to use the clues provided for each bird to determine what food the bird is best adapted to eat in the illustration. Students should draw lines between the birds and the food they think the bird eats.

4. If students are in groups, have the groups present their answers to the class. If you do not have enough time, have each group present their answer for just one bird. If students are doing the activities on their own, review the activity with the students calling on them for the correct answers.

Extensions

1. Have students look at bird guides and pictures to find other beak types besides the four involved here. Students can guess what these birds might eat. Older students can do follow-up research and write or present a comparison between their guess and the facts they discovered. They can also consider bill length and its relation to prey items. Younger students can draw imaginary bird beak creations of their own, and show in the drawing or describe with words what their bird eats and how its beak is adapted to its food.