

Beaks of Our Feathered Friends

Throughout her walks in Wonderland, Alice meets many different types of animals, including a vast array of birds... the most famous being the Dodo bird. In this activity, children will make connections between different types of bird beaks and common household tools. As they use tools to pick up a variety of seeds and food, children can think about the many ways that birds' beaks are adapted for their environmental and dietary needs.



What you'll need: (for each student or small group)

Did You Know?

- ♣ Flickers have long, skinny beaks, similar to needle-nosed pliers, to help them gather insects from deep cracks in tree bark.
- ♦ Hummingbirds' beaks act like straws or siphons to suck nectar from flowers.
- ♠ Hawks and other meat-eating birds use their curved beaks to scoop food away from the bones of their prey.

To Get Ready:

It's easiest to set up a tray with a set of tools and a set of different containers for each child or group.



To Start, Ask:

Think of the different birds you've seen. What do their beaks look like? Are they all the same or are they different? Why do you think that might be?

Try It!:

- ♣ Observe pictures of different birds and look carefully at the shapes and sizes of their beaks. What kinds of seeds or foods do you think the different birds eat?
- ♦ Take a look at the different tools on your tray and think about how those tools are similar to birds' beaks. Look at the different types of seed and food provided and predict which 'beak tool' might work best to pick up the different food items (large and small seeds, playdough, water).
- ♠ Using each tool on the tray, try to move seeds from their container to an empty container. Which tools work best? Were your predictions accurate? Are there any tools that work with only one "food"? Are there any tools that work to move all of the "foods"?
- ♥ If you have time, have races to move the greatest number of seeds in a particular time. First, let students choose the tool and seed they'd like to transfer. Then, pre-assign one tool (for instance, the tweezers) but let them choose the type of food that their 'tweezer bird' will eat. Ideally, children will have discovered that it's easier for them to pick up smaller seeds than larger seeds with that particular tool. You could also pre-assign the food to be moved (lima beans, for instance), and let them choose which tool they'll use.

- ♣ An assortment of tools representing different beak adaptations:
 - ♦ Tweezers
 - ♠ Needle-nosed pliers
 - ♥ Short pliers
 - ♣ Adjustable wrenches (larger in size)
 - ♦ Eyedroppers
 - ♠ Melon scoops or baby spoons
 - ♥ Straws cut in half
- ♦ An assortment of containers for seeds and other food that present challenges that birds might face, for instance:
 - ♦ Jar lid containing large seeds like lima beans
 - ♠ Container with small dividers and seeds to simulate seeds caught in the crack of a rock or tree bark
 - ♥ Small plastic dish packed with playdough, similar to hawks' prey
 - ♣ A small jar with a hole in the lid for "nectar" – colored water
- ♠ Empty containers
- ♥ Trays
- ♣ Pictures of birds with a variety of beak adaptations to match your tools



Questions to think about and ask:

- Which tool was the hardest to use? Why?
- Did any of the tools remind you of birds you have seen before?
- Can you imagine having to eat your meal one seed at a time?



Assess What Happened (Students reflect):

Try designing a new bird and beak! Draw a picture and write a story about the new kind of bird you've created, what it likes to eat, and the environment in which it lives.

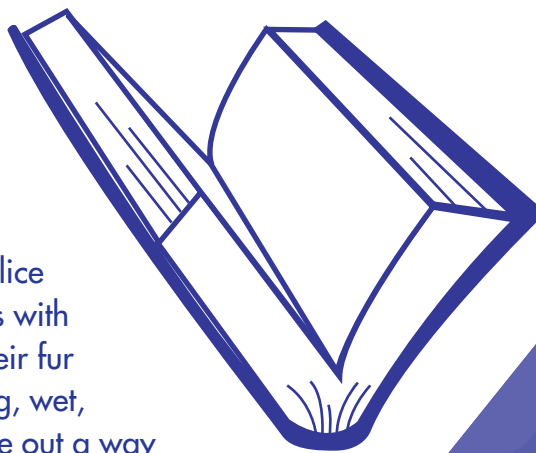


Connect it to Standards:

"An organism's patterns of behavior are related to the nature of that organism's environment, including the kinds and numbers of other organisms present, the ability of food and resources, and the physical characteristics of the environment."
(National Research Council Science Education Standards)

Connect it to the Story!

After swimming in the Pool of Tears, Alice and her new animal friends, "the birds with dragged feathers, the animals with their fur clinging close to them, and all dripping, wet, cross and uncomfortable" had to figure out a way to dry themselves. After much discussion and some experimentation, they finally settled on holding a Caucus Race to dry off. In this story, a Caucus Race means that all of the animals run around in a circle for about a half an hour until they are dry! It's a rather funny kind of race. Some birds are adapted to swim well, while others fly better. What beak adaptations help birds to be good eaters in their environment?



Career Corner:

Ornithologists are scientists who study birds. If you like observing and studying birds, you might enjoy being an ornithologist.