

Bird Beaks

Post-visit activity connection to Cave and Canopy Climber

Grade level/standards: **1st grade** NGSS 1-LS1-1, CCSS W.1.7; **3rd grade** NGSS 3-LS4-2, CCSS RI.3.3, RI.3.7, W.3.2, SL.3.4, MP.2, MP.4, 3.MD.B.3; **6th grade** NGSS 6-LS1-4, CCSS RST.6-8.1, RI.6.8, WHST.6-8.7, 6.SP.A.2, 6.SP.B.4

Concepts: bird beak variations and function

Materials needed: per group of four

1. 1 paper plate
2. 1 cup pony beads
3. 1 cup of gummy insects or worms
4. Handful of leaves and grass
5. Toothpicks
6. Chopsticks
7. Tongs
8. Clothespin
9. Small tray such as a larger paper platter

Note to the teacher:

- a. Having a paper platter already prepared for each of the types of foods will allow the activity to flow easier. Place 1 cup of pony beads on one; place 1 cup of gummy insects on another; and a handful of grass and leaves on a third platter for each group.
- b. Assign the tools to the students—the toothpick and the chopsticks will require patience.
- c.

Procedure:

1. Set up identical stations with four (4) students at each station.
2. Next to each student, place a flat dish to serve as the bird's "stomach."
3. For each group, distribute one of each of the four tools: chopsticks, toothpick, tongs, and clothespin. You may need to give guidance on these, or replace the toothpick if it breaks.
4. With each trial, students should only pick up one piece of food at a time and place it in the dish that represents the "stomach." Students should not use their free hand.
5. Place the platter of pony beads (these might simulate larger seeds) in the center of the students. Allow the students 30 seconds to pick up as many as possible, *one "seed" at a time*, with their tool and place them in their dish ("stomach").
6. Allow students to count the number of beads they "ate". The group should have paper to record their findings.
7. Discuss which of the four types of "beaks" worked better in gathering that food.
8. When students are done discussing the pony beads, put the gummy insects platter on the table (this simulates worms, bugs, and small rodents that birds of prey might eat).
9. Repeat the 30-second trial, collect data, and discuss.

10. When the students are finished discussing the gummy insects, place the leaves and grasses platter on the table. Repeat the 30-second trial, collect data, and discuss.
11. Finally discuss which beaks were the best for which types of food. Have an overall discussion on beaks and how they help birds get the food they need.

What's Happening:

As with all animals, birds need air, water and food to survive. One trait of all birds is that they have a beak or bill. A bird's external features, such as a beak, can help it to carry out life functions (like eating) in its environment. However, beaks come in many different sizes and shapes. Beaks are like simple machines. They help make the work of cracking seeds and getting food easier. For example, a long pointed beak like a woodpecker's is similar to a wedge. The wedge makes it easier to probe a hole in a tree for insects and worms. A cardinal's beak is similar to a lever and used to pinch and crack seeds. The type of beak gives a good clue to what the bird eats. Some are designed for opening seeds, while others are designed for catching fish or eating small animals. Since birds have no teeth they either swallow the food whole, or bite, crack, or tear it into pieces.

Book List:

1. Backyard Birding for Kids by Fran Lee
2. What Makes a Bird Fly? By Mary Garelick
3. It Could Still Be a Bird by Allan Fowler
4. Beaks by Sneed Collard III

Extension Activities:

1. Have the students view bird beaks on this website.
<http://www.birds.cornell.edu/physics/lessons/elementary/beaks>
2. Have the students prepare graphs to display their findings.
3. Have the students write a picture book for the Kindergarten classroom showing the best type of beak for each type of food and some of the birds that have that type of beak.

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