CURIOSITY AT HOME

BIRD BEAK BUFFET

Take a moment to imagine the incredible variety of birds in the world, even just those birds in your neighborhood or local park. Ever wonder why seemingly similar birds have such different beaks? Observing bird beaks can give us clues to how a bird survives and thrives in its habitat. In this game, you will explore bird beak adaptations and gain a whole new appreciation for finding food without fingers!

MATERIALS

- A variety of tools for your “beaks”: tweezers, spoons, clothespins, or chopsticks
- Cups, 1 per person, to represent your bird’s stomach
- 4-5 different types of bird “food”: marbles, rubber bands, dried beans or pasta, small rocks, bits of string (a generous amount of each)
- A feeding zone boundary marker, such as a circle of string, a jump rope or masking tape on the rug
- Smart phone or speaker, CD player or other music making device (you could sing a song!)
- Science notebook or paper
- Something to write with

PROCEDURE

In this activity, players will try to gather “food” by using a tool to represent a bird’s beak. This game can be played with several players, each using a different tool “beak,” or by one person over several rounds using a different tool each round.

Overview:

- Each player will be a bird using a different tool as a beak. A cup will be their “stomach.”
- Explain the guidelines (see chart)
- When the music starts, players will use their tool “beak” to pick up food and put it in their stomach cup.
- When the music ends, everyone drops their beaks and moves out of the feeding zone.
- Players will then share what they “ate” and discuss what was easy and what was hard to “eat” with their “beak”.
- Hand out beaks and stomachs.

Guidelines:

- Stay outside of feeding zone until the music starts.
- Only “beaks” can pick up food, no using hands or cup to scoop.
- A player’s “stomach” cup must be held straight up in one hand.
- Don’t steal another “bird’s” food.
- When music ends, leave feeding zone.

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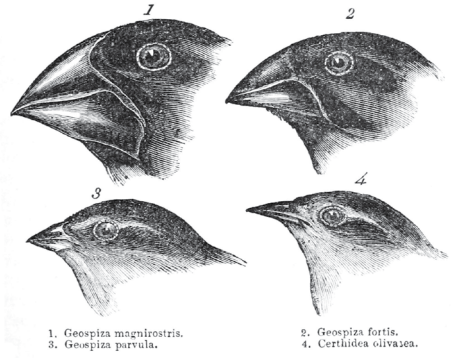
- Time to eat:
  - Only use one type of food per round for the first rounds.
  - Sprinkle the food all over the playing area. What type of food might your items represent? (Beans could be seeds or insects, pieces of string could be worms, etc.)
  - Make a hypothesis: which type of beak do you think will be most successful for this type of food and why?
  - Start the music. Let the players feed until most of the food is gone or 90 seconds, whichever comes first.
  - Stop the music.
  - Record data: Have players count how many pieces of food they collected. Younger children can count total number of items eaten, while older children can record data by beak type.
  - Repeat each time with a different type of food.
- For a final round, use all the foods together! Make predictions first about what beaks will be most successful given your previous experiments.
- At the conclusion, ask the players:
  - Which beak worked best for which type of food?
  - Why do you think birds have such different beaks from one another?
  - What would make playing this game easier or harder?
  - What things might a bird experience that makes finding and collecting food easier or more challenging?

WHAT'S HAPPENING?

Adaptations are physical traits or behaviors that a living thing uses to survive in its particular environment. An animal's adaptations can give us clues about how and where it lives and what it eats, and can also be used to identify different species.

What would happen if all birds nested in the same places and ate the same foods? There would be a lot of competition for food and shelter, and some birds wouldn't survive! Instead, birds fill different ***niches***. A niche is the special place a species has in its community and includes how it lives and what it eats. By eating different foods, birds can live in the same area without over-competing for food and other resources.

A bird's beak is an important adaptation that is used for obtaining food. Because birds eat an incredible variety of foods—from insects to seeds to nectar and more—bird beaks are highly varied.



Darwin's observation of the evolution of finches in the Galapagos Islands.`

DID YOU KNOW?

Finches in the Galapagos Islands are famous for their beaks! Scientists Rosemary and Peter Grant have spent many, many years doing research in the Galapagos and have demonstrated that changes in the size and shape of finches' beaks correspond to the kinds of seeds available to the birds over time, showing evolution at work!

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K–2 GRADE EXPLORATION

- Make a bird beak matching game! Glue or tape pictures of birds from old magazines or discarded books (or draw your own) and paste them onto blank notecards On a separate set of notecards, draw the type of food each bird eats. Mix them up and match each bird beak to the food it eats.
- Go on a bird beak hunt as you walk around your neighborhood. In your science notebook, draw and/or describe the kinds of beaks you see on the birds you observe. Use rich, descriptive details—what size is the beak? Is it thick or thin? What color? What makes the beak different from other birds you've seen? Is the bird using its beak? If so, what do you observe it doing? What type of food do you think the beak would be good for eating? How might you find out?

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3–5 GRADE EXPLORATION

- Go on a bird beak hunt as you walk around your neighborhood or park. In your science notebook, draw and/or describe the kinds of beaks you see on the birds you observe. Just as a scientist would, use rich, descriptive details—what size is the beak? Is it thick or thin? What color? What makes the beak different from other birds you've seen? Can you observe any birds using its beak? If so, what do you observe it doing? What type of food do you think the beak would be good for eating? How might you find out? Graph the results of your Bird Beak Buffet feeding rounds. How did the beaks perform? Were any only good for a particular kind of food?
- Some birds, like robins, eat many kinds of foods and are called ***generalists***. Other birds, like hummingbirds, are very good at eating one particular thing and are called ***specialists***. Did any of your beaks show more generalist results? What is the advantage to being a generalist? What might be an advantage to being a specialist? Can you think of any birds in your area that are examples of generalists or specialists?

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Solids: ice, bubble wrap, pumice (rocks), bread; Liquids: soap, boiling water, soda)

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6–8 GRADE EXPLORATION

- Graph the results of your Bird Beak Buffet feeding rounds. How did the beaks perform? Were any only good for a particular kind of food?
- Some birds, like robins, eat many kinds of foods and are called ***generalists***. Other birds, like hummingbirds, are very good at eating one particular thing and are called specialists. Did any of your beaks show more generalist results? What is the advantage to being a generalist? What might be an advantage to being a specialist? Can you think of any birds in your area that are examples of generalists or specialists?
- Take your science notebook outside and spend some time drawing beaks of the birds you see. Be patient with yourself—birds rarely stay in one place very long! Try to get what bird watchers call ***GISS***—the "general impression of shape and size," as well as any unique features to that bird. Want to learn how to draw birds more proficiently? Check out John Muir Law's webage[1] for all sorts of videos and tutorials on nature journaling.

[1] https://johnmuirlaws.com/drawing-birds/

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