



## Pop Up Science – Bird Beaks!

Video Premiere  
March 20, 2021  
on Facebook!

### What you need

- Strainer (e.g., tea strainer)
- Plastic pipette
- One set of pliers with “teeth” (e.g., slip joint pliers)
- One pair of chopsticks
- One pair of tweezers
- 5 cups or small bowls
- Water to fill two cups (or bowls)
- 3 mini fish toys
- Sand to fill one cup (or bowl)
- One toy worm
- Red food coloring
- One jumbo marshmallow
- Dirt to fill one cup (or bowl)
- 3 mini insect toys
- “Beaks” image (see below)
- Beak labels (see below)

Follow the steps below to create bird beak models and explore different beak adaptations!

### Preparation

1. Cut out the beak labels (see below).
2. Set out the five cups or small bowls on a table or countertop.
3. Fill the first one with water and place 3 mini fish toys in it. Place the “filtering” beak label in front of it.
4. Fill the second one with water and add a few drops of red food coloring. Place the “sipping” beak label in front of it.
5. Place the jumbo marshmallow in the third. Put the “shredding” beak label in front of it.
6. Place the sand and toy worm in the fourth. Put the “probing” beak label in front of it.
7. Put the dirt and 3 mini insect toys in the fifth. Place the “insect eating” beak label in front of it.



Image modified from handsonhomeschooler.com

### What to do

1. Try each of the different tools (strainer, pipette, pliers, chopsticks, tweezers) to see which beak model works best for each food type.
2. Need a hint?
  - Insect eating beaks are found on songbirds and birds found in your backyard, such as robins and blue jays. Their beaks are short, slender, and tweezer-like and enable them to grab insects out of the air, pick insects and spiders off leaves, or poke into tree bark to find their multi-legged meals.
  - Probing beaks are found on shorebirds, such as ibis and sandpipers. Their slender, slightly curved beaks are used to probe in sand, mud, and shallow waters for food like worms, crustaceans, and insects.



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- Shredding beaks are found on birds of prey such as eagles, hawks, and owls. They have sharp, hooked beaks used to catch prey and tear meat into bite-sized pieces.
  - Sipping beaks are found on hummingbirds. They use their long, needlelike beaks to go deep into flowers to find nectar.
  - Filtering beaks are found on birds like ducks, flamingos, and penguins. These birds have teeth-like combs around the edge of their inner bill that allows them to strain small animals, insects, and plants out of the water and the mud.
3. Look around your house for different tools that could serve as models for other types of bird beaks, such as seed eating or chiseling (see the “beaks” image). What kinds of food do you think each beak is adapted for eating?

### What is happening?

There are many different kinds of bird species (approximately 18,000 in the world!). Different kinds of bird species can have different kinds of beaks. Bird beaks are adapted in an assortment of shapes and sizes, each beak suited for each particular bird's foods and feeding behaviors. So, beak shapes are closely related to a bird's specific diet. Birds use their beaks like tools to catch and eat their favorite foods, much like how a coyote uses its teeth to tear meat vs. a cow using its teeth to chew plants.

These differences in beak shape and size allow birds to occupy specific habitats in their environment so that they have less competition for food and have a better chance of surviving.

### BEAK LABELS

**Shredding**

**Filtering**

**Probing**

**Insect Eating**

**Sipping**



BEAKS

# beaks



**Shredding**  
Catch prey and tear meat.



**Insect Eating**  
Snatch up insects.



**Seed Eating**  
Break open seeds.



**Chiselling**  
Bore into wood for insects.



**Sipping**  
Probe flowers for nectar.



**Fruit Eating**  
Grasp and tear open fruit.



**Probing**  
Probe mud and shallow water.



**Scooping**  
Scoop fish out of water.



**Filtering**  
Strain food from water.