

Bird Beaks

Estimated Time: 40-90 minutes

SUMMARY

Birds compete for seeds and often have specialized beaks to get their favored foods. Darwin's famous trip to the Galapagos Islands included a study of native finches and their specialized beaks to show how populations on different islands developed from common ancestors. This was essential to learning about how evolution shapes species. In this activity, students can learn the same lesson through foods and tools found in the kitchen.

WHAT YOU'LL LEARN

- Specialization of bird beaks and competition for food.
- Comparing results and analyzing trends.

Materials Used	
<ul style="list-style-type: none"> ● Timer ● Different types of “beaks” <ul style="list-style-type: none"> ○ Salad Tongs ○ Tweezers ○ Paper clips ○ Spoons ○ Forks ○ Chopsticks 	<ul style="list-style-type: none"> ● Pencil and Paper ● Different types of “foods” <ul style="list-style-type: none"> ○ Rice ○ Beans or Jelly Beans ○ Toothpicks ○ Rubber bands ○ Mini marshmallows ○ Swedish fish
Resources Used <ul style="list-style-type: none"> ● Bird Beaks – What do Birds Eat? https://www.youtube.com/watch?v=xEbRZs1L59E&ab 	

WHAT TO DO

1. Give each student one of the “beaks” and a pile of one of the “foods.” Everyone should have a unique beak and a unique type of food.
2. Set the timer for three minutes. When it starts, students should try to pick up as many of the pieces of food from their pile. Some beaks will do well and others will do terribly; this is all part of the experiment.
3. After the timer is finished, have students count up how many pieces of food they were able to collect. For food items such as rice, which is difficult to count, a volume measurement might be easier.
4. Empty everyone’s “caught” pile back onto the table so that their food is all grouped together. Students then shift to the left, bringing their beaks with them.
5. Repeat steps 2 and 3 with the new food using the students’ same beaks. Record the results again and compare with their previous food and the previous beak to attempt to catch their new food source.
6. Continue rotating and repeating until all beaks have tried to catch all the different food items. Look at your results to determine which beaks are best suited to which foods.

TIPS

- There are two questions at work here. First, students are trying to figure out which food their beak is best suited to catch. Secondly, students are trying to figure out which beak is best at catching a particular type of food. These are not the same question and a discussion of the difference can generate some great conclusions. For instance, someone with chopsticks might do best with the pile of Swedish fish but the tongs might be even better. What would happen if a tong-beaked bird species is introduced to the natural habitat of the chopstick-beaked bird species? They will be outcompeted and might go extinct! But the tongs might be best at catching and scooping up the mini marshmallows. That means as long as there are marshmallows in the habitat then the birds can each eat their preferred food and stay out of each others' way.
- There is no limit to what can be used as “beaks” and “food” in this activity. This means that it is adaptable to whatever is in your kitchen, but also that it can be repeated as a new experience any time you have new beaks and foods to introduce. If your students are particularly interested in this activity you can replace half the beaks and half the food items and create an activity that feels entirely new.