

# Bird Beaks

## Teacher Notes

Secondary (7-10)

### ACTIVITY DESCRIPTION

The Bird Beaks activity allows students to explain the role of physical adaptations in aiding the survival of particular bird species. Students will engage in an experiment that explores the effect of beak types on the diets of a variety of bird species and the environments in which they live. Students are then able to make predictions about the possible impact of human induced environmental change on bird populations.

### INSTRUCTIONS

#### 1. Meet the birds

Look at the first column of Table 1. Learn about each beak and which bird it belongs to.

#### 2. Experiment

Use the different materials for 'beaks' (see other side for equipment list) to pick up different objects. Think about which 'beaks' are best for different types of food. Complete the table and then discuss what you discovered.

#### 3. Discussion

1. List two important factors influencing the bird's ability to pick up each of the different objects
2. Explain how adaptations in beak type allow certain species to thrive in a particular habitat
3. Explain the possible impact of a severe drought on the populations of White-faced Heron
4. Predict the possible effect of the removal of nectar-producing trees on local bird populations

### SUGGESTIONS FOR ASSESSMENT

#### Formative

1. Participation in the Bird Beak experiment
2. Completion of the Bird Beak activity table and questions
3. Students write a short report of key findings of the experiment

## BACKGROUND NOTES

A bird's beak or bill is actually a part of its skull that is covered with a tough layer of skin. Although some birds use their beaks to defend their territories, gather nesting materials or to weave a nest, the main purpose of the beak is to obtain food in the easiest and most effective way possible. As a result, birds that have different shaped beaks will often obtain food differently. For example, birds may use their beaks to tear meat, spear fish, crack hard seeds, catch insects, gather water plants, reach the nectar in flowers, probe into mud for tiny crustaceans, or filter tiny creatures from silt. These differences in the use of beaks for obtaining food are important for the survival of bird species as it enables more species to live in the same geographical area. This is because different species can feed on different food sources in different parts of the habitat without competing directly.

## EQUIPMENT

You will need the following materials for each student group running the experiment:

- 1 set of tongs
- 2 chopsticks
- 2 wooden spoons
- 1 pair of tweezers
- 1 eye dropper or 1 large syringe
- Cotton buds
- Coins
- Marbles
- Water
- Bird Beaks Table (see Activity Materials printout)

## ACCESS THIS ACTIVITY

Visit the **CERES School of Nature and Climate website** to download the activity - <https://sustainability.ceres.org.au/education-resources/curriculum-activities/>

# Curriculum and RSS Links

## KEY CONCEPTS

Biodiversity, Species Adaptation, Evolution, Habitats, Environmental Change

## KEY LEARNING INTENTIONS

1. Students will be able to describe the use of animal body parts for different purposes
2. Students will be able to explain how particular adaptations aid survival
3. Students will be able to explain how changes in the environment can impact on living things

## VICTORIAN CURRICULUM

### Science

7 - 8

There are differences within and between groups of organisms; Classification helps organise this diversity ([VCSSU091](#))

9 - 10

The theory of evolution by natural selection explains the diversity of living things and is supported by a range of scientific evidence ([VCSSU120](#))

## SUGGESTED RESOURCESMART SCHOOLS MODULE LINKS



Undertaking the activity as described above links to the *ResourceSmart Schools Biodiversity Module - actions B1.1, B1.2, B1.3, B1.4*

Below is a list of extension activities that link to additional actions of the Biodiversity module:

1. Conduct a bird survey within the school grounds, a local park, reserve or at CERES Environment Park and record the findings (*ResourceSmart Schools Biodiversity Module - actions A1.1, A1.3, B1.1, B1.3*)
2. Students take note of the different beak types that exist within their local area (*ResourceSmart Schools Biodiversity Module - action B1.1, B1.2, B1.3*)
3. Students liaise with a local friends group or bird watching organisation to plan and develop a bird attracting garden that targets particular beak types or bird species (*ResourceSmart Schools Biodiversity Module - actions A3.3, C3.1, C3.3*)

Speak to your CERES ResourceSmart Schools Facilitator about further links to the Biodiversity module.