



MINNESOTA ZOO™
Changing how you see the world

Bird Adaptations

Grades 4-6

Pre-visit Activity

MN Graduation Standards supported:

Grade 4 IV. B.

The student will know that living things can be sorted into groups in many ways according to their varied characteristics, structures and behaviors.

Vocabulary:

Adaptation:

A characteristic of a living thing that makes it better suited to survive in a particular environment.

Physical Adaptation:

A physical characteristic that helps the animal better suited to survive in a particular environment. An example would be the blubber in a whale, keeping it warm and storing energy.

Behavioral

Adaptation:

The way an animal behaves that makes it better suited to survive in a particular environment. For example, some instincts are behavioral adaptations.

Introduction:

The bird world contains an amazing variety of beaks. Beaks are used for eating, defense, feeding young, gathering nesting materials, building nests, preening, scratching, courting and attacking. The shape and size of each species' bill is specific for the type of food it gathers. Cardinals have heavy thick bills used to crack seeds. Meat-eaters, like the eagle, have a sharp, hooked bill to tear flesh. Robins have a varied diet and a bill shape that permits eating a variety of foods (worms, fruit). Humming-birds have thin bills to sip nectar. Through this activity students will look at bird beaks to investigate adaptations.

Objectives:

Students will:

1. Analyze how physical and behavioral adaptations help organisms survive.
2. Define physical and behavioral adaptations.
3. Observe and identify specific adaptations.

Procedure:

Materials Needed:

plastic spoons
tweezers (or two popsicle sticks, or clothes pins with springs)
gummi worms
cooked spaghetti noodles
chocolate chips
uncooked rice
paper cups

Optional materials:

Add more “beak tools” by using chopsticks, clothespins or pliers.
Add more food items by using bird seed or peanuts.

Links:

Create a Bird

<http://www.normanbirds sanctuary.org/creatabird.shtml>

Bird Beak Adaptation Guide

http://www.normanbirds sanctuary.org/beak_adaptation s.shtml

Bird Feet Adaptation Guide

http://www.normanbirds sanctuary.org/feet_adaptations .shtml

Procedure :

Tell the students that they are testing which "beak" is better in gathering a variety of foods.

Distribute plastic spoons, a cup and gummy worms to each student. Give them 10 seconds to gather as many worms as they can and put them in their cup. Have the students record the number gathered. Repeat the process with the spaghetti noodles and the chocolate chips.

Distribute the tweezers and repeat the process.

Have the students compile their data and record which tool worked best and why.

Discuss how birds use their beaks as tools. Explain that the bird's beak is specific to the type of food it eats. (See bird beak/tool worksheet).

Have students discuss which birds they have seen with the particular type of beak. Compare beaks seen to the corresponding bird beak guide.