

# DICKINSON COUNTY NATURE CENTER

## GRADE 3 — “EAT LIKE A BIRD”

### Core expectations

**3-LS3-1** Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variations of these traits exist in a group of similar organisms.

**3-LS3-2** Use evidence to support the explanation that traits can be influenced by the environment.

**3-LS4-3** Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

### Activity Time

One 45-minute  
session

### Contact

Environmental  
education coordinator  
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### Program Alignment with Iowa Core Curriculum

#### Disciplinary Core Ideas

- **LS2.C Ecosystem Dynamics, Functioning, and Resilience:** When the environment changes in ways that affect a place’s physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die.
- **LS3.A Inheritance of Traits:** Many characteristics of organisms are inherited from their parents.
- **LS3.A Inheritance of Traits:** Other characteristics result from individuals’ interactions with the environment, which can range from diet to learning. Many characteristics involve both inheritance and environment.
- **LS3.B: Variations of Traits:** Different organisms vary in how they look and function because they have different inherited information.
- **LS3.B Variations of Traits:** The environment also affects the traits that an organism develops.

#### Investigative questions

- What is an adaptation?
- What is a trait?

#### Investigative phenomena

Through an activity, students will learn that different bird species have different beak and body structures that allow them live and thrive in their habitat.

#### Practices (SEPs)

- The students and naturalist will carry out an investigation of what different birds eat based on their beak structure.
- Students will make observations about the features of birds and the foods that they eat.
- Students will analyze and interpret data at the end of the activity to learn how different beaks have different functions.

#### Cross Cutting Concepts students will identify

- Structure and function of birds beaks and bodies
- Systems and systems models of native birds and beak structures

### Supplies

*All supplies brought by the nature center unless otherwise arranged.*

- 6-10 sets of tweezers
- 6-10 clothes pins
- 6-10 chopsticks
- 6-10 spoons
- Rubber bands
- Q-tips
- Dried beans
- Cotton balls
- 50-100 sheets of paper
- 50 paper clips
- Bird feathers
- Bird beaks
- Bird mounts
- Naturalist family photo

### Program Overview

#### Background

The animal kingdom is full of amazing adaptations that help animals survive and thrive in their environments. An adaptation is a trait or characteristic that is inherited from a parent that allows an animal to survive in its habitat. In this lesson, we will be focusing on the structure and function of bird beaks and how different beak shapes help a bird to eat.

All animals need to eat to survive and all animals have features that can help them collect the foods they need. Birds of prey have sharp claws called talons, excellent eyesight, and sharp beaks to eat small mammals and reptiles. While smaller birds may have strong cone-shaped beaks to crack open seeds or slender beaks to harvest insects from trees. All of these unique adaptations have been developed over time to help birds live and thrive in different environments.

#### Procedure

- 1) The naturalist will start off by talking to students about the meanings of the following words as they relate to the animal kingdom.
  - **Adaptation:** A structure, behavior, or characteristic that helps an animal to live and thrive in its habitat.
  - **Traits:** A characteristic that is caused by genetics.
  - **Inheritable:** A characteristic that is passed on through genes of parents to offspring.
- 2) After the naturalist has explained these three key words to students, the students will be asked what traits or characteristics can be passed down to offspring? Answer might include: Eye color, hair color, freckles. The naturalist will show students a picture of her family and explain where she inherited her traits from.
- 3) The naturalist will then challenge students to create the best paper airplane they can in two minutes with a sheet of paper and a paperclip. After the challenge, choose 4-5 students with differing airplanes and see whose will go the farthest. Talk about which airplane would most likely survive and what adaptations other airplanes could make to be more successful.
- 4) The naturalist will then talk about and show examples of the key traits birds have adapted in order to fly:
  - Feathers (Light weight and have varying types of feathers)
  - Bones (Light weight, fewer bones, hollow)
  - Lay eggs (They do not need to carry young as they grow.)
- 5) Students will then be broken up into multiple groups for an activity. Students will need to be in groups of at least four.
  - Each student will be given a “bird beak” tool — either a clothes pin, chopsticks, spoon or tweezer — and plastic cup
  - The naturalist will then place one “food” — rubber bands, Q-tips, dried beans, cotton balls — at a time, and students will have one minute to collect as much food as possible. Students will then be asked to count and record the number of food items they collected.
  - After the activity, the naturalist will discuss which beaks were successful at collecting what items.