

DICKINSON COUNTY NATURE CENTER

GRADE 1 — “AWESOME OSPREY”

Core expectations

1-LS1-2 Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

1-LS3-1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

Activity Time

One 30– to 45-minute session

Contact:

Environmental

Education Team

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Program Alignment with Iowa Core Curriculum

Disciplinary Core Ideas

- **LS1.A Structure and Function:** All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.
- **LS1.B Growth and Development of Organisms:** Adult plants and animals can have young. In many kinds of animals, parents and offspring themselves engage in behaviors that help the offspring to survive.
- **LS1.C Organization for Matter and Energy Flow in Organisms:** All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow.
- **LS1.D Information Processing:** Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs.

Investigative questions

- What is a bird of prey?
- How many birds of prey can we name as a class?
- What adaptations do birds of prey have that help them survive?
- Does anyone know what an osprey is?

Investigative phenomena

A mounted osprey will help children to visualize the impressive adaptations of one of the world's most common bird of prey.

A video of the lifecycle of the osprey will help to show students the annual migration and lifecycle of a juvenile osprey.

Practices (SEPs)

- The students and the naturalist will carry out an investigation of the life cycle of the osprey.
- Students will make observations and comparisons about the differences between juvenile and adult osprey.
- Students will be encouraged to ask questions about osprey.
- Students will be able to construct an explanation of the differences of juvenile and adult osprey.

Cross Cutting Concepts students will identify:

- Patterns within the animal kingdom by learning about the annual migration and lifecycle of local ospreys.
- Structure and function of birds of prey within an ecosystem.



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SIDE 2

Supplies

All supplies brought by the nature center unless otherwise arranged.

- Osprey mount
- Osprey video
- Pictures of osprey and other birds of prey
- Osprey eggs

Program Overview

Background

Ospreys are among the best fishers of all birds! They are often called fish hawks and fish eagles. However, they are neither a hawk nor an eagle. They are a member of the kite family. Ospreys have smooth brows without a brow ridge like other birds of prey. They have dark wrist patches on the underside of the wings. Their stomach is white and mostly unmarked.

Ospreys are equipped to efficiently capture their prey. They can fly at speeds of almost 25 mph in the air and can descend to catch prey at around 40 mph! They have amazing eyesight that is five times greater than humans and can easily spot a fish under water from 100 feet in the air. Along with amazing speed and impeccable vision, they have closing nose flaps, a thin, clear third eyelid, and special talons that have a reversible toe. All of these adaptations allow for osprey to dive completely into the water and catch fish up to three feet underwater.

All living things need three things to survive: Food, water and shelter/space! An osprey is no different. Ospreys create their nests high in the sky, often on manmade structures such as telephone poles, channel markers, and towers. Many communities have created platforms in an effort to help reestablish osprey populations. Ospreys will choose their nests near shallow lakes so they can hunt bottom feeders such as bullheads and carp. In order to feed a family of four, ospreys need to catch four-five large fish a day.

Ospreys are migratory birds and spend much of the lifetime traveling. Ospreys nest in all the lower 48 states but migrate to Central and South America during the winter months. Osprey can travel around 62,000 miles in their lifetimes. Ospreys are one of the most widespread birds of prey, being distributed worldwide (except Antarctica). However, birds in warmer climates in the off-season are not breeding pairs.

Although the most widely-distributed bird of prey, populations worldwide were declining 1950-80 due to DDT, loss of breeding sites, and poaching. Measures have been taken worldwide to increase populations by banning DDT and through nationwide conservation programs.

Procedure

1. The naturalist will show students pictures/mount of osprey and will go over different adaptations the osprey has. Then the naturalist will ask students to name other birds with the same traits.
2. The naturalist will ask student if they know the words “predator” and “prey” and what they think “bird of prey” means.
3. The naturalist will show students pictures of adult, juvenile and osprey chicks and ask the students to make comparisons of the three such as size, coloration, and feathers.
4. Show the video of the Dickinson County ospreys. While watching the video, the naturalist will explain to the students what is happening. After the video, students will be asked to describe what happened.
5. Students will describe the life cycle of the osprey and what they looked like at each phase.