

DICKINSON COUNTY NATURE CENTER

GRADE TK — “EAGLE VS. OSPREY”

Core expectations

K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive.

K-ESS2-2 Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

K-ESS3-1 Use a model to represent the relationship between the needs of different plants or animals (including humans) and places they live.

Activity Time

One 30-minute session

Contact:

Environmental
Education Team

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Program Alignment with Iowa Core Curriculum

Disciplinary Core Ideas

- **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.
- **ESS2.E Biogeology:** Plants and animals can change their environment.
- **ESS3.A Natural Resources:** Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do.

Investigative questions

- What is a bird of prey?
- What do ospreys and eagles need to survive?
- How are ospreys different than eagles?

Investigative phenomena

- The naturalist will begin by showing eagle and osprey mounts and asking students to observe ways the birds are similar and ways they are different.

Practices (SEPs)

- Students will use observations of eagles and osprey to describe patterns in the natural world.

Cross Cutting Concepts students will identify

- Patterns in ospreys and eagles can be observed and used as evidence to describe birds of prey and what animals need in order to survive.

Supplies

All supplies brought by the nature center unless otherwise arranged.

- Rope to make osprey nest
- Rope to make eagle nest
- Osprey wingspan
- Eagle wingspan
- Gallon jug of water filled halfway (Osprey weight, blue)
- Gallon jug of water filled all the way (Eagle weight, green)
- Eagle vs. osprey pictures (nest, eggs, chicks, wings, holding fish)

Program Overview

Background

Eagles and ospreys are sometimes confused because they are both large raptors and often occupy the same habitat. Even though these birds of prey need the same things to survive (food, water, shelter and space), and the way they obtain these things may be similar, there are also many differences that set these two birds apart.

The diet of an eagle and osprey both consist of fish, however, the osprey's diet is almost entirely comprised of fish (99 percent), while the eagle's diet also includes birds, reptiles, amphibians and small mammals. Osprey can dive about three feet into the water to catch a fish and can dive either head or feet first. Eagles, on the other hand, catch prey in the water with their feet. Both birds have a hooked beak, which is useful for tearing into the flesh of their prey. Another useful adaptation ospreys possess is the ability to rotate one toe so it faces the back, giving them two toes in front and two toes in back. This trick helps osprey grasp onto fish better. Eagles do not have this unique adaptation, however, owls are also able to rotate their toe in a similar way.

Both eagles and ospreys nest high up, however, eagles nest in mainly in trees while ospreys nest on snags, treetops, cliffs or human-built platforms such as cell phone towers. Most osprey nests are 5 feet wide and 1 foot deep. In comparison, the larger eagle nest is 5-6 feet wide and 2-4 feet deep. Both birds only lay 1-4 eggs once per a season.

Procedure

- 1) The naturalist will begin by showing students the mounts of an eagle and osprey and asking student to find three things that are similar between the birds and three things that are different.
- 2) The naturalist will then go over what a bird of prey is and how even though eagles and ospreys are different, they are both birds of prey and have some similarities and need the same things in order to survive.
- 3) The naturalist will show students the two jugs of water and ask them to guess which one represents the weight of each bird. The naturalist will then pass around the jugs of water so the students can feel the difference in weight. Ospreys usually weigh between 3-4 pounds while eagles can weigh between 6.5-14 pounds!
- 4) Next, students will observe differences in the wingspan of the two birds. The naturalist will ask for one or two volunteers to compare their wingspan to the wingspan of an eagle and osprey. Students will also compare pictures of the birds in flight.
- 5) The students will then compare a picture of the osprey nest to a picture of the eagle nest. Which one is larger? Then the naturalist will lay a rope in a circle to show how big the osprey nest is. How many TK students can fit in an osprey nest? The naturalist will repeat for the eagle nest and students will have a good understanding of the size difference.
- 6) Students will then compare pictures of osprey and eagle eggs as well as osprey and eagle chicks.
- 7) Lastly, students will make comparisons about what the birds eat and how they catch and fly with their prey.