Middle School: Endangered Species

SIOUX COUNTY CONSERVATION BOARD

PRAIRIE WOODS NATURE CENTER

What students should bring:

- Sack lunch
- Tennis shoes or hiking boots
- Water bottle for drinking water (optional)
- Weather-appropriate clothing

What teachers should bring:

- First aid kit, Kleenex, hand sanitizer
- One or more adult for every 6-10 children
- Sunscreen/bug spray (optional)

Contact for scheduling:
Assistant Director/
Environmental Education
Coordinator
Sunday Ford

Field trip leaders:
Sunday Ford
sundayf@siouxcounty.org
712/551-6780
Sarah Davelaar
sarahd@siouxcounty.org
712/551-6715

Field Trip Overview

Endangered Species are found all over the world, even in our own backyard. Each species has a unique battle to fight, to prevent extinction. Through activities and acronym HIPPO, students will learn the common limiting factors of endangered species and what they can do to help in the fight against extinction.

Suggested Field Trip Itinerary

9:00-9:15 Arrive/Introduction
9:15-10:00 Large Group Station/Divide into Study groups
10:00-10:30 Station Rotation #1
10:30-11:00 Station Rotation #2
11:00-11:30 Station Rotation # 3

Possible stations**: Endangered Species Interview, Habitat Lap Sit, Hazardous Link, Invasive Species Spotlight, Oh-Deer, Round Goby, Thicket Game, Pay to Play, Poacher Mafia**

11:30-12:00 Lunch time
12:00-1:30 Trail Hike with morning station implication
1:30-2:00/2:30 Large Group Station
2:00-2:30 Depart

Iowa Core and NGSS met by this Field Trip

***MS-ESS3-3 Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.**

Humans impact the environment in many ways- consumptive and non-consumptive. Activities will explore how human interaction can play a role in endangered species.

Activity: Endangered Species Interview, Pay to Play, Poacher Mafia

MS-ESS3-4 Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's Systems.

As the human population has grown, our impact on the natural resources have too. Through our use of the land or personal hobbies these activities will discuss the negative effects they can have on species if we are not careful.

Activity: Endangered Species Interview, Pay to Play, Poacher Mafia

Iowa Core and NGSS met by this Field Trip continued…

MS-LS1-4 Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

A species can become an invasive species in multiple ways. However, one way they can become invasive is when they have particular attributes that make them superior to those there before them. Activity and lesson will look at some local examples of these and how they are affecting our local ecosystems.

Activity: Invasive Species Spotlight, Round Goby

MS-LS2-1 Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

Students will become organisms competing for resources. Activities showcase firsthand how populations are affected by resource availability.

Activity: Habitat Lap Sit, Oh-Deer, Round Goby

MS-LS2-4 Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

Roles will be assigned to students as they play out different scenarios when physical and biological components are added to an ecosystem. Discussion will identify the physical or biological components that played the biggest role in altering the population.

Activity: Endangered Species Interview, Habitat Lap Sit, Hazardous Link, Oh-Deer, Round Goby

MS-LS4-4 Construct an explanation based on evidence that describes how genetic variation of traits in a population increase some individual's probability of surviving and reproducing in a specific environment.

Student's clothing will act as the genetic variation as they compete to stay hidden in the thicket. Discussion after activity will evaluate what "genetics" helped the winners survive.

Activity: Thicket Game

* Indicates standard partially met

Note: this does not include the many standards met in the professionally designed exhibits, which were designed around Iowa Core and NGSS.

Group Sizes

In order to give each student the optimal opportunity to learn in our outdoor classroom, we try to keep our group numbers small. You can help us by putting your students into the appropriate number of groups prior to field trip (unless disused otherwise) and assigning a teacher/adult to be a leader of that group.

Rotation Stations Groups

≤ 15 students: Students will participate as one group and rotate through the stations with naturalist(s).

16-40 students: Students will be broken into two groups and rotate through stations with naturalist(s) and volunteer.

≥ 41 students: Students will be broken into three groups and rotate through stations with naturalist(s) and volunteer(s). (In some cases we may break it down into four groups depending on the field trip activities)

We suggest using Group # and/or Group Colors to pass this information onto your students/adults so they can easily remember.