

Wild Wapiti

Wild Wapiti activities are directly tied to the third spread - pages 5 and 6 of “Our Wetland Project”.

Herbivores feed on plants.

What adaptations do these animals have to enable them to thrive in their environment?

What happens to their population if invasive plants outgrow native varieties?

Levels

All Grades

Subjects

Science, Language Arts, Mathematics

Skills

Investigating, Explaining, Interpreting

Concepts

Scientific investigation, interactions of living things and environments

Carrying capacity of a population

Objectives: Students will be able to:

Identify an animal using their senses and observation skills

Define the terms predator, prey, migration, ungulate and herbivore

Name two adaptations that elk have to help them survive

Define limiting factors with regard to animal populations

Materials (20 student class-size)

elk specimens - hoof, pelt, skull, antlers

elk adaptations page (1 per student)

chocolate scat (example chocolate covered raisins)

reference - *Who Pooped in the Park?* by Gary D. Robson

Time Considerations

Preparation - 45 minutes

Activity - 70 minutes

Lesson Overview

- **Wild Wapiti - Elk Exploration Station** (45 minutes)

- **Oh Deer** (25 minutes)

Background

In ecology, predation describes a biological interaction where a predator (an organism that is hunting) feeds on its prey, (the organism that is attacked).

Introduce the following terms by discussing the life of an elk:

herbivore, predator, prey, migration, ungulate (animal with hooves), bull, cow, calf.

Ask the students *What does an elk eat?*

What does an elk do throughout the year? Stay in one place?

What is a female (cow), male (bull), baby elk (calf) called?

What makes an elk special?

What are some predators of elk?

Wild Wapiti - Elk Exploration Stations Lesson Details - 45 minutes

Elk Exploration Stations!

STEP ONE.

Tell the students that you have brought some very special specimens today. Review appropriate handling techniques for specimens: skull, rack, pelt, and hoof.

STEP TWO. Divide the students into four groups. Tell the students that there are four stations and they will visit each station in their groups. Hand the students the elk adaptations sheet below. At each station, they have to match the specimen on their table with where it goes on their sheets. They should investigate their specimen and label it on their sheet as well.

Wild Wapiti

1. The elk's hair keeps it

2. The elk's hooves are good for

3. The antlers are used for

4. The elk's flat teeth are good for

Wild Wapiti - Elk Exploration Hair/Scat Investigation Lesson Details *(continued)*

Hair/Scat Investigation.

STEP ONE. Have students make a circle on the floor. Bring out the elk hair to show the students.

What is this?

Why does an elk need hair/fur?

What is special about elk hair? (elk hair is hollow)

Why would it be hollow? (air pockets helps insulate)

STEP TWO. Now bring out the scat sample. Ask the students *What is this?*

Introduce students to the term scat and ask *Why would a scientist or maybe a hunter want to study scat?* (to track an animal, to see how long since it's been there, to see if it's healthy, learn what it eats, learn what kind of animal it is, etc.) Show other scat samples to illustrate that all scat looks different.

Chocolate Scat.

Before beginning, choose some select (chocolate) scat samples to show students.

STEP ONE. Tell them that you have some special specimens to share. Create a story of hiking or skiing in the woods and stumbling upon a sign that an animal left. Show the students the specimen, and ask them what they think this is and what animal it came from.

STEP TWO. After students guess several animals, taste a piece of scat (chocolate) and tell the students what animal it could belong to, what they had been eating, how fresh it is, etc. After students get over the shock of you "eating scat" share the chocolate scat with them.

STEP THREE. Read the story to students from the book obtained from your local library. *Who Pooped in the Park?* by Gary D. Robson.

Wild Wapiti - Oh Deer! Lesson Details - 25 minutes

Background.

A variety of factors affect the ability of wildlife to successfully reproduce to maintain their populations over time. Disease, predator/prey relationships, varying impacts of weather conditions from season to season (early freezing, heavy snows, flooding, droughts, accidents, environmental pollution, and habitat destruction and degradation are among these factors. Some naturally caused as well as culturally induced limiting factors serve to prevent wildlife populations from reproducing in numbers greater than their habitat can support. An excess of such limiting factors, however, leads to threatening, endangering, and eliminating whole species of animals.

The most fundamental of life's necessities for any animal are food, water, shelter, and space in a suitable arrangement. Without these essential components, animals cannot survive.

Wild Wapiti - Oh Deer! Lesson Details - 25 minutes *(continued)*

This activity is intended to be a simple, but powerful way for students to grasp some basic concepts.

- that everything in natural systems is interrelated
- that populations of organisms are continuously affected by elements of their environment
- that populations of animals do not stay at the same number year after year, but continually change in a process of maintaining dynamic equilibrium in natural systems.

The major purpose of this activity is for students to understand the importance of suitable habitat as well as factors that may affect wildlife populations in constantly changing ecosystems.

Materials

chalkboard or dry erase board

writing materials

large enough space for students to run

reference - *Project Wild*. Western Regional Environmental Education Council, 1986

STEP ONE. Explain to students the object of the game is to study a population of deer in a particular habitat.

STEP TWO. Ask for a definition of habitat. Be sure food, water, shelter, and space are identified as the key elements of habitat.

STEP THREE. Have students count off by 4's. Explain the ones (1's) will be deer in pursuit of elements for survival from within their habitat. Tell students to assume there is enough space in their habitat and their main concern is food, water, and shelter. The students numbered two (2), three (3), and four (4) are those habitat elements.

STEP FOUR. The 1's will line up on one side of the playing area while the 2, 3, and 4's will line up on the other side. Students will face away from each other upon signal, "Oh Deer", the deer will make a sign for the elements they are searching for in order to survive.

- shelter (hands over head in a triangle)
- water (cross hands over mouth)
- food (hands on stomach)

At the same time the habitats are choosing the element they wish to represent using the same signs.

STEP FIVE. When you say, "Go!" students will turn around and face each other and the deer will run to the habitat that matches their own sign. (Deer must maintain sign while running.) If the deer match the habitat, then both become deer and return to the deer side. If the deer cannot find a habitat, then they become part of the habitat.

Play this way for 15 rounds. While students are playing keep track of the numbers of deer that survive in each round.

STEP SIX. After 10-15 rounds have students take out pencils and graph paper, graphing the number (#) of deer vertically and the years (rounds) horizontally. Once the students have figured out how to plot their points correctly, explain that their graph now tells a story of the deer population over a certain period of time. Direct students' attention to peaks, valleys, and plateaus found on their graph.

Wild Wapiti - Oh Deer! Lesson Details - 25 minutes *(continued)*

STEP SEVEN. Have the students turn their paper over and write about what happened to the deer.

Why would the population rise or fall?

Were there cycles?

What do plateaus indicate?

Share ideas: enough habitats for survival and growth, overuse of habitat, drought, fire, flood, cold, blizzards, human encroachment, disease, balance of nature (plateaus), naturally occurring cycles.

VARIATION

After the students have played several rounds of “Oh Deer!”, introduce a noxious weed such as Purple Loosestrife or Spotted Knapweed. Have one student be the noxious weed as the game begins. Have students make the symbol of hands crossed over their chest for these invasive plants. They cannot be eaten by the deer. He/she may tag any habitat sign since noxious weeds effect all habitat components. If tagged by a noxious weed, the tagged student becomes a noxious weed as well. How does that effect the deer’s ability to find food? How does it effect the normal rise and fall of the population?