



Lesson Plan: A BC Grasslands Wildlife Safari!



Note:

This activity is linked to the Mar/Apr 2007 Green Star! Newsletter – look for the grasslands theme and the Southern Interior Ecoprovince.

Grades: 3-5

Materials:

- Shoe-box per group
- Art supplies: pencil crayons, paper, pencils, felts, glue, scissors
- Multi-media (clay, plasticine, objects from nature, photos from nature magazines, etc.)
- Research books
- Computer/ internet access
- Recipe cards and popsicle sticks

Keywords:

- Adaptation
- Agriculture
- Biome
- Biotope
- Conservation
- Ecosystem
- Grassland
- Habitat
- Invasive species
- Rain-shadow
- Urban Development

Overview

More than one third of the endangered plants and animals in B.C. live in the grasslands, making these ecosystems one of Canada's most endangered. In fact, Canada's grasslands are considered more endangered than our old growth forests!

One particular area in the South Okanagan is of special concern as it has less than 40 percent of its original habitat remaining. Land clearing for vineyards is quickly eating up what little is left, while livestock grazing, agriculture, and urban development also pose serious threats. As well, *invasive species* (plants that don't normally belong there) continue to compete with native plants, pushing them closer to extinction.

Education and bringing recognition to these amazing and increasingly rare habitats contribute to habitat awareness and conservation.

Objective

The objective of this activity is to highlight some of the various plants and animals that live in the grasslands of BC by having students individually create grassland biomes out of shoe boxes, and then together as a class, go on an interpretive safari. Students will learn about grassland habitats and incorporate those plants and landscapes into their biome. In groups they will choose an animal from a list of grasslands animals (provided) and create a habitat specific to their animal. In doing so students learn that some of the plants and other habitat requirements of their animal are shared among fellow classmates. In contrast, they may also note the differences between biomes, gaining a better understanding for rare and important habitat.

Using research skills and by working in groups, students will create habitats using a variety of media and thus will have the opportunity to be creative and use their artistic talents as well.

Pre-Activity

1. Place students in groups of 2-4 and assign that group a grassland animal to study. Alternatively, you can have groups choose their own animal.
2. Arrange library and computer time for groups so that they can research their animal together. Arrange art time (if with another teacher) that would give students an opportunity to create figurines (clay or plasticine), drawings, and other media that would fit into a grassland habitat.

Procedure

1. Discuss with students **habitat** and **biome** using the *Grasslands Habitat* transparency and the teacher's *B.C. Grassland Habitat Background*.



Note: Habitat is the place where a particular species population lives and grows. It is the environment that provides the necessities of survival, including food, water, and shelter. It's also the assemblage of many species living together in the same place, sharing a habitat. A habitat shared by many species is sometimes referred to as a *biotope*.

A biome is the set of plants and animals which live in a habitat and occupy certain geography. Explain to the students that they will be creating a biome, based on a grassland animal's habitat. The biome will be like a snapshot photo of an animal in its habitat.

2. Next discuss with students a **grassland** habitat. Again, using the *transparency and backgrounder* (provided) and the March-April issue of *Green Star!* discuss key characteristics and functions of a grassland ecosystem. Paint a picture with words, describing what one would see if they were to be in a grassland. Choose one animal from the *Animals found in the BC Grasslands* list, below, and ask students to identify its needs that are met by the Southern Interior Ecoprovince and grassland habitat. This is a good time to discuss adaptations.

Note: Adaptation is a physical feature, process or behavioural trait that allows a plant or animal to cope and survive in its environment. Adaptations help plants and animals to: get air, water, food and nutrients, cope with physical conditions such as temperature, light and heat, defend themselves from their natural enemies, reproduce, respond to changes around them, and to find a mate.

3. Explain to students the biome project. In small groups they will be creating a grassland habitat based on an animal that they choose from the Animals found in the BC Grasslands list. Give class time to research (library and internet) their animal, and suggest they research individually at home with the help of a parent. The Sierra Club's Ecoprovince map website is a great resource. See below for the web-links.
4. Next, students begin the artistic part of this project. Start by imagining how they can simulate the habitat of their animal. Plants and scenery can be made with objects borrowed from nature, pictures drawn and coloured by students, or photos taken from nature magazines. Remind students that all key parts of a habitat should be present (water, food, shelter or nesting site, etc.). The animal should be present in this biome and can be recreated with clay or plasticine, or drawn.
5. When the biome is complete, students then should consider the *interpretive* component of this project.

Note: Park interpretation refers to the information given at a natural site. This can include a person giving a talk during a guided tour, or signage with detailed information on natural features.

Students are to view their biomes as one stop in a BC grasslands wildlife safari, and thus would provide signage describing key points of plants and animals found in their biome. Be sure each group lists at least one adaptation of their animal to that environment. Information can be written on a recipe or flash card which can then be attached to a Popsicle stick and stuck in the “ground” or on the side of the biome box.

6. The groups can then display the various grassland biomes around the classroom (or in a prominent display area elsewhere in the school), making sure to place similar biomes together, and different or rare biomes apart.
7. Students would be encouraged to *safari* around the classroom to learn more about the different animals.

Evaluation

After the grasslands wildlife safari has been completed by students, they should be ready to be tested or evaluated on their work. Testing material has been provided at the end of this lesson plan. The answer key to those questions can be found below.

ANSWER KEY TO BC GRASSLANDS HABITAT QUIZ

1. d
2. b
3. 3
4. Various
5. e
6. d
7. Water, food, shelter
8. a, d, e
9. Various Answers: There are a combination of things that affect grasslands. Habitat fragmentation, increased agriculture, and urban development are the primary threats.
10. Various answers! Understanding issues helps, as does sharing this knowledge with others. Ask local and provincial politicians for increased protection of these habitats. Join with others to brainstorm conservation ideas!



Extensions

- Students interested in this subject can further their learning by researching other organizations and societies working on grassland issues. There are many conservation groups in the Okanagan working on grassland issues. Students should choose one to research and report on. Students can report back to their class in a mini-presentation, being sure to include information on that organization's mandate and some of its past projects or current activities.
- Students can contact a local organization and conduct an interview with someone from that organization. A list of questions should be generated beforehand. The interview can be recorded or notes taken, and can then be shared with the class in report or presentation format. The student can also request a classroom visit by someone from that organization.

Animals found in the BC Grasslands

*Northern Alligator Lizard	*California Bighorn Sheep
*White-tailed and Mule Deer	*Coyote
*Great Basin Spadefoot Toad	*Nuttall's Cottontail
*Elk	*Spotted Bat
*Red Tailed Hawk	*Yellow-Bellied Marmot
*Sharp-tailed Grouse	**Pallid Bat
**Western Red Bat	**White-tailed Jackrabbit
**Badger	Western Harvest Mouse
Singing Marsh Wren	Striped Skunk
Pocket Gopher	Western Small-footed bat
Western Rattlesnake	Great Basin Pocket Mouse
Borrowing Owl	Northern Scorpion
Pigmy short-horned lizard	<i>Research your own Grassland animal</i>

*indicates animals found in the Sierra Club's Ecoprovince Map:

<http://www.sierraclub.ca/bc/programs/education/ecomap/> Information includes Appearance, Range & Habitat, Diet & Behaviour, Lifecycle & Threats, and Status.

**indicates animals found in the Grasslands Conservation Council of British Columbia website:

<http://www.bcgrasslands.org/grasslands/sar/mammals.htm>