

Biological Biography

Subjects: Science, Ecology, Reading, Writing

Location: Classroom, homework

Duration: 20-60 minutes

Vocabulary: Adaptation; Ecosystem; Habitat; Organism

ND State Curriculum Standards: RL.4-5.1; RI.4-5.1-3; RI.4-5.9-10; W.4-5.2; W.4-5.5-10; SL.4-5.1; SL.4-5.4; L.4-5.1-6



Objectives: After this activity, students will be able to identify a plant or animal that lives in Theodore Roosevelt National Park. Students will show an in-depth knowledge of their organism, its habitat, and the adaptations it uses to live in the North Dakota Badlands.

Materials:

- writing materials
- Internet and/or encyclopedia

Background: Theodore Roosevelt National Park is home to a wide variety of plants and animals. While all of these creatures share a common habitat, they also have distinguishing characteristics which set them apart from their neighbors. To familiarize your students with the plants and animals of the park, each student will have a specific organism to research and write a short biography about.

Procedures:

Begin with a discussion about some of the plants and animals found in your area, or simply plants and animals that the students know. Engage students to be as specific as possible - don't simply settle for "tree," but get them to think of any names they may know such as "pine" or "ash." Explain that although these organisms live in a certain area, and some may appear to be similar, all plants and animals have special traits which help them survive. Some species are able to thrive in many different habitats, while others have a "niche," or specific ecosystem in which they live. Tell the students that we are going to learn about the plants and animals that live in the ecosystem of the badlands.

The teacher can allow students to choose their organism, but a random drawing or specific individual assignments would be best to ensure each student has a different plant or animal. Students are to research their plant or animal, focusing on the type of habitat it needs, special adaptations it uses, and any interactions it has with other organisms in its environment (predator/prey, use for food or shelter). Have students submit a report with their findings. Basic biographical information such as size, color, life expectancy, etc. should be given, but the report should also try to draw connections between these basic statistics and how the organism uses these to live; we not only want to learn *what*, but *why*. Remind students that they must properly cite any sources they used in their assignment.

The list provided on the second page of this activity contains some of the more popular or important animals and plants found within Theodore Roosevelt National Park. Most of the organisms on the list are not easily spotted, nor is it inclusive of all the flora and fauna which call the park home.

Evaluation & Extension:

Students may work in pairs to proof-read their biographies, discuss their organisms, and make suggestions on how to improve their work (What did you like? What do you want to learn more about?). Additionally, students can make a short presentation (in small groups or for the entire class) about interesting facts they discovered about their organism (describe an adaptation). As a group activity, you can lead a discussion where students try to identify other plants or animals their organism depends upon; they must justify their reasoning (Why do plants need bees and butterflies?). For a great extension activity after this assignment, try "Web of Life" or another food-chain lesson.

Animals

Ungulates

Elk - *Cervus elaphus*
Mule Deer - *Odocoileus hemionus*
Pronghorn - *Antilocapra americana*
American Bison - *Bison bison*
Bighorn Sheep - *Ovis canadensis californiana*

Carnivores

Coyote - *Canis latrans*
Red Fox - *Vulpes vulpes*
Mountain Lion - *Felis concolor*
Bobcat - *Felis rufus*
Raccoon - *Procyon lotor*
Long-tailed Weasel - *Mustela frenata*
Striped Skunk - *Mephitis mephitis*
American Badger - *Taxidea taxus*

Bats

Little Brown Myotis - *Myotis lucifugus*
Hoary Bat - *Lasiurus cinereus*

Rabbits & Hares

Desert Cottontail - *Sylvilagus audubonii*
Showshoe Hare - *Lepus americanus*

Rodents

Fox Squirrel - *Sciurus niger*
Thirteen-lined Ground Squirrel -
Spermophilus tridecemlineatus
Black-tailed Prairie Dog - *Cynomys ludovicianus*
Northern Pocket Gopher - *Thomomys talpoides*
Bushy-tailed Woodrat - *Neotoma cinerea*
Beaver - *Castor canadensis*
Porcupine - *Erethizon dorsatum*

Reptiles

Short-horned Lizard - *Phrynosoma douglassii*
Western Hognose Snake - *Heterodon nasicus*
Bull Snake - *Pituophis melanoleucus*
Prairie Rattlesnake - *Crotalus viridis*
Common Snapping Turtle - *Chelydra serpentina*
Soft-shelled Turtle - *Trionyx muticus*

Amphibians

Plains Spadefoot Toad - *Scaphiopus bombifrons*
Great Plains Toad - *Bufo cognatus*
Northern Leopard Frog - *Rana pipiens*

Birds

American Crow - *Corvus brachyrhynchos*
Burrowing Owl - *Athene cunicularia*
Golden Eagle - *Aquila chrysaetos*
Great Horned Owl - *Bubo virginianus*
Mountain Bluebird - *Sialia currucoides*
Western Meadowlark - *Sturnella neglecta*
Wild Turkey - *Meleagris gallopavo*



Prickly pear cactus

Plants

Grasses

Blue grama - *Bouteloua gracilis*
Buffalo grass - *Buchloe dactyloides*
Green needlegrass - *Stipa viridula*
Little bluestem - *Andropogon scoparius*
Sideoats grama - *Bouteloua curtipendula*
Western wheatgrass - *Agropyron smithii*

Herbs

Bergamot/Beebalm - *Monarda fistulosa*
Blazing star/Dotted gayfeather - *Liatris aspera*
Crocus/Pasque flower - *Anemone patens*
Harebell - *Campanula rotundifolia*
Indian breadroot/Tipsin - *Psoralea esculenta*
Mariposa/Sego lily - *Calochortus nuttallii*
Prickly pear cactus - *Opuntia polyacantha*
Purple coneflower - *Echinacea angustifolia*
Scarlet/Red globe mallow - *Sphaeralcea coccinea*
Stiff sunflower - *Helianthus rigidus*
Yarrow - *Achillea millefolium*
Yucca - *Yucca glauca*

Shrub

Prairie rose - *Rosa arkansana*
Silver sage - *Artemisia cana*

Trees

Cottonwood - *Populus deltoids*
Green ash - *Fraxinus pennsylvanica*
Rocky mountain juniper - *Juniperus scopulorum*