TRT: Stephanie Massaro

Original LP in Ed Portal: http://www.nps.gov/badl/forteachers/classrooms/bisonbanquet.htm

**\*\*Park Name**

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| [Badlands National Park](http://www.nps.gov/badl/index.htm) |

**\*\*Lesson Plan Title (255 characters maximum)**

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| **Bison Banquet** |

**\*\*Essential Question and Quick Lesson Description**

**This should include the lesson’s objective or what question the students should be able to answer at the end of the lesson. This section should also include a quick description of what the students will experience in the lesson. (100 characters maximum)**

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| All life needs energy to grow and survive. Plants receive a vital part of their energy from the Sun, while animals receive their energy from eating plants or other animals. The path energy takes through an series of organisms is known as a food chain, while all the paths energy can travel through an ecosystem is known as a food web. Discover how the mixed-grass prairie plants and animals of Badlands National Park are connected to each other through food chains and an overall food web. Students will be able to trace prairie food chains and illustrate a prairie food web. |

**\*\*Lesson Grade Level: (Check One of the following)**

\_\_\_ Lower Elementary: Pre-Kindergarten through 2nd Grade

\_X Upper Elementary: 3rd Grade Through Sixth Grade

\_\_\_ Middle School: Sixth Grade Through Eighth Grade

\_\_\_ High School: Ninth Grade through Twelfth Grade

\_\_\_ College Undergraduate Level

\_\_\_ Graduate Level (Masters, PhD)

\_\_\_ Adult Education

**\*\*Lesson Subject: (Check As Many as Apply)**

\_\_\_ Social Studies

\_\_\_ Math

\_X\_ Science

\_\_\_ Literacy and Language Arts

\_\_\_ Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Feature Image for Lesson**

**This will be shown next to your lesson on the Education Portal. Provide filename and location below.**

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| http://www.nps.gov/common/uploads/teachers/assets/images/mwr/park/badl/2C45AF2E-155D-4519-3E8341CCF946B0B5/2C45AF2E-155D-4519-3E8341CCF946B0B5.jpg |

**Alt Text for Feature Image**

**If the image does not display, what description do you want to appear in its place?**

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| Bison on the prairie |

**\*\*Common Core Standards:**

**Want more information about Common Core? Go to <http://www.corestandards.org/>**

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| **Grade Level: 3 Subject Area: English Language Arts** **Common Core Standards:** [**RI.3.1**Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (3-LS2-1)](http://www.corestandards.org/ELA-Literacy/RI/3)

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| [**RI.3.3**](http://www.corestandards.org/ELA-Literacy/RI/3)[Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect. (3-LS2-1)](http://www.corestandards.org/ELA-Literacy/RI/3)[**W.3.1**](http://www.corestandards.org/ELA-Literacy/W/3)[Write opinion pieces on topics or texts, supporting a point of view with reasons. (3-LS2-1)](http://www.corestandards.org/ELA-Literacy/W/3) |
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**Grade Level: 5 Subject Area: English Language Arts** **Common Core Standards:**

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| [**RI.5.7**](http://www.corestandards.org/ELA-Literacy/RI/5) | [Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. (5-LS2-1)](http://www.corestandards.org/ELA-Literacy/RI/5) |
| [**SL.5.5**](http://www.corestandards.org/ELA-Literacy/SL/5) | [Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. (5-LS2-1)](http://www.corestandards.org/ELA-Literacy/SL/5) |

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**\*\*State Standards:**

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| **State: South Dakota Subject: Life Science Grade Level: 3-4** **State Standards**3.L.3.1, 3.L.3.24.L.3.1 |

**Additional Standards(s) (255 characters maximum): Does this lesson meet additional standards?**

**e.g. Next Generation Science Standards, National Council for Social Studies Standards, Advanced Placement (AP) Courses, International Baccalaureate (IB) Courses, Next Generation Science Standards**

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| Next Generation Science Standard: Students who demonstrate understanding can:**3-LS2-1.** Construct an argument that some animals form groups that help members survive.[LS2.D: Social Interactions and Group Behavior](http://www.nap.edu/openbook.php?record_id=13165&page=156)[Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size (Note: Moved from K–2). (3-LS2-1)](http://www.nap.edu/openbook.php?record_id=13165&page=156)

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| **5-LS2-1.** Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.[LS2.A: Interdependent Relationships in Ecosystems](http://www.nap.edu/openbook.php?record_id=13165&page=150)[LS2.B: Cycles of Matter and Energy Transfer in Ecosystems](http://www.nap.edu/openbook.php?record_id=13165&page=152) |  |
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**Thinking Skills (Check As Many as Apply)**

The thinking skills listed below are based on Bloom’s Taxonomy. Consider your lesson procedure and activities. Then check off the thinking skills that students will experience through your lesson.

\_\_X\_ **Knowledge** – Recalling or recognizing information ideas, and principles

\_\_X **Comprehension** – Understand the main idea of material heard, viewed, or read. Interpret or summarize the ideas in own words.

\_X\_ **Application** – Apply an abstract idea in a concrete situation to solve a problem or relate it to a prior experience.

\_\_\_ **Analysis** – Break down a concept or idea into parts and show the relationships among the parts.

\_\_\_ **Creation** – Bring together parts (elements, compounds) of knowledge to form a whole and build relationships for NEW situations.

\_\_\_ **Evaluation** – Make informed judgments about the value of ideas or materials. Use standards and criteria to support opinions and views.

**Complete Lesson File**

**Is there a downloadable file (or PDF) for this lesson plan? If yes, provide filename and location:**

**Be sure your PDF or other file meets universal accessibility requirements, most PDFs do not.**

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| http://www.nps.gov/badl/forteachers/classrooms/loader.cfm?csModule=security/getfile&pageid=379308 |

**Lesson Duration**

 **Time to complete this lesson plan in minutes (25 characters maximum)**

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| 1 period; 40 – 60 minutes |

**\*\*Background Information for Teacher**

**What important content, contextual, or practical information and background knowledge does the teacher need to successfully implement this lesson?**

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| A food web shows how energy is transferred in the environment. Energy is transferred from the Sun to plants, then to herbivores (plant eaters), then to carnivores (meat eaters).The mixed-grass prairie ecosystem of Badlands National Park is home to a variety of plants, herbivores, and carnivores. Herbivores like grasshoppers and rabbits eat grasses like ricegrass and wheatgrass. Meanwhile, birds like the meadowlark and the golden eagle prey upon the herbivores. As is the case in most ecosystems, plants and herbivores can be energy sources for many different animals. |

**\*\*Important Vocabulary and Terms with Definitions:**

**What terms and academic language will students have to know to participate in the lesson? Lessons typically include 5 to 15 terms and definitions.**

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| South Dakota, bison, prairie, Badlands National Park, national park, food chain, food web, North America, ecosystem, mixed-grass prairie, energy, mule deer, prairie dog, coyote, swift fox, rabbit, eagle, hawk, snake, lizard, grass, wildflower, plant, food, sun, mammal, insect, carrion, neighborhood, drought, extinct, Native American |

**\*\*Lesson Preparation: What preparation does the teacher need to do before the lesson? What supplies or materials should be gathered?**

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| \*Print copy of Prairie Food Web for all students |

**\*\*Lesson Hook or Preview: What activity, video, song, or other experience could get the students excited about the lesson and thinking about the topic? Is there a way to make the lesson important to their lives or link the lesson content to what they already know?**

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| What do you think of when you think of a bison? |

**\*\*Procedure: List the instructions the teacher should follow as Step One, Step Two, Step Three, etc.**

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| 1. Tell the class that a park ranger from Badlands National Park will be visiting the classroom this week. Describe where Badlands National Park is. Show a map or tell the students how long it would take to drive to the Badlands.
2. Explain that Badlands National Park is a special place. One reason Badlands is special is that it protects one of the largest remaining mixed-grass prairie ecosystems remaining in the United States. What is a prairie? (North American grassland, usually flat to gently rolling and with few trees.) What living things do we find in the prairie habitat in Badlands National Park? (Some of the many possible answers are: bison, mule deer, prairie dogs, coyotes, swift fox, rabbits, eagles, hawks, snakes, lizards, grasses, and wildflowers.
3. Discuss how all living things need energy. Where does a person's energy come from? (Food.) What about a plant? Does it eat? Where does its energy come from? Illustrate a simple food chain on the board, drawing arrows to show the direction of energy transfer.

 Sun --> Grass --> Cow --> Human1. Have students brainstorm one or more examples of a prairie food chain featuring animals that live in the Badlands, illustrating the food chain(s) on the board.
2. That was a food chain, Introduce the idea of food webs. A food chain shows one specific route that energy can take through an ecosystem, like one path you could walk to get from your home to school. A food web is like a map of the neighborhood that shows all the possible ways you could get from home to school: it shows how all the different species in an area can interact with each other to meet their energy needs. Most species don't get their energy by eating just one thing. For example, a coyote may eat many different small mammals, insects, carrion (dead meat), and plant matter.
3. Hand out the [Prairie Food Web worksheet](http://www.nps.gov/badl/forteachers/classrooms/upload/PrairieFoodWeb.pdf). Have students draw arrows between different mem- bers of the food web to show where the different members of the prairie food web get their energy. Students may also draw in one or two additional plants or animals that live in the Badlands and fit them into the food web.
4. Discuss what happens if part of the food web is disturbed. What if there is a bad drought? What if a species goes extinct? Can people have an effect on the food web?
5. Tell the class that the park ranger who visits the class will talk about historic uses of the bison by Native Americans. People are part of the food web, too!
 |

**\*\*Assessment: How can teachers tell that each individual student has met the objective? How will teachers see if each student knows the answer to the essential questions or has mastered the skills? Below, include below a brief description of how to use the assessment. Later in this template you are provided with the opportunity to upload a digital copy of the assessment for teachers to print and use.**

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**Lesson Materials: Any worksheets, photos, primary source, scientific data, maps, graphic organizers, or PowerPoint ‘s should be described and attached using the template below. Please create additional materials boxes if necessary.**

**Material #1**

**Title (255 characters maximum):**

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| Prairie Food Web |

**Summary (how does the material function in the lesson?):**

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| Student Worksheet |

**Downloadable file of this material in original format if possible, such as Microsoft word or PowerPoint (Provide filename and location)**

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| http://www.nps.gov/badl/forteachers/classrooms/upload/PrairieFoodWeb.pdf |

**Material #2**

**Title (255 characters maximum):**

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| Answer Key |

**Summary (how does the material function in the lesson?):**

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**Downloadable file of this material in original format if possible, such as Microsoft word or PowerPoint (Provide filename and location)**

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| http://www.nps.gov/badl/forteachers/classrooms/upload/PrairieFoodWeb\_AnswerKey.pdf |

**Material #3**

**Title (255 characters maximum):**

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**Summary (how does the material function in the lesson?):**

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**Downloadable file of this material in original format if possible, such as Microsoft word or PowerPoint (Provide filename and location)**

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**Assessment Materials**

**How can teachers tell that each individual student has met the objective? How will teachers see if each student knows the answer to the essential questions or has mastered the skills? Attach below the assessment and, if applicable, a rubric or answer key.**

**Assessment**

**Title (255 characters maximum):**

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**Summary (how does the material function in the lesson?):**

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**Downloadable file of this material in original format if possible, such as Microsoft word or PowerPoint (Provide filename and location)**

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**Assessment Rubric or Answer Key**

**Title (255 characters maximum):**

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**Summary (how does the material function in the lesson?):**

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**Downloadable file of this material in original format if possible, such as Microsoft word or PowerPoint (Provide filename and location)**

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**Supports for Struggling Learners**

**If a learner is struggling to understand the objective, essential question, or skills presented in the lesson, what can be done to help this learner? Is there a lower reading level version of text? Is there a more image heavy or simplified version of content? Can supportive devices be provided such as calculators?**

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| Trial and error, match two things on the web and think “Does this make sense?”  |

**Extensions for Excelling Learners**

**If a learner is really excelling at the objective and skills presented in the lesson, what can be done to continue to challenge this learner? Can the student create a product or learn more in depth about the content?**

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| Have students create a food web for a different climate and environment  |

**Additional Resources**

**Please list websites, references, or other materials for further research by interested students that is not already provided within the lesson.**

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| These resources are available through [Badlands National History Association](http://www.badlandsnha.org/) (BNHA), a not-for-profit organization established to support education and research efforts at Badlands National Park.* America's Prairie and Grasslands by Marianne D. Wallace
* Local Tracks of North America "Quick Guide"
* Golden Guide: Mammals
* Badlands Suite: Land of Stone and Light, From Field to Lab, Multiple Perspectives DVD
 |

**Related Lessons or Educational Materials**

**Is this lesson connected to other lessons within a unit? Is this lesson related to a field trip guide or activity? If so, list the website address or titled of these other materials below.**

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