Module 3

WHO ARE THE EASTERN SHOSHONE PEOPLE?

Lesson Plan #3 (STEM)

LESSON PLAN DEVELOPED BY: Lynette St. Clair – Eastern Shoshone

COMMON CORE STANDARDS ADDRESSED IN LESSON:
(See Standard Definition at end of lesson)
Mathematics:
CCSSMATH.CONTENT.8.F.A.2 - Functions
CCSS.MATH.CONTENT.8.G.A.2 -Geometry

English Language Arts:
CCSS.ELA-Literacy.RH.6-8.1 – Key Ideas and Details
CCSS.ELA-Literacy.RH.6-8.4 – Craft and Structure
CCSS.ELA-Literacy.RH.6-8.5 – Craft and Structure

WYOMING STANDARDS ADDRESSED IN LESSON:
Wyoming Social Studies Standards (2014) Grade 8
(See Standard Definition at end of lesson)
WY Standard 2: SS8.2.1, SS8.2.2
WY Standard 4: SS8.4.3, SS8.4.4
WY Standard 5: SS8.5.2, SS8.5.3

SCIENCE (New Science Standards approved Nov. 2016)
MS-LS2-4.

ELA Literacy Connections
RST.6-8.1
RI.8.8
WHST.6-8.1
WHST.6-8.9
RST.6-8.1
RST.6-8.9
WHST.6-8.2
WHST.6-8.9
SL.8.1
SL.8.4

MATH
MP.7
MP.4
6.RP.A.3
6.RP.A.1
6.SP.B..5
7.RP.A.2

MS-LS4-1 Biological Evolution: Unity and Diversity [MS-LS4-1] (pg. 142-144)
Biological Evolution: Unity and Diversity [MS-LS4-4]

Ecosystems: Interactions, Energy, and Dynamics [MS-LS2-5] (p. 139)
MS-LS2-5.

Engineering, Technology & Application of Science Connections
MS-ETS1-2 (pg. 167)
MS-ETS1-3 (pg. 168)
MS-ETS1-4 (pg. 169**)**
MS-ETS2-2 (pg. 171)

DURATION:
Video = 8:24 / Four 50 minute class periods -
Grades: 6-8

MATERIALS REQUIRED:
Large outside area of at least 60 meters

Meter sticks or trundle wheels (each student should have one)

Metric rulers (one per student)

Student journals or notebooks

Moose population graph, one copy per group or one projected for the class

Graph paper, enough for 4 sheets per student

Timeline of events related to bison sheet, one for a pair of students

Use of Bison information (See suggestions)

Poster board for each group

Internet access for student conducted research, one for the teacher or one per small group

Computer with smart board or projection screen

"Artifacts Indicate Prehistoric People Visited Glaciers," Wyoming Public Media
http://wyomingpublicmedia.org/post/artifacts-indicate-prehistoric-people-visited-glaciers

"Time Line of the American Bison," U.S. Fish & Wildlife Service
https://www.fws.gov/bisonrange/timeline.htm

"Wild bison return to the Wind River Reservation after 131-year absence," Casper Star Tribune
http://trib.com/news/state-and-regional/wild-bison-return-to-wind-river-reservation-after--year/article_12411cf3-757f-5f97-ad1d-59e5e03e162a.html

KEY VOCABULARY:

Bison / Buffalo –

Cultural Significance –

Biodiversity –

Population decimation –

Graph –

DESCRIPTOR:

The American Bison, or Buffalo as preferred by most tribes, has a significant existence among the Native American people. For thousands of years, the great American Buffalo roamed the Great Plains, migrating from north to south, searching for areas on which to thrive. The Shoshone people depended on the buffalo for many things that included food, clothing, and shelter. Every part of the buffalo was used and provided for the people. This lesson will show students from very diverse backgrounds how the Shoshone people lived prior to western expansion. The unique, cultural significance of the buffalo will be explored giving the students an authentic learning experience.

Students will understand how bison populations were devastated by western expansion. They will also learn how to construct, read, compare and analyze different population graphs. In addition, students will understand how the diets of the Shoshone people varied depending on the areas in which they lived.

LEARNING OBJECTIVES:

Students will understand the diversity among the Wyoming tribes and the difference in language, cultures, and histories. Each tribe has a distinct and unique cultural heritage that contributes to present day Wyoming. Despite differences in cultures, each tribe can find common ground in many areas, including the restoration of the bison to the Wind River Reservation. This lesson will allow students an opportunity to learn specific information about the Shoshone people and their existence in the Wyoming region for more than 10,000 years. In addition, more and more artifacts are being discovered that redefines the history of Wyoming and validates that the presence of Bison in this area.

LESSON INTRODUCTION:

After viewing the video series, students will conduct their own research to acquire more information on the Eastern Shoshone Tribe. This lesson will focus specifically on the Bison of the Wind River Reservation, and the cultural and spiritual significance the Bison has to the Shoshone people. Students will learn how to use a graphing chart and understand the fluctuation in population. They will also learn how the diets of the Shoshone in the late 1800's and presently have changed which have contributed to many health issues.

STEP BY STEP PROCEDURE:

Day 1

1. Hand out the Moose Population graph or project it so that all students can see the graph. Explain to students that this is the population of moose on the Isle Royal in Michigan on Lake Superior. Ask them: Why do you think the population fluctuates (goes up and down) so much? Have students write their response in their science journal. After a few minutes, have students share their ideas with their small group. They may add to their reasons in their journals.

2. After students have had time to discuss, have groups share their ideas with the whole class. Write their ideas on the board. Students should bring up issues such as: Predators, bad/good weather, increase/decrease of food, habitat destruction immigration, emigration, and hunting.

3. Explain to students that this is an example of a typical prey population graph. Scientists expect populations to increase and decrease over time when there are predators in the area. This island had wolves on it. Other factors, such as food, weather, and disease also affect populations.

4. You can show students exactly how big their graph paper would have to be if they made it in the regular way by going outside. Have each student bring with them a metric ruler with millimeters on it. Depending on your time constraints, either measure out 60 meters beforehand, or have students measuring meter sticks, measuring tape or a trundle wheel. Show them that if they made one millimeter (one tiny mark on their ruler) equal one thousand bison, they would need a paper 60 meters long to represent 60,000,000 bison.

5. Return back inside and demonstrate to students how they will have to construct their graphs so that they can have all numbers on there at the same time. They will have to split the graph twice to graph the millions, hundred thousands, and thousands. See the sample graph on how to do this. Students may need help dividing up the time evenly across the x-axis (horizontal side of graph). They can add another sheet of graph paper to the right side to make the paper longer.

6. Have students construct their graphs.

7. Once students are done constructing the graph, have them compare their new graph to the graph of the moose population. The difference will be very obvious. Discuss, as a class, the differences.

8. Ask students what could have caused this population to change so drastically over 300 years? Have students write their initial impressions in the journals. Have them share out their ideas with the rest of the group. As a class, list feedback on ideas from students on the board.

9. At this time, share with students that this is a population graph of Bison. Have students add any additional ideas they may have to the list of ideas that have already been generated.

10. Create a worksheet from the timeline of information provided by the National Bison Society, which can be accessed [at https://www.fws.gov/bisonrange/timeline.htm](https://www.fws.gov/bisonrange/timeline.htm).

11. Working with their elbow partners, have students add these events to the bottom of their graph on a timeline that mimics the dates on the graph. Attaching an additional piece of graph paper below the original graph may help. See example. Depending on the level of the students, they may need help doing this. You may want to do the first few together (as a class) so the students can get the idea.

12. Once students have most or all of the events plotted on their timeline, have them revisit the question: *What could have caused the bison population to change to drastically over the 300 year span.* Have students look for events that coincide with major drops in population. Have them decide in small groups, which factors seem to have the biggest effects. Have students determine their top three (3) reasons. They will need to make a poster that supports and defends their claims which they will present to the class in a 3-5 minute presentation.

Day 2

1. Ask students how the two tribes on the Wind River Reservation used bison. Compare historical uses to those of a present day setting. Have students write their answers in their journals. When they are done, have them share their answers with their group. Students can add additional ideas to their original lists.

2. After students have had time to complete their journal writing, have them share out with the class.

3. When the class is done discussing their ideas on the uses of bison, provide materials that list the uses of the bison. A great resource is located at the end of this lesson. This website provides a list and a diagram that can be downloaded and shared. You will also learn how each part of the Bison is used – something that all Native American Tribes take care in doing. Nothing is wasted; every part of the Bison is used. It also provides several hunting techniques. This is not tribal specific, however, but focuses on the Northern Plains Indians. You can also find information related specifically to the return of the Bison to the Shoshone Tribe in November, 2016 at http://trib.com/news/state-and-regional/wild-bison-return-to-wind-river-reservation-after--year/article_12411cf3-757f-5f97-ad1d-59e5e03e162a.html.

4. Explain that many Great Plains Indian tribes, including the Eastern Shoshone and Northern Arapaho, were nomadic, meaning they followed the bison herds. They relied heavily upon the bison for subsistence – food, shelter, clothing, weapons, and ceremonies.

5. Investigate: Have students compare and contrast the traditional diets of the Eastern Shoshone. Explain that the food that was available was specific to the location of the tribe. Students will be able to research the various clans and the purpose behind their clan names. Historically, the Shoshone people were named by the food source they hunted or their status within the tribe. More information on the clan system can be found at http://jacksonholehistory.org/native-american-history/.

6. Once students have compiled lists of the traditional foods eaten by the tribe, they should have the opportunity to share their information with the rest of the class.

7. After students have compared the lists of traditional foods of each tribe, ask the question: ***What do you think happened to the Shoshone's way of life when the bison disappeared?***

8. Have students write their ideas in their journals. Allow 3 minutes for students to formulate their ideas and have them share with their elbow partner. After a few minutes, have them share with the larger group.

Day 3

1. Download and show the movie, "Native Americans: Contact and Conflict" from Discover Learning/United Streaming at http://streaming.discoveryeducation.com/. (Teachers will need to acquire an account with Discovery Education prior to showing the video) This is a 27 minute video and gives an overview of white and Native American contact and conflict.

2. After the movie, tell students that the purpose behind viewing the video was not intended to make them feel bad, but to show how mistakes have been made in the past. Assure all students that the intent is not to create conflict but to allow the opportunity to discuss how history is often told from the subjective experience of the teller. In many cases, our history is not told from the Native American perspective. By discussing the importance of open dialogue students will learn the truth about the good and bad actions of past leaders and learn from those actions.

REVIEW:

1. Have the students located sources of information for this unit? If so, where were they located?

2. Based on the information presented, have the students developed an understanding of how Bison (Buffalo) are a significant source of sustenance for the Shoshone?

3. After this lesson, have the students developed an understanding of the clan system? If they were to name a clan that they came from, how would the student identify themselves?

EVALUATION:

Assessment will be based upon the following performance tasks by each student:

1. Construct a bison population graph from provided data. Compare/contrast and analyze the graph with a typical population graph.

2. Based on provided information, determine some of the reasons for the loss of the bison population and its effect on the Shoshone people who depended upon the animal. Present to the class the top three reasons for the decimation of the bison population.

3. Use internet resources to research the traditional diets of specific Shoshone clans. For example, the Gweechun dickuh (Buffalo eaters) subsisted on the Bison. Additional resources can be found at the end of this Lesson Plan under "Additional resources".

4. Our history is not told from the Native American perspective. By discussing the importance of open dialogue students will learn the truth about the good and bad actions of past leaders and learn from those actions. Students may seek a better understanding by looking at each of the video modules as well as the documentaries titled "Native Amercians: Contact and Conflict" and "Before There Were Parks" (located at BeforeThereWereParks/www.montanapbs.org/.

ADDITIONAL RESOURCES:

Teacher Planning/Preparation:

The teacher will need to find an area that is at least 60 m. long. This can be measured out ahead of the lesson and marked. Students can also help in preparing the area as a class. Create a list of data on the bison population, which can be found in question #4, page 45, at http://www.unco.edu/geography/Biodiversity/Unit 2/.pdf. Download and print the information about bison at www.trailtribes.org.

If you have access to Discovery Learning, United Streaming, download the movie, Native Americans: Contact and Conflict at http://vimeo.com/75164916.

Access graph sheets for the moose at http://www.wolfmoose.mtu.edu/C.Hill_BigBadWolf.pdf .

REFERENCES:

Bison: A Plains Supermarket. Retrieve information at http://www.nebraskastudies.org/0300/frameset_reset.html?http://www.nebraskastudies.org/0300/stories/0301_0109.html .

Grom, J. and Windell, C.D., (2016). *Where have all the bison gone?* Used with permission from *Montana Office of Public Instruction.*

Access information specifically about the Eastern Shoshone Tribe at Jackson Hole Historical Society Museum website at http://jacksonholehistory.org.

Worksheet timeline template can be found at http://fws.gov/bisonrange/timeline.htm .

Worksheet Bison population at http://www.unco.edu/geography/Biodiversity/Unit2

Wyoming Science Standards – 2016

COMMON CORE STANDARDS ADDRESSED IN LESSON:

Mathematics:

Mathematical Practices –
Model with mathematics.
Look for and make use of structure.

CCSSMATH.CONTENT.8.F.A.2 - Functions-

- Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change
  ** Use functions to model relationships between quantities.

CCSS.MATH.CONTENT.8.G.A.2 -Geometry –

- Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.
  ** Understand congruence and similarity using physical models, transparencies, or geometry software.

English Language Arts:

Key Ideas and Details:

CCSS.ELA-Literacy.RH.6-8.1 -
**Cite specific textual evidence to support analysis of primary and secondary sources.

Craft and Structure:

CCSS.ELA-Literacy.RH.6-8.4
**Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

CCSS.ELA-Literacy.RH.6-8.5
**Describe how a text presents information (e.g., sequentially, comparatively, and causally).

WYOMING STATE STANDARDS ADDRESSED IN LESSON:

SCIENCE (New Science Standards approved Nov. 2016)

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

Clarification Statement: Emphasis is on recognizing patterns in data and making warranted inferences about changes in populations, and on evaluating empirical evidence supporting arguments about changes to ecosystems. Wyoming examples could include, but are not limited to, mountain pine beetles, excess precipitation, drought and fires, invasive species, Wyoming species, habitat change, etc.

Ecosystem Dynamics, Functioning, and Resilience:
Ecosystems are dynamic in nature; their characteristics can vary over time.
Disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations.

Engaging in argument from evidence in argument from evidence in 6–8 builds on K– 5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world(s).

Construct an oral and written argument supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon or a solution to a problem.

ENGLISH LANGUAGE ARTS
ELA Literacy Connections
RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts.

RI.8.8 Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.

WHST.6-8.1 Write arguments to support claims with clear reasons and relevant evidence.

WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.

RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions

RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

WHST.6-8.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.

SL.8.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.

SL.8.4 Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.

MATH
MP.7 Look for and make use of structures.

MP.4 Model with mathematics.

6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems.

6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.

6.SP.B..5 Summarize numerical data sets in relation to their context.

7.RP.A.2 Recognize and represent proportional relationships between quantities.

Biological Evolution: Unity and Diversity [MS-LS4-1] (pg. 142-144)

Biological Evolution: Unity and Diversity [MS-LS4-4]
Construct an explanation based on evidence that describes how genetic variations of traits in a population affect individuals' probability of surviving and reproducing in a specific environment.

Clarification Statement: Emphasis is on using simple probability statements and proportional reasoning to construct explanations.

Ecosystems: Interactions, Energy, and Dynamics [MS-LS2-5] (p. 139)
MS-LS2-5. Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

Clarification Statement: Examples of ecosystem services could include water purification, nutrient recycling, and prevention of soil erosion. Examples of design solution constraints could include scientific, economic, and societal considerations.

Engineering, Technology & Application of Science Connections
MS-ETS1-2 (pg. 167)

MS-ETS1-3 (pg. 168)

MS-ETS1-4 (pg. 169**)**

MS-ETS2-2 (pg. 171)

SOCIAL STUDIES STANDARDS (2014) Grade 8

Content Standard 2 -
Culture and Cultural Diversity
- Students demonstrate an understanding of the contributions and impacts of human interaction and cultural diversity on societies

SS8.2.1 Compare and contrast the ways various groups (e.g., cliques, clubs, ethnic communities, and American Indian tribes) meet human needs and concerns (e.g., self-esteem, friendship, and heritage) and contribute to identity, situations, and events.

SS8.2.2 Examine and evaluate how human expression (e.g., language, literature, arts, architecture, traditions, beliefs, and spirituality) contributes to the development and transmission of culture.

Content Standard 4 -
Time, Continuity, and Change -
Students analyze events, people, problems, and ideas within their historical contexts.

SS8.4.3 Analyze the way people and/or groups react to current events; suggest alternative ways such events may have played out.

SS8.4.4 Identify historical interactions between and among individuals, groups, and/or institution (e.g., family, neighborhood, political, economic, religious, social, cultural, and workplace).

Content Standard 5 -
People, Places, and Environments
- Students apply their knowledge of the geographic themes (location, place, movement, region, and human/environment interactions) and skills to demonstrate an understanding of interrelationships among people, places, and environment.

Physical Place and Region
SS8.5.2 Analyze and evaluate how physical changes influenced historical events and participate in collaborative problem solving and decision making in the selection of professional and personal choices.

Human Place and Movement
SS8.5.3 Explain how communities' current and past demographics, migrations, and settlement patterns influence place (e.g., culture, needs, and political and economic systems) and use this analysis to predict future settlement patterns.