

Lesson Three: Wyoming's Spectacular Natural Wonders

Grade Level: 4th Grade

Time: 60 minutes

Essential Question: How can we be stewards of Wyoming's lands to benefit current and future generations?

Objective: Students will learn about landforms in Wyoming, and how erosion and weathering have played a role in forming them.

Purpose: Students learn about several popular natural wonders created through effects of erosion and weathering, which offer multiple opportunities for learning, tourism, and recreation.

Required Materials/Resources:

- Introduction to Weathering and Erosion PowerPoint
- Wyoming's Spectacular Landforms websites (Sources 1-3)
 - 10 Strange and Wild Landmarks in Wyoming
<http://www.travelwyoming.com/article/10-strange-and-wild-landmarks-wyoming>
- Spectacular Landforms of Wyoming - If possible, make this 12"x18" (one for each pair of students and one for the teacher to use as a sample)
- WOT Road Trip Map (Source 2)
- Electronic devices
- Sticky notes (four per student)
- Colored pencils
- Exit Ticket (one per student)

Suggested Teacher Preparation:

- Preview Introduction to Weathering and Erosion PowerPoint presentation
- Print copies of Spectacular Landforms of Wyoming sheet. If possible, print as 12" x 18" posters.
- Reserve electronic devices if necessary.
- Review the 10 Strange and Wild Landmarks in Wyoming website and ensure student devices can access the materials. <http://www.travelwyoming.com/article/10-strange-and-wild-landmarks-wyoming>
- Review the WOT Road Trip map and print copies if desired.
- Prepare slips of paper naming the following Wyoming landforms: Heart Mountain, Killpecker Sand Dunes, Boar's Tusk, Devil's Tower, Intermittent Spring, Sink's Canyon, Castle Garden, Hell's Half Acre, and Veduwawoo. (These are landforms and locations listed on the Wyoming Unique Landforms websites.)

Standards:

Science: 4-ESS2-1 (Explicit)


Social Studies: SS5.5.2, SS5.6.3 (Explicit)

ELA: 4.RI.1, 4.RI.2, 4.RI.3, 4.RI.4, 4.RI.7, 4.W.4
(Practiced/Encountered)


Vocabulary:

- **Erosion** - when soil is picked up and moved to another place by ice, water, wind, or gravity
- **Landform** - a natural feature of the earth's surface
- **Opportunity** - a set of circumstances that makes it possible to do something
- **Public land** - land owned by a government; may or may not be accessible to the public
- **Weathering** - gradual wearing-away of rocks from weather; first stage in erosion

Instructional Procedure/Steps:

1. Say: **“In this lesson, we will be studying several spectacular landforms in Wyoming, and the effects of weathering and erosion on them. First, we will learn a little bit about what weathering and erosion are.”**
2. Display the Introduction to Weathering and Erosion PowerPoint and discuss the different forms of weathering and erosion. Stop the PowerPoint on the last slide. Leave this slide displayed during the next step.
3. Using information about the Grand Canyon of the Yellowstone from the last slide in the PowerPoint, model each section of the Spectacular Landforms of Wyoming sheet.
4. Divide the class into groups of two and hand out the Spectacular Landforms of Wyoming Sheet. Each student pair should draw a Wyoming landform from the slips of paper that were prepared earlier by the teacher.
5. Assign electronic devices and have students access the 10 Strange and Wild Landmarks in Wyoming website. Students should fill in their Spectacular Landforms of Wyoming sheet using information about their assigned landform found on the website. Additional research may be necessary to help students fill in missing information.
6.  When students have completed their poster, display them around the classroom for a gallery walk. Provide each student with three sticky notes. Say: **“Label one sticky note ‘recreation,’ the second ‘education,’ and the third ‘relaxation.’ During the gallery walk, when you find a landform that you would like to visit for recreation, write on the recreation sticky note what you would like to do, and attach it to the poster for that landform. When you find a landform you would**

TEACHER NOTE:
Display the WOT Road Trip map or hand out copies as an additional resource to help students find the location of their assigned landform.

 In this task, students will be engaged in the higher order thinking skill of synthesis by creating, designing, and formulating ideas.

TEACHER NOTE: A fun way to help students understand where these landforms are located would be to use the shape of your classroom to represent the state of Wyoming. Display the posters in their relative geographic location.

like to visit and learn more about, write on the education sticky note what you would like to learn, and attach it to the poster for that landform. Finally, find a landform you would like to visit to relax, write on the relaxation sticky note what relaxing activity you would like to do, and attach it to the poster for that landform. Please complete this activity without talking.”

4. Once all students have completed the gallery walk and placed their sticky notes, pass out an Exit Ticket to each student. Have students complete the sentence starters on the exit ticket and collect them when the students are finished.

Assessment: Review the Spectacular Landforms of Wyoming poster box “Formation of the Landform,” to check that students are filled it out correctly. This directly ties to the Science standard 4.ESS.2.1.

Credits/Sources:

1. Wyoming Office of Tourism. (2017). *10 Strange and Wild Landmarks in Wyoming*. Retrieved August 14, 2017, from <http://www.travelwyoming.com/article/10-strange-and-wild-landmarks-wyoming>
2. Travel Wyoming.com. (n.d.). WOT Road Trip Map. Retrieved July 30, 2019, from <https://travelwyoming.com/map>
3. PowerPoint Courses from LinkedIn Learning. January 2, 2013. Chapter 9 Erosion PowerPoint Slide Share. Retrieved July 9, 2019. <https://www.slideshare.net/nilsona/chapter-9-erosion-powerpoint>
4. Photo credits for the Introduction to Weathering and Erosion are listed in the Power Point.