Oklahoma Alliance for Geographic Education

Teacher Training | Curriculum Development | Outreach Programs

Leave No Trace

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Lesson Title: Leave No Trace

Grade Level: 3rd/4th or 6th/7th

Purpose/Overview:
This lesson is designed to introduce students to best practices for visiting city, state, and national parks. Students will learn how to enjoy and appreciate parks and other public lands while respecting other visitors, the land, and wildlife.

National Geography Standards from *Geography for Life*
Geographic Elements & Standards:
https://www.nationalgeographic.org/standards/national-geography-standards/
3. How to analyze the spatial organization of people, places, and environments on Earth's surface
4. The physical and human characteristics of places
8. The characteristics and spatial distribution of ecosystems and biomes on Earth's surface
14. How human actions modify the physical environment

Oklahoma Academic Standards for the Social Studies:
https://sde.ok.gov/sites/default/files/documents/files/Oklahoma%20Academic%20Standards%20for%20Social%20Studies%208.26.19.pdf
3.2.2: Explain the interaction of the environment and the peoples of Oklahoma
D. Summarize how Oklahomans affect and change their environments such as the construction of the McClellan-Kerr Arkansas River Navigation System, creation of recreational lakes by the building of dams, irrigation of croplands, and the establishment of wildlife refuges.
3.2.3: Identify the characteristics of renewable and non-renewable resources and evaluate the role of citizens in conserving natural resources.
4.1.3: Summarize the role of citizens as responsible stewards of natural resources and the environment.
A. Describe the benefits of participation in recycling and anti-littering activities.
B. Identify present-day examples to conserve natural resources and the development of alternative, sustainable energy sources.
6.4.5/7.4.5: Evaluate the role of ecotourism in creating environmental awareness of resources, climate, cultures, and wildlife.
6.4.6/7.4.6: Describe the role of citizens as responsible stewards of natural resources and the environment.

Geographic Themes:
Location: Where public lands are located
Place: The physical and human characteristics of public lands
Movement: How people travel to and within public lands
Human-Environment Interaction: How human activities can be harmful to public lands and how the "Leave No Trace" principles can minimize these impacts
Region: Characteristics of areas where public lands are located

Objectives:

1. What **key topic/issue**(s) is/are associated with this lesson/unit?
Public land management and "Leave No Trace" principles are the key topics associated with this lesson.
2. **What should students know** after this lesson/unit?
Students should know the seven principles of "Leave No Trace" and how to practice them when visiting a public park.
3. **How will students apply** this lesson/unit **content**?
Students will create posters on the seven principles of "Leave No Trace" and the teacher will use the posters to evaluate students' understanding of the concepts.

Materials:
Poster boards
Art supplies
Computers with internet access (if creating digital posters or using digital content for print posters)

Time Frame: 1-2 class periods

Procedures: The teacher will begin by engaging students in a discussion about their favorite city, state, or national park. Questions the teacher may consider asking include:

- Where is your favorite place to enjoy the outdoors?
- Do you know if this place is a city, state, or national park?
- What are your favorite things to do outside?
- Why do you think parks are created?

The teacher can collect written responses to these questions or use them to lead a discussion. If desired, the "Using the Oklahoma Floor Map to Explore Public Lands" lesson and accompanying Giant Map activity can also be used to engage students in the topic during the first class period.

Following the initial discussion, the teacher will explain that parks are typically created for protection of resources and wildlife, recreation, or both. The teacher will then ask students to explore the following questions.

- What are some issues you think park managers might encounter on a regular basis?
- How do you think parks accommodate both people and wildlife while protecting the park's natural resources?
- What kinds of rules do you think parks have to ensure visitors do not harm the land or wildlife? List a few examples.
- Brainstorm ways you think park visitors can enjoy the outdoors while protecting nature.
- Besides littering, name at least one way visitors can have a negative impact on a park's land or wildlife.
- Besides not littering, name at least one way visitors can minimize their impact on a park's land or wildlife.

If desired, the teacher can collect written responses to these questions in addition to leading a class discussion. After this discussion, the teacher will explain the "Leave No Trace" philosophy on visiting public lands. These practices are summarized here (https://www.nps.gov/articles/leave-no-trace-seven-principles.htm).

1. Plan Ahead and Prepare
2. Travel and Camp on Durable Surfaces
3. Dispose of Waste Properly
4. Leave What You Find
5. Minimize Campfire Impacts
6. Respect Wildlife
7. Be Considerate of Other Visitors

Following the explanation of the "Leave No Trace" principles, the teacher will split the class into seven groups and have each group elaborate on their understanding of the concepts by creating a poster (print or digital) on one of the seven "Leave no Trace" principles.

Assessment Options: The student-created posters can be used to assess their understanding of the "Leave No Trace" principles. Suggested metrics for evaluating the posters are aesthetics, accuracy of information, organization and clarity of information presented, correct spelling/grammar/punctuation, and creativity in conveying the message.

Resources:

https://www.nps.gov/articles/leave-no-trace-seven-principles.htm

Extension and Enrichment/Simplification:

The teacher can extend this lesson by going on a field trip to a nearby city park, state park, wildlife refuge, or national forest. During the trip, students will see real-world examples of why it is important to leave no trace. Contact us at okage@ou.edu if you would like assistance with your field trip.

Secondary or advanced students can plan a trip to a park of their choice. Students should create a sample itinerary and budget for supplies, lodging, transportation, meals, and incidentals. As part of the assignment, they should explain how they plan to leave no trace while visiting the park.

This lesson can be extended to secondary students aged 13-18 through participation in the National Geographic Slingshot Challenge (https://www.nationalgeographic.org/society/projects/slingshot/). Contact us at okage@ou.edu for more information about how to participate. Students can create one-minute videos on "Leave No Trace" and best practices for visiting public lands.

Connections
https://sde.ok.gov/oklahoma-academic-standards

English Language Arts
https://sde.ok.gov/sites/default/files/documents/files/2021%20Oklahoma%20Academic%20Standards%20for%20English%20Language%20Arts.pdf

3.3.W.2: Students will write facts about a subject, including a main idea with supporting details, in multiple paragraphs with transitional words and phrases

3.4.W.2: Students will use precise vocabulary in writing for the intended mode and effect on the audience

3.6.W.3: Students will write informative texts independently for short timeframes (e.g., a single sitting or a day or two) that organize related information about a topic and convey details from a single source.

4.4.W.1: Students will use grade-level vocabulary in writing to clearly communicate ideas.

4.8.W: Students will write independently using print, cursive, and/or typing for various lengths of time, choosing modes and genres to suit their audience and purpose.

6.6.W.4: Students will create research papers and/or projects independently for shorter timeframes.

6.7.W/7.7.W: Students will create multimodal content (i.e., alphabetic, aural, visual, gestural and/or spatial) that effectively communicates ideas for an intended audience.

Science
https://sde.ok.gov/sites/default/files/Oklahoma%20Academic%20Standards%20for%20Science%20Final%2009.26.22%20with%20Grammatical%20Edits.pdf

3.LS3.2: Use evidence to support the explanation that traits can be influenced by the environment.

3.LS4.3: Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

3.ESS2.2: Obtain and combine information to describe climates in different regions of the world.

4.ESS2.2: Analyze and interpret data from maps to describe patterns of Earth's features.

7.LS2.1: Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

7.LS2.2: Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

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

7.LS2.5: Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

7.ESS3.3: Apply scientific principles to design a method for monitoring and minimizing human impact on the environment.