



National Park Service
U.S. Department of the Interior

Old-Growth Bottomland Forest
Research and Education Center

Congaree National Park

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Congaree K12 Lesson Plan

Lesson: Leave No Trace and Ranger Essentials

Unit: Congaree Ecology Camp for Junior Ranger

Grade Level: Fourth-Fifth
Duration: 45 Minutes
Objective: To study the Seven Leave No Trace Principles and practice outdoor preparation skills.
Curricular Areas: Science, English Language Arts

Unit Description:

Congaree National Park (www.nps.gov/cong) protects the largest intact tract of old-growth bottomland forest remaining in North America. This tract represents one of the last, best examples of an ecosystem that once covered more than 52 million acres in the southeastern United States. Congaree National Park is recognized

as a National Natural Landmark, an International Biosphere Reserve and a Globally Important Bird Area. The park also encompasses approximately 15,000 acres of Federally designated Wilderness and is home to Cedar Creek, which is recognized as the only reach of Outstanding National Resource Waters in South Carolina.

Since 2008, the Old-Growth Bottomland Forest Research and Education Center at Congaree National Park has hosted the Junior Ranger Ecology Camp, which is a free, 1-week summer day camp at Congaree. This camp involves an original environmental education curriculum for rising fifth graders that includes games, data collection, writing, art projects, hiking, canoeing and more. This curriculum is structured around the South Carolina state education standards for fourth and fifth grade science inquiry, ecology, and allied subjects while simultaneously capitalizing on park resources and research results so as to emphasize curiosity, observation, outdoor skills, and stewardship. The purpose of this unit is to present these camp programs as distinct lesson plans that may be freely used by anyone at the park or otherwise. Note that conducting some of the activities in these lesson plans may require significant planning and permits.

Lesson Description:

The essential purpose of this lesson is to educate students about the Seven Leave No Trace (LNT) principles:

“Leave No Trace is an national and international program designed to assist outdoor enthusiasts with their decisions about how to reduce their impacts when they hike, camp, picnic, snowshoe, run, bike, hunt, paddle, ride horses, fish, ski or climb. The program strives to educate all those who enjoy the outdoors about the nature of their recreational impacts as well as techniques to prevent and minimize such impacts. Leave No Trace is best understood as an educational and ethical program, not as a set of rules and regulations.” (LNT Center for Outdoor Ethics 2009)

This lesson requires students to consider and write about the importance of the Seven LNT Principles and explain how they can educate others about the Seven LNT Principles.

Essential Questions:

1. What are the Seven LNT Principles?
2. Why are the Seven LNT Principles important?
3. Which principle do you consider to be the most important of the Seven LNT Principles?
4. How can you teach others about the Seven LNT Principles?

Preparation:

Teacher Background

1. This lesson is designed to be taught in one 45 minutes session.
2. This session requires a classroom area with flat surfaces (tables or the ground) that will allow students to spread out the activity materials.
3. The instructor is expected to be familiar with the Seven LNT Principles:
 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
4. It is recommended, but not required, that each student group consist of three to five students.

Prerequisite Student Knowledge

- Students are expected to have knowledge of human activity, including conservation efforts and pollution, and its effects on the environment.

Vocabulary

Animal behavior

Conservation

Destructive

Limiting factors

Pollution

Reduce



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Key Materials and Equipment

1. **The Seven LNT Principles poster**
2. The Seven LNT Principles cards (one per student)
3. **The Seven LNT Principles worksheets (one per student)**
4. Laminated backpacks (one per group)
5. **Laminated essential/nonessential cards (one set per group)**
6. **Laminated trip scenario cards (one per group)**

Teacher Preparation (45 minutes)

1. Prepare key materials and equipment (including lamination).
2. Hang the Seven LNT Principles poster in the classroom.

Instructional Objectives using the “5E” Model:

Engagement (5 minutes)

1. Explain the Seven LNT Principles to students, using the Seven LNT poster as necessary.

Exploration (10 minutes)

1. Present the worksheet to students and encourage them to brainstorm and respond to the following question: *Which principle do you consider to be the most important of the Seven LNT principles? Explain how you can educate your friends and family about the importance of the Seven LNT Principles.*
2. Encourage students to share their responses aloud.

Elaboration (20 minutes)

1. Divide the class into equal groups of three to five students. Students will have questions about gear and may need some explanation to help guide them through the program. It is suggested that each group have an adult leader to assist the students.
2. Distribute a specific trip scenario card and instruct them to “pack a backpack” based on their scenario. Trip scenarios include overnight trips, day trips, and trips for the purposes of pleasure or research.
3. Allow groups sufficient time to “pack”. Encourage group members to work together.

Extension (10 minutes)

1. Instruct groups to choose one piece of gear that the group members consider most important to their trip scenario.

2. Direct one representative from each group to read his or her group's trip scenario aloud and then explain to the class why the group's chosen piece of gear is necessary for the particular scenario.

Evaluation

1. No evaluation is currently used, but students are invited to write journal entries about their experiences at camp.

Standards

Core Science Standards:

- 4-1.1: Classify observations as either quantitative or qualitative.
- 4-2.6: Explain how organisms cause changes in their environment.
- 5-2.5: Explain how limiting factors (including food, water, space, and shelter) affect populations in ecosystems.
- 5-3.6: Explain how human activity (including conservation efforts and pollution) has affected the land and the oceans of Earth.

Other Science and Allied Standards:

English Language Arts

- 4-W2.1 and 5-W2.1: Demonstrate the ability to use writing to explain and inform.
- 4-W2.2 and 5-W2.2: Demonstrate the ability to use writing to learn, entertain, and describe.
- 4-W3.1 and 5-W3.1: Demonstrate the ability to respond to texts both orally and in writing.
- 4-C1.1: Demonstrate the ability to face an audience, make eye contact, and use the appropriate voice level.
- 4-C1.3 and 5-C1.3: Begin [and continue] using language and vocabulary appropriate for the purpose and audience.
- 4-C1.8 and 4-C1.7: Demonstrate the ability to use oral language to inform, to entertain, and to compare and contrast different viewpoints.
- 4-C2.1: Demonstrate the ability to follow multi-step oral directions.
- 4-C2.2 and 5-C2.2: Demonstrate the ability to listen for meaning in conversations and discussions.
- 4-C2.5 and 5-C2.4: Demonstrate the ability to distinguish between fact and opinion, comparing and contrasting information and ideas, and making inferences with regard to what he or she has heard.
- 5-W4.1: Demonstrate the ability to write legibly using print or cursive handwriting.

Attachments:

- The Seven LNT Principles poster
- The Seven LNT Principles card
- The Seven LNT Principles worksheet
- Set of backpacks template
- Set of essential/nonessential cards
- Set of trip scenario cards

Resources:

1. Congaree National Park website: www.nps.gov/cong
2. For more information contact:

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Acknowledgements:

This lesson designed by Erin Eberstein, Environmental Education Intern, and Caryn Gates, Environmental Education Intern, at the Old-Growth Bottomland Forest Research and Education Center at Congaree National Park.

Additional Sources:

Leave No Trace Center for Outdoor Ethics. Programs. <http://lnt.org/programs/index.php> (accessed August 10, 2009).

Leave No Trace



The 7 Principles

PLAN AHEAD AND PREPARE

TRAVEL AND CAMP ON DURABLE SURFACES

DISPOSE OF WASTE PROPERLY

MINIMIZE CAMPFIRE IMPACTS

RESPECT WILDLIFE

LEAVE WHAT YOU FIND

BE CONSIDERATE TO OTHER VISITORS

Scenario 1

You are a scientist visiting Congaree National Park for the day, researching spiders. What will you pack for your excursion?

Scenario 2

You are a scientist spending the night in the backcountry of Congaree National Park. You will be researching the barred owl. What will you pack for your excursion?

Scenario 3

You and your friends are visiting Congaree National Park for a weekend camping trip. What will you all bring for your trip?

Scenario 4

You are an intern at Congaree National Park, where you are researching native plants. You will be going out in the field for a day, what will you bring for your day hike out in the floodplain?











