Environmental Stewardship

**Essential Question**
How can our community be good stewards to the environment and help protect federal lands and waters?

**Learning Objectives**
1. Students will be able to define the concept of stewardship and list at least three actions they can take to preserve their communities and/or federal lands and waters.
2. Students will conduct short research projects to identify human impacts on a selected location.
3. Students will work cooperatively to develop a school or class stewardship plan.

**Common Core Skills**
- Write informative/explanatory texts
- Produce clear and coherent writing
- Conduct short research projects
- Gather relevant information from print and digital sources

**Time Required:**
Two 40-minute class periods, plus homework time

**Materials**
We Are All Stewards activity sheet, Breaking It All Down activity sheet, Make a School Stewardship Plan activity sheet, Human Impacts resource sheet, Leave No Trace resource sheet, Trash Timeline resource sheet, collected trash items, Internet access, poster board, markers, glue or staplers, scissors, spades or shovels, craft sticks, durable card stock, markers

**Vocabulary:** stewardship, decomposition, enrich, pristine, cairn, fertilize

**Getting Prepared**
Go to LNT.org and review the Leave No Trace Seven Principles. Print the activity sheets and resource sheets listed in the materials section. Collect some of the trash items referenced on the Trash Timeline resource sheet. Review the Extending the Learning activity in Class Period 2 and work with your school to identify an outdoor location for the extension activity if you choose to complete it with your class.

**CLASS PERIOD 1**
**Getting Started**
1. Write the word stewardship on the board. Explain that stewards are people who manage or take care of specific areas. So stewardship is the practice of taking actions to care for a specific area. Challenge students to name some places that they see on a daily basis that need stewardship.
2. Explain that we are all stewards of this planet. Lead students in a discussion of ways in which they may already be practicing stewardship in their homes, schools, or communities, such as caring for a pet or completing chores that include cleaning their room, washing dishes, and taking out the trash. They may also help keep classrooms clean in school or volunteer for a park-cleanup day in their community.
3. Tell students that our home and school communities aren’t the only places that need stewardship. Federal lands and waters also need our protection. Before you move on, review what students know about federal lands and waters from Learning Activity 1. If necessary, remind them that federal lands and waters are protected areas to: preserve natural landscapes, protect wildlife, commemorate history, provide recreational areas for public use, and manage natural resources for the future.

4. Project the Human Impacts resource sheet and ask students to describe what they see in the images. Explain that these types of impacts—litter, tire tracks, carvings into trees and rocks, and feeding wildlife—all harm the health of our federal lands and waters.
5. Pass out the Leave No Trace resource sheet. Explain that the Leave No Trace principles provide guidelines to help us all become good stewards of federal lands and waters. Separate students into groups and assign each group one principle. Ask them to review each of the stewardship points in their assigned principle and identify how that action can lessen human impacts on the area or environment.

**Getting Engaged**
6. Discuss what students noticed about the actions described on the Leave No Trace resource sheet. Now that students have taken a look at a stewardship plan, explain that the class will be creating their own stewardship plan for federal lands and waters.
7. Direct students to visit everykidinapark.gov and choose a federal land or water area they would like to focus on. Tell students they will work with their groups to create a brief stewardship plan for that area. Pass out the We Are All Stewards activity sheet and allow students to complete the sheet.

**Extending the Learning**
8. Take students on a walking tour around their classroom and school grounds. Ask student groups to work together to identify areas that need stewardship. Encourage students to think creatively about which areas need care and what types of behaviors can help or harm the area.
9. When you return to the classroom, pass out the Make a School Stewardship Plan activity sheet. Have students work cooperatively to develop a plan that outlines actions that members of the school can take to contribute to
Environmental Stewardship

Getting Started

1. Tell students that they will dig deeper into one of the stewardship issues our environment is facing. Ask: Where have you seen litter? Explain that litter is an issue not only in neighborhoods but also in federal lands and waters. Ask students what they remember about litter from the Leave No Trace principles. Have them refer to their Leave No Trace resource sheets and review Principle 3.

2. Write the word decomposition on the board. Beneath that write four or five time periods from the Trash Timeline resource sheet. Explain that decomposition is a process by which beings and objects break down and are absorbed into nature. Decomposition is a way that the environment recycles, using the decomposed bodies of animals and decomposed plant life to fertilize—or make richer—the soil in which plants grow.

3. Show students the trash you have collected. Point to the time periods you put on the board and ask students how long they think it takes each of those objects to decompose. After a few guesses, tell students you would like to test their guessing skills.

Getting Engaged

4. Pass out the Breaking It All Down activity sheet and challenge students to match the objects with the length of time they think it takes for the object to decompose. After students have completed the activity sheet, divide them into groups to answer the Think It Through questions at the bottom of the page with their group members.

5. Have a class discussion about the Think It Through answers as well as the correct decomposition time periods. (Answers: plastic beverage bottle, 450 years; newspaper, 6 weeks; leather, 50 years; paper towel, 2–4 weeks; plastic bag, 10–20 years; glass bottle, 1 million years; apple core, 2 months; aluminum can, 80–200 years; orange or banana peel, 2–5 weeks; wool sock, 1–5 years.)

6. Pass out the poster board and explain that students will create a visual trash timeline. For a quicker project, have students cut out the images from the Breaking It All Down activity sheet and paste them in the correct order on the poster board. Make sure students put the objects in the correct order and label the timeline with the correct time periods. For a more involved project, have students draw their own images of objects, pick out images from magazines, or attach actual objects to the poster board. Ask students to add a stewardship pledge to the bottom of the posters and display them in the hallway so that other students can become aware of how long it takes trash to decompose.

Extending the Learning

7. Go to the area you have identified with your school administration for your class decomposition project. Have students bring leftover objects from their lunches, such as napkins, food wrappers, paper bags, plastic bags, milk cartons or bottles, and apple cores or banana peels. Take photos of the items, then bury them in the designated spot. Be sure to mark each item with a small sign made on card stock. Attach the card stock labels to a craft stick and have students push the craft sticks into the dirt to identify the objects.

8. When you return to the classroom, tell students the items will remain buried for a week or two. You may choose to leave some of the objects for a whole school year. Ask students to review the information on the Trash Timeline resource sheet and speculate about how their buried objects will have decomposed when they are unearthed after the designated time.

9. Retrieve the objects after the designated burial period and photograph them. Discuss the condition of the objects with the students and have them explain why certain items were more or less decomposed compared to the other objects. Ask: Did the objects decompose in the way that you expected them to?

10. You may choose to have students make posters and/or reports using the photographs to document the experiment. If time permits, you may also have students visit the Leave No Trace website at LNT.org, where they can do online activities to receive a certificate of completion.