



Lesson Four: Weeds Invade!

Grade Level: 3rd Grade

Time: 45-60 minutes

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

Objective: Students will discuss the relationships of humans, plants, and animals in Wyoming.

Purpose: Students learn that maintaining the relationships of humans, plants, and animals requires the people who use or care for Wyoming's lands to be good stewards.

Required Materials/Resources:

- Wyoming Weed and Pest Overview (Source 1)
- What Can You Do <https://wyoweed.org/resources/what-can-you-do/> (Source 2)
- State Designated Noxious Weeds <https://wyoweed.org/noxious-species/listed-species/state-designated-noxious-weeds/> (Source 3)
- Yellow and green paper (one yellow and two green pieces per student)
- Scissors for teacher
- Weeds Invade! Scenarios sheet (one per group)
- Weeds Invade! Scenario chart (one per student and one per group)
- White paper (one piece per student)

Suggested Teacher Preparation:

TEACHER NOTE: As a possible extension to the activity, display the list of State Designated Weeds (Source 3), so students can begin to identify weeds around them.

- Review the Wyoming's Defense Against Invasive Species, What Can You Do, and State Designated Noxious Weeds websites (Sources 1-3) to familiarize yourself with Wyoming's invasive noxious weeds.
- Print the Wyoming Weed and Pest Overview (Source 1)
- Cut colored paper into pieces before the activity begins. Be sure to have two green pieces for each yellow piece.
- Break students into small groups.
- Cut apart each group's scenario sheet into individual scenarios and assign a different scenario to each group member.

Standards:

Science: 3-LS4-4, 3-5-ETS1-2 (DCI, SEP) - (Practiced/Encountered)

Social Studies: SS5.5.4 (Explicit)

ELA: 3.SL.1, 3.SL.4 (Practiced/Encountered)

Vocabulary:

- **Invasive** - growing and dispersing easily, usually to the detriment of native species and ecosystems
- **Native** - (1) a person born in a specific place or associated with a place by birth, whether subsequently a resident there or not (2) found originally in a place, not introduced from another place
- **Noxious Weed** - plant that has been introduced, accidentally or intentionally, into an environment and causes or is likely to cause environmental or economic harm; plants that have been declared by a legislative body as worthy of regulation and management

Instructional Procedure/Steps:

1. Say: **"In our previous lesson, we studied the relationship between humans and wildlife. However, there are also other challenges that are present with people, plants, and wildlife in Wyoming. Today, we are going to explore how plants can impact wildlife**

and how humans can impact plants.”

2. Scatter several pieces of yellow and green paper on the floor. Say: **“In this activity, you will all be wildlife. The paper will represent your food. When I say go, collect the food.”** Be intentionally vague here. Some students will get more paper than others; some will get a mixture of the different colors; some may choose to get all the same color, etc. Have students collect the food.

3. When all the paper is gathered up, have students return to their desks with the paper that they collected. Say: **“Raise your hand if you have any pieces of green paper. The green paper represents native plants that the wildlife was eating. If you have green paper, put it back on the floor.”** Allow students to return green paper to the floor. Say: **“Raise your hand if you have any pieces of yellow paper. The yellow paper is a noxious weed. A noxious weed is a plant that has been introduced, accidentally or intentionally, into an environment and causes or is likely to cause environmental harm. What this means is that an animal who eats this plant is going to help that plant spread. Anyone who has yellow paper should tear that paper in half before putting it back on the floor.”** Have students return the yellow pieces of paper. Ask: **“What do you notice about the pieces of paper/plants?”** *Students should notice that there are now as many “noxious weeds” as there are “native plants.”* Say: **“Noxious weeds use the same resources (light, soil, water) that native plants do, so now the native plants have to compete for those resources with the noxious weeds.”**

4. Say: **“We are going to do the activity again. This time you will be wildlife that won’t eat noxious weeds because they taste yucky. The green paper represents your food, and the yellow paper is noxious weeds.”**

When I say go, collect your food.” Have students gather the green paper until it is all picked up.

5. When all the green paper is gathered up, have students return to their desks with the paper that they collected. Say: **“Now the only plants left on the floor are noxious weeds. Because you ate the native plants, the noxious weeds were left behind to multiply and spread. When the native plants are replaced with noxious weeds, the wildlife will not have as much food to eat.”**

6. Ask: **“Did you know that wildlife could help plants spread?”** When students reply, “No,” say: **“You only saw the paper as food; wildlife does the same thing. This is why people such as Weed and Pest Control employees have jobs where they are responsible for identifying and containing invasive species. We are proud of the plants, animals, and activities here in Wyoming. It is important that we are good stewards to keep our wildlife, plants, and recreational areas as healthy as we can. We want to make sure that Wyoming citizens and tourists alike can continue to enjoy our state. If humans aren’t practicing good stewardship, many noxious weeds have the potential to take over the environment of the native species and wildlife that depend on them for food, shelter, and habitat.”** Display the Wyoming Weed and Pest Overview (Source 1) and read aloud as students follow along. When finished reading the quote, say: **“You might ask, why should I care? Why is it important to solve this problem? Noxious weeds are a big problem on private and public lands in Wyoming for several reasons. If we don’t do anything, these weeds will limit many uses on our lands now and for future generations. Noxious weed species harm our water systems, wildlife habitats, agriculture, and recreation areas.”**

7. Say: **“Although noxious weeds are one serious challenge that plants, animals, and humans face, there are several other problems as well.”** Ask students the questions below, and allow them to respond before moving on to the next step in the lesson:

-  **“What are other plant and human relationships/challenges that you are aware of?”**
- **“How might the challenge(s) you mentioned be solved?”** Examples might include: *pollution, people who are there for recreation not cleaning up garbage, people introducing noxious weeds as ornamentals, etc.* When students are finished sharing, say **“It is everyone’s job to be good stewards of our plants, wildlife, and recreational lands.”**



In this task, students will be engaged in the higher order thinking skill of analysis.

8.  Divide students into groups. Students will read scenarios and determine whether or not the character in the scenario is displaying good stewardship and if the character’s action will hurt or help the public land/environment. Pass out the Weeds Invade! Scenario charts and the Weeds Invade! Scenarios to each group. Make sure every member of the group has a different scenario. Using their own scenarios, students will individually fill out their own chart by writing if their scenario is helpful or harmful to the land and what evidence they used to make their decision. When each member is finished, groups will collaborate and complete a group chart for all of the scenarios.
9. Once groups have completed their charts, do a quick check using thumbs up, thumbs down. Read each scenario, and have students give a thumbs up if they think that the character displayed good stewardship and is helping the land, or a thumbs down if they think the



In this task, students will be engaged in the higher order thinking skill of evaluation.

character could have displayed better stewardship and was harming the land. When finished, collect the groups' final scenario charts.

Assessment: After students participate in the thumbs up, thumbs down activity, pass out white paper, have groups choose one of the harming scenarios (scenarios 4-6), and have each student individually create a solution to the scenario. When all students are finished, have groups compare solutions to decide which will best fix the problem in the scenario. Collect papers after all students share, and the group makes a decision. Evaluate students' solutions on if they correctly address the problem and group charts if they have identified the scenarios correctly.

Credits/Sources:

1. Wyoming Weed and Pest Council. (n.d.). *Wyoming's Defense Against Invasive Species*. Retrieved September 12, 2018, from <https://wyoweed.org/>
2. Wyoming Weed and Pest Council. (n.d.). *What Can You Do*. Retrieved September 12, 2018, from <https://wyoweed.org/resources/what-can-you-do/>
3. Wyoming Weed and Pest Council. (2018) *State Designated Noxious Weeds*. Retrieved September 12, 2018, from <https://wyoweed.org/noxious-species/listed-species/state-designated-noxious-weeds/>