

Spotted Knapweed Activities

Weed Spread in Time
Play Audio Track #20
(15 minutes)

Levels
Grades 4-8

Subjects
Science, Mathematics

Skills
Locating, Predicting, Comparing, Discussing

Concepts
Structure and functions of living things;
interactions among technology, science and society

Objectives
Students will learn biological characteristics of plants.
Students will compare plant biologies and explore
points of views on potential negative and positive
impacts each plant may have in their community.

Materials (20 student class-size)
What's in Your World? CD audio track #20
(inside the back cover) - 1 per class
10 plastic weeds - (from Montana State University
Extension Publications or your weed district office)
or other plastic or fake plants
Monopoly money or fake money - \$100 per student

Time Considerations
Preparation - 5 minutes
Activity - 15 minutes

Lesson Overview
• Weed Spread in Time
(15 minutes)

Background
Weed management is long-term control of weed spread. No one solution will solve the problem. Quick fixes are costly and once begun can reduce the possibility of successful outcomes that could be achieved by an integrated long-term approach.

Land managers stopped leafy spurge spread on the Pine Butte Swamp Preserve near Choteau, Montana when they integrated sheep grazing, biological control, mapping and monitoring, with herbicide application on the infestation perimeter. The successful reduction of leafy spurge occurred because native forbs had not been exposed to herbicide and their populations increased as the biological control insect-agents reduced leafy spurge populations. Today land managers monitor to ensure spotted knapweed does not follow in behind.

WEED SPREAD IN TIME LESSON DETAILS

STEP ONE. Explain to the students that there are many ways to control the spread of noxious weeds. (hand pulling, herbicide application, cultural, mechanical, and biological) Tell the students to sit in a circle on the ground or floor. Place five plastic weed replicas in the center of the circle. Explain that the plastic plants are noxious weeds and the inner circle is a field with a noxious weed infestation.

STEP TWO. Give each student the value of \$100 in Monopoly or fake money. Explain to the students that it will cost \$50 per hour to manage the weed infestation to stop its spread. Explain to the students that for the game one hour is equal to 2 seconds time. Ask the class--Count out the 2 seconds by clapping your hands twice. (one, two) Explain to the students that one student at a time will pick up one weed at a time and see how many they can pick up in 4 seconds as the students clap four times. Once the four seconds is up (representing 2 hours managing weeds) the student must give the weeds and the money (\$100) to you. Ask for a volunteer to be the first to manage weeds as you described.

STEP THREE. It is unlikely that the first student will pick up all five weeds in the first attempt (4 seconds time). There should be at least one weed remaining. (If not, explain that there are seeds in the soil) Explain to the students how the remaining weeds and seeds are alive and spreading rapidly because the student ran out of money and time. Replace new fake weeds in the center so that the number in the middle is 6 for the second student, 7 for the third student, and so on.

The point of the activity is to show that management takes time and money and weeds will never go completely away completely. Ask the students to discuss--What do you think would be a good way to keep weeds from spreading?

If you have been preventing weeds from coming onto your property how much money would you have left that you did not spend to manage weeds?