

BEETLES LESSON DETAILS

STEP ONE. Pass out to students the leafy spurge and flea beetle photographs. Ask the students-- *What does leafy spurge look like?*
What is its most notable visual feature?

Pass out the paper, crayons and markers. Ask the students to draw leafy spurge as large as they can on the paper. Tell the students that their drawing should illustrate what leafy spurge looks like before (BEFORE) any control method such as a biological control insect is released on it.

STEP TWO. Ask the students-- *What does leafy spurge look like after the insects eat holes in the leaves?* Tell the students to turn their drawing paper over and draw leafy spurge again how it would look after (AFTER) biological control insects eat the leaves. Explain that there is a hole punch if they would like to punch holes in the leaves to represent where insects ate the leaves.

STEP THREE. Ask the students-- *Could we learn more about insects if we photographed them every year on the same day and time at the same spot? Why is the same spot important?*

Leafy Spurge Activities

Red-headed Stranger - Before and After
Play Audio Track #7
(20 minutes)

Levels

Grades 3-6

Subjects

Science, Art

Skills

Interpreting, Identifying, Illustrating, Discussing

Concepts

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

Objectives

Students will learn how to make observations and demonstrate their findings.
Students will understand how biological control insect points of attack weaken the host plant.

Materials (20 student class-size)

What's in Your World? CD audio track #7
(inside the back cover) - 1 per class
flash card of leafy spurge red-headed stem borer
(inside the back pocket of the *What's In Your World?* activity tool kit) - 1 per student
drawing paper, crayons/markers, and a hole punch

Time Considerations

Preparation - 5 minutes
Activity - 20 minutes

Lesson Overview

- Insect Life Cycles and Attack Points in Weeds
(20 minutes)

Background

Researchers studied how insects feed on plants and found that noxious weeds that come from other countries don't seem to have the insects feeding on them like they do in their country of origin.

Do all insects feed on all plants? Does one insect prefer one plant over another? Is there one part of the plant an insect likes most?

The Red-headed leafy spurge stem borer attacks only leafy spurge and only in one way at a time during its life cycle. Adults hollow out the inside of the stem and the female lays her eggs inside. After the larvae hatch, they eat their way down into the root system where stores of food and water are abundant. Some insects like to lay their eggs and form galls in seed-heads, while others like to eat the tips of the stems.
If you were an insect - what would you eat?

RED-HEADED LESSON DETAILS

STEP ONE. Pass out the photographs of leafy spurge and the Red-headed leafy spurge stem borer. Pass out the paper and crayons/markers. Ask the students-- *Where do you think the Red-headed leafy spurge stem borer attacks the plant?* (stem)
What do you think the leafy spurge plant would look like after the stem borer eats its way into the stem?
Would there be a bulge in the stem?

Next ask them to take the piece of paper and draw what they think leafy spurge would look like after the stem borer's larvae travel to the roots and eat all of the plant's food supply. Students may use a hole punch to show holes in the stems.

Ask the students--*Are their other ways to check noxious weeds to see if insects are eating it?*
(hand lense from the *What's In Your World?* activity tool kit)
(measuring plant height with ruler from the kit)
(counting percent cover in the field)
(observing overall plant vigor)