

Leafy Spurge Activities

Defense Systems and Medicine. Exploring Plant Chemistry
Play Audio Track #10
(20 minutes)

Levels
Grades 4-8

Subjects
Science, Language Arts, Literature

Skills
Quantifying, Interpreting, Classifying, Analyzing

Concepts
Structure and functions of living things

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 #10 (inside the back cover) - 1 per class
Plant Facts sheet - 1 per student (copied from the next page in the *Teacher Guide*)
2 sets of copies of the Lewis and Clark activity sheets (inside the *National Invasive Species Library*)
journal or notebook paper - 1 per student
pen or pencil - 1 per student

Time Considerations
Preparation - 5 minutes
Activity - 20 minutes

Lesson Overview
• Plant Defense Systems and Medicine. Exploring Plant Chemistry (20 minutes)

Background
Many plants and animals have defense systems that help them compete for sunlight, food and water, and needs specific to their survival. Leafy spurge as a genus, not the listed noxious weed species *Euphorbia esula*, is known historically for its use in medicines. St. Johnswort, a listed noxious weed, is known for its medicinal use in the treatment of wounds, depression and anxiety. You are probably familiar with words like “herbal remedies” or “ethnobotany”. Many plants such as St. Johnswort can inflict severe symptoms when eaten--blistering in the throat, eye sensitivity to light, blindness, and sunburn in fair skinned animals and humans.
Why do you think some plants that were used for medicine overseas made it to America?
How would you determine if the medicinal plant is poisonous or not?

PLANT DEFENSE SYSTEMS AND MEDICINE LESSON DETAILS

STEP ONE. Pass out one Lewis and Clark noxious weed education activity sheet to each student. Tell the students to look at the native plants on the left hand side of the sheet. Pass out a sheet of paper and ask them to write down one medicinal use of the native plants documented by Lewis and Clark. Ask the students to discuss--***Do you think noxious weeds have medicinal uses?***

STEP TWO. Tell the students to look at the noxious weeds on the right hand side of the Lewis and Clark activity sheet and select one weed. Ask each student to discuss if they think the plant they selected is medicinal or poisonous and why. Ask the students to discuss--***Can medicinal plants also be poisonous? How so?***

STEP THREE. Explain to the class that leafy spurge produces a milky sap that is known to be poisonous to cattle when eaten. Ask the students-- ***Why is it important that you wear gloves when handling plants?***

Why do you think sheep and goats can eat leafy spurge without a problem?

STEP FOUR. Ask the students--***How do you think Meriwether Lewis and William Clark knew which plants were medicinal or not?***

How would you learn about poisonous plants before you handle them?

Pass out a copy of the list of plants on the next page. Explain to the students that the list contains plants identified in the Jackson Hole Wyoming watershed. Ask the students to search the list for one plant that they think is in their community that is noted on the list as poisonous to humans. Ask the students to discuss why it is important to be able to identify plants. Then, tell the students to turn over the activity sheets and play the noxious weed word scramble game.