

Invasive Plants

Created by: IRRC	Date:
Subject: Science	Grade Level: 5+
Time Required: 45 minutes for Part 1, 2 class periods or more for Part 2	Standards: <u>Standard 1:</u> Nature of Science <u>Standard 5:</u> Personal and Social Perspectives; Technology

Overview	Students will watch video presentations about invasive plants, and then go on a web quest to learn more. Students will present what they have learned in a video.
Goal(s) & Objective(s)	Students will demonstrate the ability to define an invasive plant. Students will give one example of a weedy plant, its identifying characteristics, its biology, and its detrimental effects in a collaborative video project.
Materials	<ul style="list-style-type: none"> • Computer with a projector to show the introductory videos. • Computers with student internet access. • Video recorder to be used by students with teacher supervision
Teaching Activities: Instructional Approaches/Strategies	<p>Introduction:</p> <ol style="list-style-type: none"> 1. Each of the following videos show a different example of an invasive plant and how it affects the plants and animals in its ecosystem. Students will use the ideas shown in the video segments to develop their own invasive plant video on a single species of plant. <p>Procedures: Part I</p> <ol style="list-style-type: none"> 1. Ask students what they think “invasive” means? What would an invasive plant be? Can they think of plants that seem invasive? 2. Hand out the worksheet, if desired, or instruct students to take notes during discussion. 3. Define invasive plant: Any plants that spread quickly beyond their desirable range and then persist in the environment. Invasive plants reproduce quickly (by seeds or spreading roots), have few or no natural enemies, and are adaptable to changes in their environment. 4. Go to http://www.ebipm.org/ . Note the definition of the acronym EBIPM at the top of the webpage “Ecologically-based invasive plant management”. Scroll down to the video link “<u>Implementing EBIPM In the Field: tackling invasive plants with science-based solutions</u>” You may wish to start the video at 1:13 and run to 6:33. Discuss the

	<p>questions.</p> <ol style="list-style-type: none"> 5. Go to http://www.lifeontherange.org/range-stories/kids-learn-about-sage-grouse.asp and begin the video at 3:14. Discuss the questions after showing the segment. 6. Go to http://www.lifeontherange.org/range-stories/ray-holes-the-goat-king.asp This video is entirely about invasive plants. Discuss the questions after showing the segment. <p>Procedures Part II</p> <ol style="list-style-type: none"> 1. Let students know that they will make a video presentation about a “weed”. They can use the format of being a documentary of an event (the sage-grouse video), telling a real-life story (Ray Holes) or pretend to be commentators at a sports event (EBIPM). They have to cover the information in the instructions and grading guide. They have heard the terms “weed”, “invasive” and “noxious weed” in the videos. 2. Use the provided graphic or your own note format to present the material in “What is a Weed?” (attached) 3. Hand out Weedy Plants Project Instructions. Go over the grading guide. Hand out the “Weeds” list 4. Allow students access to computers to research their project. When they show they are prepared to record, record their projects on video. <p>Closure</p> <ol style="list-style-type: none"> 1. Students present their projects to the class. Discuss which methods worked best for conveying information about plants.
Assessment:	Use the attached guide to evaluate the content of students’ videos, or develop a grading guide of your own. Be sure to go over the guide with students before they begin the project.

Modification: Have students present their work “live”.

Attachments:

- Weed List
- Invasive Plant Worksheet w/ Key
- What is a Weed? Diagram
- Weedy Plants Project Instructions
- Weedy Plant Grading Guide

Weeds List

Cheatgrass
Dandelion
Pigweed (Amaranth)
Leafy Spurge
Rocky Mountain Juniper
Perennial Pepperweed
Saltcedar
Rush Skeletonweed
Canada Thistle
Musk Thistle
Wild Oats
Medusahead rye
Poison hemlock
Rabbitbrush
Curlycup gumweed
Tapertip hawksbeard
Western ragweed
Russian thistle
Leadplant
Purple locoweed
Wild geranium (cranesbill)
Scarlet globemallow
Fireweed
Wooly plantain
Low larkspur
Ceanothus
Wild Blackberry
Wild rose
North Africa grass (Ventenata dubia, Wire grass)

For a complete list of Idaho's Noxious weeds, go to
<http://idahoweedawareness.net/vfg/weedlist/weedlist.html>

For more “weed” choices, try Weeds of the West by Tom D. Whitson (2006)

Invasive Plants Worksheet

Name _____

Invasive Plant: _____

EBIPM: _____

1. Which two plants are mentioned in the text at the beginning of the video?
2. What is the general category of plants that “Land Managers have been fighting for years”?
3. What do the “commentators” remind you of at the beginning of the video?
4. To what does Ecologist Roger Sheley compare spraying weeds? Why?
5. Does he see spraying weeds as effective?
6. How does he describe EBIPM ?

Students Learn About Sage Grouse

1. What topics did Jerry Hoagland talk to students about?
2. How can juniper be invasive even though it is native to our area?
3. What are some negative affects junipers might cause?
4. What are ranchers using to control the plants?
5. What type of control would Jerry Hoagland like to see used more frequently?

Ray Holes – The Goat King

1. Which invasive plants are mentioned in the video?
2. What other category do these weeds fit into?
3. What methods to control the weeds had been tried in the past? Were they successful?
4. What did Ray Holes show was successful to control the weeds?

Invasive Plants Worksheet Key

Name _____

Invasive Plant: Any plants that spread quickly beyond their desirable range and then persist in the environment. Invasive plants reproduce quickly (by seeds or spreading roots), have few or no natural enemies, and are adaptable to changes in their environment

EBIPM: Ecologically based invasive plant management

7. Which two plants are mentioned in the text at the beginning of the video?

Medusahead wildrye and Cheatgrass

8. What is the general category of plants that “Land Managers have been fighting for years”?

Annual grasses

9. What do the “commentators” remind you of at the beginning of the video?

Sports commentators, TV reporters

10. What does Ecologist Roger Sheley compare spraying weeds to? Why?

Treating a bad toothache with Advil because it treats the symptoms but does not treat/cure the cause

11. Does he see spraying weeds as effective?

No

12. How does he describe EBIPM ?

A plan that will treat the cause of weed problems instead of just the symptoms

Students Learn About Sage Grouse

6. What topics did Jerry Hoagland talk to students about?

Soil, juniper, and fire

7. How can junipers be invasive even though it is native to our area?

Fires have been suppressed, which allows the juniper to encroach on sagebrush grassland areas

8. What are some negative affects junipers might cause?

(not mentioned directly in the video) – erosion because junipers keep other plants from growing, less food for sage-grouse because it crowds out the sagebrush

9. What are ranchers using to control the plants?

Mechanical removal – cutting down junipers

10. What type of control would Jerry Hoagland like to see used more frequently?

Prescribed burns

Ray Holes – The Goat King

5. Which invasive plants are mentioned in the video?

Yellow star thistle and leafy spurge

6. What other category do these weeds fit into?

Noxious weeds

7. What methods to control the weeds had been tried in the past? Were they successful?

Spraying – not very effective

8. What did Ray Holes show was successful in controlling the weeds?

Goat grazing

What is a Weed?



Weedy Plants Project Instructions

Names: _____

1. Choose a weed:
2. Research and write down references for the following about your weed:
 - a. Native or nonnative?
 - b. Invasive? Noxious?
 - c. Poisonous?
 - d. Edible by wildlife or livestock?
 - e. Is it a grass, forb, shrub, or tree?
 - f. What does it look like? Find at least one close-up picture and one picture of the whole plant to use in your presentation.
 - g. How can it be identified?
 - h. Which methods work for controlling it when it is a weed?
 - i. Is it a problem in most places where it is found, or just in a few?
 - j. Does it have any important uses?
3. Plan how to present your work. You and your partner will need to act as either reporters or narrators to your video presentation. Make an outline of your “script” – it does not have to be word-for-word what you are going to say, but needs to include all of the important details listed above.

Weedy Plants Grading Guide

	4	3	2	1
	Thorough coverage	Some coverage	Lacking	Absent or innacurate
Subject Knowledge (x5)	Native or not			
	Invasive, noxious, or neither			
	Poisonous			
	Edible by animals			
	Growth form			
	Description/identification			
	Control			
	Where is it a problem?			
	Important uses			
Organization (x3)	Information is presented in a logical, interesting sequence which audience can follow.	Information is presented in a sequence which the audience can follow.	Audience has difficulty following presentation because the presenter moves between topics frequently.	There is little or no logical sequence to the information presented.
Graphics	Two or more visual aids show a close-up of the plant and a view of the entire plant. Visual aids tie closely into the presentation.	Two or more appropriate visual aids are used, but do not reflect correct placement within the presentation.	Only one appropriate visual aid is used, or visual aids detract somewhat from presentation	Visual aids are absent, or detract from the presentation.
Mechanics	No misspellings or grammatical errors	Few misspellings and grammatical errors	Numerous misspellings and grammatical errors	Grammatical errors make presentation difficult to understand.
Elocution	Speakers are easy to understand and engaging to listen to	Speakers are easy to understand.	Speakers are difficult to understand.	Speakers are very difficult to understand.