



Utah Core Objectives

Fourth Grade
Science Std 5, Obj. 1 & 2

Objectives

- Students learn why non-native plants are considered weeds and are illegal
- Students can identify at least three plants by color, shape and size

Materials Needed:

- Umbrella
- Large wide straws
- Small thin straws (coffee stirrers are best)
- Paper cups for drinking
- Clear container filled with goldfish or some other snack treat
- Clear container with only one goldfish or other snack treat inside
- Set of 14 color photos of weeds with descriptions on the back
- Noxious Weed Quiz and answers for each student (optional)

Time

- 20-50 minutes

For more information contact:

Recycle Utah
1951 Woodbine Way
PO Box 682998
Park City, UT. 84068
(435) 649-9698
www.recycleutah.org

GOOD PLANTS / BAD PLANTS

What makes a plant bad?

Why are native plants good?

Prior to the class

Become familiar with the 14 color photos with descriptions on the back. Visit www.co.summit.ut.us/weeds/pictures/index.htm

Pick out the key “fun facts” about weeds that children would find interesting—e.g. purple loosestrife produces 2-3 million seeds per plant

On the day of the class

In the front of the room, arrange the items for your “Native Plant & Weed Garden” demonstration: umbrella, straws, paper cups, 2 clear containers.

Keep the 14 pictures handy.

Instructions

Introduce the topic, using a white board as necessary:

Today we are going to talk about good plants and bad plants. We call them native plants and noxious weeds.

Define the term **native plant** — a plant that grows in our area naturally. It is native to our high desert environment.

- We live in the high desert where there is little rainfall compared to other parts of the country.
- Our topsoil is thin.
- The nutrients in the soil are not as rich as other areas.
- That’s why you see native plants spread apart on the hill-sides—because there’s only so much water and soil for them.

Ask students if they know the names of some native plants. Sagebrush is the most common answer. Also pinion pine, Utah juniper, spruce, fir, oakbrush, quaking aspen, cotton wood, cattail, prickly pear cactus, penstemon, service berry. Don’t spend much time on this.

Define the term **noxious weeds** — non-native plants that compete with native plants for sun, water and soil, some of which are poisonous to people and wildlife.

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**Demonstration Learning Points:
What makes a plant bad?**

- Uses too much sunlight
- Uses too much water
- Uses too much soil nutrition
- Pushes other plants out and reduces diversity, may increase soil erosion, may increase water usage, increases herbicide use to try to get rid of them
- Leaves nothing for wildlife to eat because many of these bad plants are poisonous or do not provide the nutrition our wildlife need

GOOD PLANTS / BAD PLANTS

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Conduct a demonstration of a “native plant & weed garden.” This demo should be conducted very fast and take no more than 5 minutes.

What makes a plant a weed — or bad for our desert environment? I need six volunteers to help me demonstrate.

1. Select six students from the class and have them stand at the front of the room.
2. Explain that three of the students will be “native plants” and three students will be weeds.
3. Select the biggest student to be the first weed. Have the student hold the open umbrella. Direct the smallest student to stand next to the weed.
4. Ask: When the sun shines down what happens to the native plant? It’s in the shade. Weeds grow bigger than native plants and take the sunlight away from them. That’s the first problem.
5. Select two other students to be a weed and a native plant. Give each a cup of water. Give the fat straw to the weed. Give the thin straw to the native plant. Ask each to drink the water. The native plant won’t be able to. Weeds use too much water and take precious water away from them. That’s the second problem.
6. Give the last two students the clear containers of goldfish. Give the small amount to the native plant. Ask each to eat as many goldfish as they can. Stop them when the native plant has no more. These containers represent the nutrients in the soil. Which container has the most nutrients? Which plant do you think uses the most nutrients? A: The weed. Which gets the least nutrients. The native plants. So that’s the third problem.

Thank the students and ask them to sit down.

Write the problems on the white board

- too much sunlight
- too much water
- too much soil nutrition

Explain the two other problems.

- Pushes other plants out and reduces diversity, may increase soil erosion, may increase water usage, increases herbicide use to try to get rid of them
- Leaves nothing for wildlife to eat because many of these bad

This lesson plan
made possible by a
SC Weed
Management.



GOOD PLANTS / BAD PLANTS

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Additional Information

- There are 25 weeds on the Utah State Noxious weed list
- Summit County has weed booklets available from their website
- www.summitcounty.org/weeds
- Utah State University has spiral bound booklets available

Final Activity

Hold up the pictures of the weeds and review as many of them as you can in the time you have left. Focus on the “fun facts.”

Final Messages:

These plants are so bad that it is illegal to have noxious weeds on your Property — The Utah Noxious Weed Law.

Tell your parents that if they see these weeds, they can call the “weed police” - Summit County Weed Supervisor and he will help you get rid of the weeds.

Learn what the noxious weeds of your area and tell your parents to use native plants only so you have a better chance of seeing wildlife around your house.

If you have time distribute the “Noxious Weed Quiz.” Have students guess the answers and then review the answers carefully. (15-20 minutes).

Noxious Weed Quiz

Answer the following questions to test your knowledge of noxious weeds. There could be more than one correct answer.

1. Noxious weeds are called “noxious” because they
 - a. Are quiet ugly
 - b. Smell bad
 - c. Aggressively compete with native plants
 - d. Can be poisonous to people and/or animals

2. Noxious weeds impact big game mostly because weeds
 - a. Add variety to elk and deer diets
 - b. Replace native plants with plants that wildlife won't eat
 - c. Provide excellent cover for newborn mule deer
 - d. Have no impact

3. The most recommended way to treat noxious weeds is
 - a. To hand pull them
 - b. To spray them with herbicide
 - c. To apply biological controls
 - d. A program that includes all of the above

4. What is the most common way noxious weeds are spread?
 - a. By recreating people and their vehicles
 - b. By birds
 - c. After a wildfire
 - d. Sold by nurseries

5. Noxious weeds are important to treat and prevent spreading because they
 - a. Can hurt native plant communities and the wildlife they depend on
 - b. Cost money for farmers and ranchers that lose crops and animals
 - c. Cost millions of dollars to treat once they are out of control
 - d. All of the above

Quiz Answers

1. Noxious weeds are called “noxious” because they
 - a. Are quiet ugly
 - b. Smell bad
 - c. **Aggressively compete with native plants**
 - d. **Can be poisonous to people and/or animals**

Noxious weeds are so named because they are very aggressive invader plants. They commonly over-run native plant communities, impacting the wildlife dependent up the native plants.

2. Noxious weeds impact big game mostly because weeds
 - a. Add variety to elk and deer diets
 - b. **Replace native plants with plants that wildlife won't eat**
 - c. Provide excellent cover for newborn mule deer
 - d. Have no impact

Big game food is lost when noxious weeds invade traditional habitat. This leaves elk and mule deer with less “forage” to eat, so they drift into neighboring yards looking for food.

3. The most recommended way to treat noxious weeds is
 - a. To hand pull them
 - b. To spray them with herbicide
 - c. To apply biological controls
 - d. **A program that includes all of the above**

The best way to treat an infestation of noxious weeds is to tackle it from several angles. Manually pull them to eliminate the individual plants' ability to produce seed. Spray the infested area with herbicide to kill immature or overlooked plants, while also covering a larger area using less manpower and money. Release biological agents that naturally infest the noxious weeds and eliminate their ability to reproduce. By using all methods available we are able to control noxious weed spread.

4. What is the most common way noxious weeds are spread?
 - a. **By recreating people and their vehicles**
 - b. By birds
 - c. After a wildfire
 - d. Sold by nurseries

While noxious weeds are actually spread all of these ways, the best answer is that they spread most commonly by recreating people and their vehicles. This is unintentional, where vehicles may pull off the road into an unrecognized patch of weeds. The weeds get caught up in the undercarriage of the vehicle or tires and are deposited along the road or at the next stop. The best prevention is to inspect your bikes, vehicles and trailers.

5. Noxious weeds are important to treat and prevent spreading because they
 - a. Can hurt native plant communities and the wildlife they depend on them
 - b. Cost money for farmers and ranchers that lose crops and animals
 - c. Cost millions of dollars to treat once they are out of control
 - d. **All of the above**

Noxious weeds can be devastating to wildlife habitat and cost a lot of money to farmers, ranchers and taxpayers.