

Native and Alien Plant Species

Essential Question:

What is the difference between a native and introduced species?

Background:

Native species are plant and animal species that originated in a geographic area and are an integral part of the web of life there. Invasive species are plants, animals and pathogens that have been introduced often by human action and become a pest in its new location, an area, or region where it did not previously occur naturally (i.e. is not native), where it becomes capable of establishing a breeding population and spread or invade by natural means. Non-native species may be introduced by animals: for example, the seed of a non-native plant may be deposited in the waste of a migratory bird. Non-native species may also be introduced by humans. Some are introduced intentionally, such as garden plants collected by plant enthusiasts. People may also unintentionally carry non-native species when traveling. Non-native species sometimes fit well into the existing ecosystem, but they often have negative impacts such as reducing the biodiversity of the area, causing economic losses, and wasting and polluting water resources

The term “invasive” is used to imply both a sense of urgency and actual or potential harm because these invaders often out-compete the existing native flora and fauna. This could lead to a decrease in the biodiversity of the area and could possibly lead to species extinction.

Invasives displace native species, destroy habitat and food for wildlife, alter hydrology and nutrient flow, and compete for pollinators and seed dispersers on which native plants depend.

Free from the vast and complex array of natural controls present in their native lands, including herbivores, parasites, and diseases, exotic plants may experience rapid and unrestricted growth in new environments. When this happens, native plants can get crowded out, even to the point of extinction. They sometimes prey heavily on certain native species, and, because the non-natives may not have any natural predators, they can quickly reduce the populations of the natives. Occasionally this is so severe that it can cause local extinction of the native species. Non-natives are harmful economically when they eat or cause disease in agricultural crops. Harmful non-native organisms are variously referred to as invasive. Invasives cost billions of dollars annually in damage and control measures in the United States. The cost to our natural heritage is immeasurable.

Not all exotics are invasive. Many introduced plants are easily controlled and are beneficial ornamentals. Many of our important food sources, such as corn and wheat, are exotic plant species.

Location: Classroom

Objectives: *Learners will*

- 1) define the terms native, introduced and invasive.
- 2) investigate native plant species.
- 3) name three invasive plant species.

Skills: communication, observation, listening, analysis

Supplies:

- chalkboard or large piece of paper for brainstorm activity
- Are You a Native or an Alien?; Invaders!; and Dangerous Beings on the Loose! Worksheets

Subjects: science

Time: 20 min

What can we do about invasive plant species? Grow native plants, or use non-invasive plants, control invasive plants by removing or managing them to prevent spread (management may include pruning away flowers, mowing or herbicide use to prevent vegetative spread), volunteer to assist in invasive plant removal projects and educate the public about invasive species.

Procedure:

1. Introduce the terms Native and Introduced species. Do ‘Are You Native or an Alien?’ worksheet. Learners may do this worksheet individually, in groups, or as a class with the instructor asking where each plant comes from.
2. **Answers to “Are You Native or an Alien?” worksheet:**
List 1: Peanuts-S .America, **Pecans**-U.S., **Corn**-Central America and Mexico, **Wheat**-Middle East, **Oak trees**-U.S. (some species)
List 2: Daffodils– Mediterranean, **Tulips**– Mediterranean and Middle East, **Azaleas**–U.S. (some species), **Magnolias**-U.S. (some species), **Sunflowers**-U.S.
List 3: Oranges-S.E. Asia, **Blueberries and Raspberries**–U.S., **Peaches**–China, **Grapes**–U.S. (some species)
List 4: Pumpkins, Squashes, Potatoes, Beans-Mexico and South America, **Tomatoes**-South America
3. Allow time to complete, ‘Dangerous Beings on the Loose!’ worksheet or send it home with the learners to do with their parents.
2. Brainstorm bad effects of introduced species and how to help protect biodiversity. Is introducing a plant or animal ever okay? (Yes – not every introduced species is invasive; biological control of an invasive introduced species).

Discussion/Assessment:

Name some native plant species in Georgia.
Name some introduced species.
Are all introduced species invasive?
Name an invasive species in Georgia.
What can we do about invasive species? Are there invasive species on the school site?

Extension:

1. Inform learners that they will produce “America’s Most Unwanted” posters detailing characteristics of a non-native invasive organism.
2. Learners will research invasive organisms. Websites they can visit are www.invasive.org or www.invasivespeciesinfo.gov
3. See sample poster format to the right.

<p>America’s Most Unwanted!</p> <p>[name of organism], an invasive non-native [plant, animal, or fungus]</p> <p>[Learners draw picture or attach a photo here.]</p> <p>Hometown: [native habitat] Last seen: [region where problems have occurred] For the crime of: [problems resulting from its invasion]</p>
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