

Wanted: Invasive Plants



Next Generation Science Standards
Disciplinary Core Idea: LS2.A: Interdependent Relationships in Ecosystems The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plants parts and animals) and therefore operate as “decomposers.” Decomposition eventually restores (recycles) some materials back to the soil. Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem.

Common Core State Standards:
CCSS.ELA-Literacy.SL.5.7: Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

Science and Engineering

Practice: Obtaining, evaluating, and communicating information

Crosscutting Concept:

Cause and effect

ACTIVITY DESCRIPTION

Students will research and analyze the impacts of invasive plant species present in the local ecosystem and create a “wanted” poster and brochure for their chosen plant.

GUIDING QUESTIONS

- What is an invasive species?
- How do invasive species impact the biodiversity of an ecosystem?
- What can humans do to minimize the negative impacts of invasive plants?

VOCABULARY

Invasive species – a species that has been moved or introduced by human activity to an area where it does not naturally occur and diminishes the biodiversity of the region by taking resources from natural organisms

Natural community – an association of plants and animals that occur naturally in a particular area

OBJECTIVE

Students will demonstrate their understanding of the negative impacts that invasive species can have on the health of a natural ecosystem by doing research and creating a wanted poster and brochure to inform others about what they can do to minimize the presence of an invasive species of plant.

MATERIALS

PER STUDENT:

- Blank piece of copy paper
- Coloring materials

PER GROUP:

- One sheet of poster paper
- Colored pencils, crayons, markers or other coloring materials
- A field guide of invasive plant species or access to the library or computers with internet

PREPARATION

Reserve space in the library or computer lab so that students have access to research materials.

Wanted: Invasive Plants Procedures

Engage | 10 minutes

1. Ask students to think about the story *Oodles of Boodles* from the Pre Field Study Activity, and their experiences completing the Stewardship Activity during their most recent Field Study Activity.
2. In their science notebooks, have them describe some of the ways that newly introduced invasive species can impact the organisms that naturally live in an area, and also what people can do to reduce these impacts.
3. Allow students to share their ideas in small groups and then discuss with the class.

Explore | 15 minutes

1. On the board, list invasive plants that can be found locally, including buckthorn, honeysuckle, garlic mustard, purple loosestrife, Canada thistle, reed canary grass, white sweet clover, wild parsnip, and black swallow-wort.
2. Break the class into small groups of three to four students. Allow each group to select an invasive species to research (encourage each group to select a different plant).
3. Distribute the field guides or allow students to access computers to do research online about their invasive plant species.
4. Allow students to work with their group to delegate the following items to research about their chosen plant:
 - Scientific name
 - Where the plant grows naturally
 - How the plant was introduced to the area
 - Species characteristics (color, shape, size, etc).
 - Type of habitat(s) where it can be found
 - Appearance of flowers, fruits, leaves, or seeds it produces
 - How many seeds a plant produces and how the seeds spread
 - Impacts the plant has on the natural ecosystem
 - Actions that people can take to reduce or eliminate the presence of this plant

Explain | 20 minutes

1. After compiling their research, have students come back together in their groups and share the information that they gathered.
2. Give each group a piece of poster paper. Allow students to work in their groups to create a “wanted” poster that details the important information that they researched about their invasive species. Encourage students to incorporate drawings and labels in their poster.
3. Allow each group to present their posters to the class.

Elaborate | 20 minutes

1. Encourage students to use the information that they learned from the presentations of each group to create a brochure that will help people to identify one of the invasive species in a local ecosystem and what to do if they find them.
2. On the front of the brochure, encourage students to draw and describe features of the invasive species and explain some tips for identifying the plant.
3. On the back of the brochure, tell students to describe two or three actions that can help to control or eliminate the invasive species.
4. Post student work around the room and hold a gallery walk to allow all students to view the completed brochures.

Evaluate | 5 minutes

Ask students to complete the summative questions in their science notebooks or as an exit slip.

Summative Questions:

1. List two ways that invasive species might be introduced to a new area.
2. Describe how a newly introduced invasive species can impact the other organisms that naturally live in the environment.
3. Explain two actions that people can take when they find an invasive species in a local area in order to minimize its negative impact on the environment.

Differentiation

Extension: Encourage students to prepare their posters and brochures to create a presentation to share with another class at school in order to inform other students about what they can do to identify and control the spread of invasive species.

Notes on Modifications for Your Diverse Learners:
