

Means and Modes

Grade Level: 3 - Adult

Subject: Science, Social Studies

Time Required: 20-40 minutes

Setting: Indoors or Outdoors

Materials:

Copy of "Copy Pages"

Optional: box to select the "items" from

Objectives:

Students will be able to list everyday activities that can contribute to the spread of invasive species. They will realize that people spread invasives both knowingly and unknowingly. They will be able to analyze personal actions related to the introduction and spread of invasive species.

Vocabulary:

Native Plant – a plant that occurs naturally in a specific area.

Non-Native Invasive Plant – a fast-growing plant that is brought into an area where it does not live naturally and results in an adverse effect on the environment.

Invasive Species – a species that enters a habitat and spreads, causing damage to native species.

Background:

Have you ever picked up a hitchhiker, smuggled an alien through customs, or purchased an illegal substance? If you think not, think again! No doubt at some point in your life you have, either knowingly or unknowingly, helped a potentially invasive species enter a new territory. Most invasive species are incredibly adaptable and can take advantage of opportunities for invasion. However, they rarely swim across oceans, walk over mountain ranges, or hop continents without help from people! Let's find out how invasive species get around and how we might stop giving them a hand.

Activity:

1. Select items (Copy Pages) from a box or assign an item to each student. If you have more students than items, ask them to work in pairs or groups.
2. Brainstorm connections- Ask students to think about their items and brainstorm how they might be connected to the spread of invasive species. There are no right or wrong answers. Encourage them to think creatively!
3. Share ideas- Allow students to share how they think their item contributes to the spread of invasives. Note: refrain from telling everything you know about each item. Keep the activity moving.

4. Wrap up the activity by asking some of these questions:

- Did the activity help you think of a time when you might have transported an invasive species? Would you share the circumstances with the group?
- Now that you know more about how potentially invasive species move from place to place, what will you do about it?
- Can any of these pathways of invasion be controlled or stopped? How?
- Do you think it is the job of the government or individuals to control the spread of potentially invasive species? Why?

This activity is adapted from “Means & Modes” **Non-Native Invasive Species Learning Kits—Close the Doors**. United States Forest Service. 2005.

Evaluation:

Observe student participation in the discussion. After the discussion, return items to the box. Have students draw an item and tell which non-native invasive plants it might transport and suggest ways to prevent the spread. For example, if you wear hiking boots in an area that has Nepal grass (*Microstegium*), you are likely to pick up its seeds. Thoroughly cleaning the mud off boots before leaving the infested area helps prevent the spread of seeds into new areas. It would also be a good idea to shake out your boots and brush off your clothing.

Extensions:

Leave No Weeds. In many ways, people who love the outdoors are the ones with the most to lose when invasive plants are concerned. Invasives can completely change the land—reducing recreational opportunities, limiting access to areas, and spoiling the diversity and beauty of wild places. Because people who love the outdoors have so much to lose, they have a vested interest in doing everything possible to stop and/or slow the spread of invasive plants. Ask students to develop a code of outdoor ethics that would stop or reduce the spread of invasive plants. A sample based on Leave No Trace principles is provided in the Copy Pages. Visit the Leave No Trace Web site for tips on reducing recreational impact to public wildlands. <http://www.lnt.org>

Investigate commercial seed mixes. Many companies offer seed mixes that are “guaranteed to grow.” These mixes are often advertised as “meadow wildflowers” or “butterfly garden.” The marketing strategy uses words like “robust plants” or “aggressive bloomers.” Investigate what these mixes really contain. Are the plants native to the places where they are marketed? If the plants are non-native, are any invasive? Try growing a commercial seed mix in an indoor planting box. Did you grow anything not on the seed list? Check out research done by the University of Washington.

www.washington.edu/newsroom/news/202archive/04-02archive/k041802a.html

Reference:

Adapted with permission from Invaders of the Forest 2005 WEEB, WDNR, Park
People of Milwaukee County

<http://www.gaeppc.org/list.cfm>

<http://www.invasive.org/>

<http://dictionary.reference.com/>

http://en.wikipedia.org/wiki/Main_Page

Nonnative Invasive Plants of Southern Forests by James H Miller