

Invasive Species Research to Create Awareness

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Target Grade: 5th Grade

Topic: Invasive Species Awareness

Lesson Overview

Students will work in groups to research an invasive species found in the State of Michigan. Through various classroom activities and their research, students will learn about what invasive species are, discover solutions to control invasive species, and gain an understanding as to why it is crucial to spread awareness of this topic.

The purpose of this lesson is to provide a foundation of research and knowledge about an invasive species that can be used for an upcoming classroom project. By using the information gathered from this lesson, students would be able to design and create an educational outreach product to increase public awareness about the species they selected. Some suggestions of projects include a video, a PowerPoint presentation, poster, pamphlet, or flyer.

Sources Consulted

Hollingsworth, K. (2017). *Invaders of the Great Lakes 2nd Edition*. Cambridge, MN: Adventure Publications.

Invasive Species Awareness Video. https://www.youtube.com/watch?v=eR4z_ixiols

Ontario's Invading Species Awareness Program. <http://www.invadingspecies.com/>

State of Michigan. (2018). *Michigan Invasive Species*. <http://www.michigan.gov/invasives>

U.S. Department of Agriculture Creates 'National Invasive Species Awareness Week Video. <https://www.youtube.com/watch?v=mQ3o1v23AaU>

Learning Objectives

After this lesson, students will be able to:

1. Define invasive species.
2. Identify and describe various invasive species found in the State of Michigan.
3. Discuss the ways in which several species pose a local threat and cause harm to Lake Superior and Michigan.
4. List possible solutions to control invasive species.
5. Create a project to raise awareness about invasive species and help to prevent their spreading.

Michigan Science Standards Addressed

5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

3-5ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

Michigan Social Studies Standards Addressed

5-P4-2-1 Develop and implement an action plan and know how, when, and where to address or inform others about a public issue.

5-P4-2-2 Participate in projects to help or inform others.

List of All Materials Needed

Computer and projector to show video clips

List of facts for telephone game (attached)

List of invasive species found in Michigan <http://www.michigan.gov/invasives>

Access to computers, chromebooks, or ipads for research

Invasive Species Awareness Research questions (1 per student, attached)

Large piece of butcher kraft paper 4' X 6' for KLEWS chart

New Vocabulary

Invasive Species - A plant or animal that is brought to an area and rapidly spreads, taking over native species and soon the native species no longer grows in an area. Invasive species are both harmful and non-native.

Non-Native - A plant or animal that is living or growing in a place that is not the location of its natural occurrence. Non-native species are not harmful to the environment or other species.

Awareness - concern about and well-informed interest in a particular situation or development.

Focus Question(s)

Why it is important to increase awareness of invasive species?

What are some ways to prevent or control invasive species in Michigan?

CLASSROOM PROCEDURE

Introduction/Attention Getter (5 min)

Begin KLEWS Chart

Know, Learning, Evidence, Wondering, Science words and principles (KLEWS)

The words “Invasive Species” will be written on the whiteboard. Students will be asked to share anything they think they already know about invasive species. Responses will be recorded on the K (KNOW) part of the KLEWS chart.

Activities

Videoclip and Discussion (15 minutes)

Students will learn about invasive species by watching two youtube video clips “Invasive Species Awareness” https://www.youtube.com/watch?v=eR4z_ixiols and “U.S. Department of Agriculture Creates 'National Invasive Species Awareness Week’” <https://www.youtube.com/watch?v=mQ3o1v23AaU>. Discuss the impact invasive species can have, how invasive species could spread or be introduced to a new area, and the importance of making others aware of the problems invasive species are causing.

Telephone Game (10 minutes) (Facts for game attached below)

Students will play a few rounds of the game telephone. A fact about invasive species will be told to one person and students will have to pass the message on to the next person around the circle. Depending on class size, students can be divided into smaller groups so each fact doesn't take as long to go around the circle. Give a brief overview of the upcoming research students will need to do. Tell students that the research gathered will be used to create a project that helps to promote awareness of invasive species. Explain that the telephone game shows how they will need to collect accurate data while researching and communicate effectively with their project in order to inform the community about the threat of invasive species.

Awareness Project Research Introduction (30 minutes)

A list of invasive species found in Michigan will be written on the whiteboard. (*Purple Loosestrife, Water Hyacinth, Water Lettuce, Parrot Feather, Zebra Mussels, Quagga Mussels, Sea Lamprey, Asian Long Beetle, Emerald Ash Borer, Hogweed*). Students will be assigned their project groups. Groups will be given ten minutes to explore two websites <http://www.michigan.gov/invasives> and <http://www.invadingspecies.com/> to identify which species they are interested in researching. One Michigan invasive species will be assigned to each group. The Invasive Species Awareness Research questions will be handed out and explained. (See questions below).

Research for Project (May need to be completed over several class periods.)

Students will use the two websites listed above to research their chosen invasive species. Information they find will be used to answer the questions below about their assigned Invasive Species.

Assessment of Student Learning (20 minutes)

After the research is completed, students will be given time to reflect in their journals about what they learned about invasive species. They will write down ideas to complete the KLEWS chart started at the beginning of the lesson. They will need to brainstorm ideas in their notebook to complete letters L (learning), E (evidence), W (wondering), and S (science words and principles). Ideas will be shared with the whole class and written on the large classroom KLEWS chart.

Facts for Telephone Game

1. Invasive species cause harm to human health.
2. Invasive species cause extinctions.
3. More than \$120 billion dollars is spent each year to deal with problems.
4. Invasive species can be accidentally introduced to an area.
5. Ocean ships can spread invasive species.
6. Invasive species can be intentionally introduced to an area.
7. Invasive species take over native species.
8. Invasive species can negatively impact the economy.
9. Invasive species can hurt the environment.
10. Sea Lamprey are found in Lake Superior.

Invasive Species Awareness - Research

Your Name: _____

Group Members: _____

1. Name of your invasive species.

2. From what country did the invasive species come?

3. What were the natural predators for the species in their native land?

4. Explain *how* your choice of invasive species was introduced to the US.

5. Was the introduction accidental or intentional?

6. What risks were overlooked in bringing this species to the US?

7. What environmental impact have the species had on native species?

8. If given the opportunity to spread, what issues or problems will occur?

9. What species are they affecting? Have they caused any extinctions?

10. Describe a possible solution to help control or manage the invasive species.

11. Tell about any other interesting facts you found about your species.

**We would greatly appreciate your feedback using this lesson plan!
Please visit <https://www.biaquariumstem.org/survey.html> to
complete a short survey about your experience.**