

# Invasive Species Research Project

Grade 6 – Science and Technology



## Lesson Details

<b>Grade Level:</b>	6	<b>Curriculum Links:</b>	Science and Technology	<b>Time Needed:</b>	3 hours
<b>Learning Goal</b>	To conduct research to understand how the balance of a Great Lakes ecosystem is affected by the presence of an invasive species. As well, to create a group presentation based on research and present it to the class.				
<b>Success Criteria</b>	By the end of this lesson, students will have researched and chosen an invasive species in the Great Lakes region to create a group presentation about.				
<b>Specific Expectations</b>	<p><i>Understanding Life Systems: Biodiversity</i></p> <ul style="list-style-type: none"> <li>Analyze a local issue related to biodiversity, taking different points of view into consideration, and propose action that can be taken to preserve biodiversity, and act on the proposal;</li> <li>Use appropriate science and technology vocabulary, including: classification, biodiversity, natural community, interrelationships, vertebrate, invertebrate, stability, characteristics, and organism, in oral and written communication;</li> <li>Describe ways in which biodiversity within species is important for maintaining the resilience of those species;</li> <li>Describe ways in which biodiversity within and among communities is important for maintaining the resilience of these communities;</li> <li>Explain how invasive species reduce biodiversity in local environments.</li> </ul>				
<b>Materials Needed</b>	Worksheet (attached), Computer, Internet Access, Pencil, Paper.				

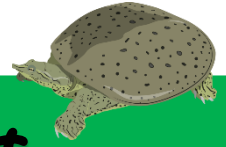
## Lesson Description

<b>Overview</b>	Students will research an invasive species found in the Great Lakes region. From this, they will come together in a group to create a presentation about an assigned species and present their findings to the class.
<b>Activity</b>	<ol style="list-style-type: none"> <li>Begin by explaining to the students what a native species and an invasive species are.</li> <li>Next, hand out the attached worksheet and give the students independent time on a computer to complete the first section of the worksheet.</li> <li>Once completed, split the class into small groups and assign each of them an invasive species (Sea Lamprey, Zebra Mussel, Spiny Water Flea, or Purple Loosestrife) to conduct further research about.</li> <li>In their groups, students should complete the second section of the worksheet and create a presentation to be delivered to the class.</li> </ol>
<b>Background Information</b>	<p><b>Native</b> species are considered to be native only if they originated in their location naturally and without the involvement of human activity or intervention. <b>Invasive</b> species are organisms which are living outside of their natural environment and out competing native species. <b>Exotic</b> or <b>Alien</b> species are organisms which live outside of their natural range, they may or may not become invasive (they only become “invasive” if they compete with native animals and cause an imbalance in the ecosystem). Canada has hundreds of invasive species including mammals, birds, reptiles, amphibians, insects, molluscs, crustaceans and plants. They can be introduced intentionally or accidentally. Over 140 exotic organisms have made the Great lakes their homes since</p>

# Lesson Description

	the 1800's.
<b>Blacklist Masters</b>	<ul style="list-style-type: none"> <li>• Worksheet (attached)</li> <li>• Video Link(s): <a href="#">How You Can Help Ontario Turtles</a> and <a href="#">Threats to Ontario Turtles</a></li> <li>• For more information, please visit <a href="https://www.turtleguardians.com/sample-page/turtle-habitats/">https://www.turtleguardians.com/sample-page/turtle-habitats/</a></li> </ul>
<b>Place-Based Learning</b>	By choosing an invasive species that exists in their region students will become aware of the impacts those species can have on their local ecosystems. Students will also become aware of what measures are being taken to help improve the control of invasive species in their community.
<b>Inquiry-Based Learning</b>	<p>Using <b>Structured and Guided Inquiry</b>, the students will first work independently to conduct their research and then come together in groups to create a presentation.</p> <p>Ask the students:</p> <ul style="list-style-type: none"> <li>• What is a native species? An invasive species?</li> <li>• How does an invasive species become introduced to an area?</li> <li>• What effect does an invasive species have on the ecosystem and the other organisms living there?</li> <li>• What measures are being taken to control invasive species?</li> </ul>
<b>Turtle Stories</b>	Visit a local wildlife centre to learn more about how you can get involved to help spread awareness of invasive species in your community. Students are encouraged to share their experiences, pictures, and fact sheets on the Turtle Stories website, found here: <a href="https://www.turtlestories.ca/">https://www.turtlestories.ca/</a>
<b>Turtle Guardian Program Links</b>	After completing <b>Level 1</b> (Ontario Turtle Identification) of the <b>Turtle Guardian Program</b> , students can move onto <b>Level 2</b> (Wetland Watchers). In this level the students learn how to monitor wetland habitats, contribute to knowledge of wildlife-biology in the region, and are able to adopt a wetland to monitor for turtles, birds, and other animals. For more information, please visit <a href="https://www.turtleguardians.com/what-is-a-turtle-guardian/">https://www.turtleguardians.com/what-is-a-turtle-guardian/</a>

# My Notes



# Invasive Species Research Project

## Part 1: Independent Research

### Definitions

Define the following words.

**Native Species:** An organism that lives within its native region.

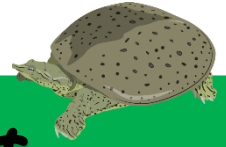
**Invasive Species:** An organism that is living outside of its natural environment and out competing native species.

**Exotic or Alien Species:** An organism that is living outside of their natural range and not competing.

### Native or Invasive?

In the table below indicate if the species is native or invasive to the Great Lakes region and include any additional notes (E.g. animal or plant, where does it originate from, etc.).

Species	Native or Invasive	Notes
Forest Tent Caterpillar	Native	Moth
Giant Hogweed	Invasive	Plant from Asia
Sea Lamprey	Invasive	Fish from the Atlantic Ocean, Lake Ontario, and the St. Lawrence River
Tiger Salamander	Native	Amphibian
Japanese Knotweed	Invasive	Plant from East Asia
American Chestnut	Native	Tree
Northern Prairie Skink	Native	Lizard
Round Goby	Invasive	Fish from Eastern Europe
Zebra Mussels	Invasive	Mollusk from Southeastern Europe
Norway Rat	Invasive	Mammal from Central Asia
Blanding's Turtle	Native	Reptile
Butternut Canker	Invasive	Tree disease from Asia
Leopard Frog	Native	Amphibian
Green Crab	Invasive	Crustacean from Europe
European Starling	Invasive	Bird from Europe, Asia, and Africa
Peewee	Native	Bird
American Badger	Native	Mammal
Purple Loosestrife	Invasive	Plant from Europe and Asia
Poison Ivy	Native	Plant
Eastern Flying Squirrel	Native	Mammal
Emerald Ash Borer	Invasive	Beetle from Asia



# Invasive Species Research Project

## Part 1: Independent Research

### Definitions

Define the following words.

Native Species: \_\_\_\_\_

Invasive Species: \_\_\_\_\_

Exotic or Alien Species: \_\_\_\_\_

### Native or Invasive?

In the table below indicate if the species is native or invasive to the Great Lakes region and include any additional notes (E.g. animal or plant, where does it originate from, etc.).

Species	Native or Invasive	Notes
Forest Tent Caterpillar		
Giant Hogweed		
Sea Lamprey		
Tiger Salamander		
Japanese Knotweed		
American Chestnut		
Northern Prairie Skink		
Round Goby		
Zebra Mussels		
Norway Rat		
Blanding's Turtle		
Butternut Canker		
Leopard Frog		
Acadian Flycatcher		
Green Crab		
European Starling		
Pewee		
American Badger		
Purple Loosestrife		
Poison Ivy		
Eastern Flying Squirrel		
Emerald Ash Borer		



## Part 2: Group Presentation

Group Members: \_\_\_\_\_

Assigned Species: \_\_\_\_\_

### Invasive Species Research

On a separate piece of paper, answer the following questions about your assigned invasive species.

1. Describe the invasive species.
2. When was the species first introduced into the Great Lakes region?
3. How did it get into the Great Lakes? Was it introduced by mistake or on purpose?
4. What effect is this invasive species having on the ecosystem?
5. How is this species affecting other organisms living in the ecosystem?
6. Is there anything being done to try to solve the problem?
7. How can we avoid other invasive species from making the Great Lakes region their home?

### Additional Information:

- Include images in your presentation of the invasive species.
- Include a map of the native range of the invasive species compared to its invasive range within the Great Lakes region.
- Include quotes from local environmentalists/homeowners/fishermen explaining their opinion about invasive species.

### Notes:

---

---

---

---

---

---

---

---

---

---

---

---