



Grade Level: 2
Subject: Science

Luna the Eel - Water Pollution

ESSENTIAL UNDERSTANDINGS

- Time Immemorial
- History
- Lifeways
- Language

LEARNING OUTCOMES

- Students will be able to analyze the water Luna swam through and state how it affected her.
- Students will be able to state one reason why it's important to be a good steward of the earth.

CULTURALLY RESPONSIVE PRACTICES

- Proximity
- Higher level thinking: creating
- Movement inside and/or outside of the classroom
- Preserving and honoring cultural history
- Student talk, working together and individually

ASSESSMENT

Students will be assessed on their participation in group discussions and activities, as well as on their proficient completion of the reflection question.

TIME REQUIRED

45-60 minutes

Overview

In this lesson, students will listen, analyze and discuss a story about Luna the Eel and how pollutants affect her habitat in the river. Students will reflect on the Grand Ronde ways of life previous to settlers to see how they were good stewards of the earth and how students can continue some of those practices.

MATERIALS

- Luna the Eel story
- Teacher Questions
- Luna the Eel Flashcards
- Reflection Exit Ticket
- 1 plastic 2lt clear soda bottle- fill $\frac{3}{4}$ full of water
- 1 sponge in the shape of an eel
- 1 piece of thin string
- 1 washer to attach to end of string
- Small amounts of:
 - Dirt
 - Syrup
 - Salt
 - Paper dots
 - Brown sugar
 - Soapy water
 - Red food coloring
 - Green food coloring

LOGISTICS

- Where does this activity take place?
Classroom
- How are the students organized?

Whole Class Teams: 3-5

Pairs **Individually**

STANDARDS

Next Generation Science Standards

Interdependent Relationships in Ecosystems

2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats.

Oregon Common Core State Standards: ELA-Literacy

2.SL.1 Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and large groups.

2.SL.1.B Build on others' talk in conversations by linking their comments to the remarks of others.

2.SL.1.C Ask for clarification and further explanation as needed about the topics and texts under discussion.

Oregon Social Science Academic Content Standards

Historical Knowledge 2.17 Identify and describe community celebrations, landmarks, symbols from a variety of traditions and explain why they are significant to the cultural heritage of members of the community.

Background for Teachers

Note: This lesson will need prior background knowledge about what pollution is.

Pacific lamprey or eel have been an important species to the Confederated Tribes of Grand Ronde since time immemorial. Pre reservation, many tribes would travel to different streams and waterfalls to harvest eel for both food and medicinal purposes. Eel used to be plentiful at Willamette Falls and there was never a shortage of eel. Due to water pollution and dams that have been built, the eel population has declined drastically. Today, tribal members still go to Willamette Falls to harvest eel.

VOCABULARY

- **Pollution-** when gases, smoke and chemicals are introduced into the environment in large doses that makes it harmful for humans, animals and plants. Some forms of pollution can be seen, some are invisible.
- **Spawn-** to spawn means for a fish to lay eggs.
- **Poison-** a substance that by its chemical action can kill or injure a living thing.
- **Wastewater-** water that goes down the toilet and/or the water that goes down the drain after you wash your hands.
- **Hazardous-** dangerous, not safe.
- **Fertilizer-** a substance (such as manure or a chemical) used to make soil produce larger or more plant life.

Opening

Explain what pollution is. Inform students that pollution happens in the air and the water.

- According to EPA, water pollution is “any human-caused contamination of water that reduces its usefulness to humans and other organisms in nature. Pollutants such as herbicides, pesticides, fertilizers, and hazardous chemicals can make their way into our water supply. When our water supply is contaminated, it is a threat to human, animal and plant health.” Because this is such a lengthy explanation with advanced vocabulary teachers can try replacing words that K-3 students can identify with. Example: Pollution are items such as, poisons, chemicals, and litter that harm our air, water, animals, plants and people and also the Earth.

Activity

1. Explain to students that there used to be many many eels that lived in the rivers and the ocean, but now over half of the population of eel has gone away partly due to pollution. Lead them into the story by telling the students they are now going to hear a story about Luna the eel and how pollution affected her.
 - a. Hand out the flashcards to students. The teacher can pair students up or have students do this part individually.
 - b. Attach the string and washer to Luna the Eel and put her into the empty soda bottle.
 - c. Fill the soda bottle $\frac{3}{4}$ full of water.
2. Begin to tell the story.
 - a. After each page/paragraph stop to ask the students the question that correlates with that page.
 - b. Students will use their flashcards to answer the questions.
 - c. Add pollutants to the bottle as you read the story. After each pollutant is added ask the class how is Luna. Allow for all students to see the bottle and discuss what the water looks like and how they think it affects Luna.
3. After the story is finished, ask students a series of response/reflection questions:
 - a. What are some of the bad things or pollutants that Luna had to swim through?
 - b. Where do the pollutants come from and how do they affect Luna?
 - c. Do you think that fish are able to live a healthy life in polluted water?
 - d. What do you think happens to them?
4. Explain to students that water pollution decreases the lamprey population.
5. Show students the photo of the Grand Ronde tribe fishing for lamprey traditionally.
 - a. Ask students to raise their hands and give ideas of how they think tribe’s helped keep the earth healthy and the rivers clean for lamprey and other fish.
 - b. Some examples might be, don’t litter on the ground or in the rivers, replace the natural resources that you use, such as if you cut down a tree, plant another one in its place.
6. Ask students how they can help take better care of the rivers to help Luna’s environment be healthy.
 - a. Make a list of their ideas on the board or chart paper.

Closure

Have students do a short writing activity where they reflect on Luna’s journey through the polluted waters and answer the question: **What can I do to help Luna’s water be cleaner?**

- Some examples might be: Don’t litter, throw trash in trash cans, recycle, help tell other people not to litter and to recycle.

Differentiation

- To help students further understand pollution prior to the lesson, teachers can use a series of YouTube videos below:
 - What is WATER POLLUTION? | What Causes Water Pollution? | The Dr Binocs Show | Peekaboo Kidz: <https://youtu.be/MEb7nnMLcaA>
 - What is POLLUTION? | Types of POLLUTION - Air | Water | Soil | Noise | Dr Binocs Show -Peekaboo Kidz: <https://youtu.be/7qkaz8Chell>
 - Keeping Our Water Clean! | SciShow Kids: <https://youtu.be/Npv47F3GK2w>

Extension

- This lesson can be combined with the following lessons to create a Lamprey Unit.
 - 2.ELA.Let's Go Eeling
 - 2.SCI.Who Am I? Lamprey Investigation
 - 2.SCI.Lamprey Habitat
 - 2.MTH.Salmon & Eel
 - 2.SS.Let's Go Eeling

Notes/Other

Jan Michael Looking Wolf's or Grand Ronde Canoe Family audio tracks can be played as background music while students are working. These audio tracks can be found on Spotify or Apple Music.

Jan Michael Looking Wolf: [Spotify](#) and [Apple Music](#)
Grand Ronde Canoe Family: [Spotify](#) and [Apple Music](#)

Appendix

- Luna the Eel Story
- Teacher Questions
- Luna the Eel Flashcards
- Reflection Exit Ticket