

Exploring *Lake Arthur Lotus*: Classroom Connection Grades: 5 – 8



Francis Pavy *Lake Arthur Lotus*, 2014. Oil on canvas. Courtesy of the artist and Arthur Roger Gallery, New Orleans

Description: Students will look closely at Francis Pavy's *Lake Arthur Lotus* and identify plants and animals of Louisiana's wetlands. After researching these organisms, students will create a food web, discuss the relationships between organisms, and consider the impact of environmental changes.

Classroom Activities:

- Ask students to look closely at the artwork and create a list of the plants and animals they see.
- Have students research the animals and plants on their lists. Examples might include luna moth, dragon fly, great blue heron, catfish, bald eagle, bison, black bear, American lotus, and water lily pads.
- Using the information from their investigation, students create food webs and/or track the flow of energy.
- Have students consider and model with their web what would happen if one of these plants or animals were removed. How would this affect other organisms, including humans? Francis Pavy created this artwork in response to the 2010 BP oil spill. Students can investigate the oil spill and on-going science research to determine the effect of the spill on the animals, plants, and people in Louisiana.
- Watch the video of Francis Pavy working in his studio. Consider how the process Pavy uses for making this artwork highlights the connections between wetland plants and animals. Work as a class to brainstorm ideas for making a class art project which will incorporate the class' research findings. Create artwork and display it in a public space along with labels explaining the research behind the project. Projects might include Styrofoam plate printing, fish printing (Gyotaku), or using string to demonstrate food webs or energy flow in a system.



Louisiana Science Standards Connections:

Science and Engineering Practices:

2. Developing and using models.
8. Obtaining, evaluating, and communicating information.

Crosscutting Concepts:

2. Cause and Effect: Mechanism and Prediction Events have causes, sometimes simple, sometimes multifaceted. Deciphering causal relationships, and the mechanisms by which they are mediated, is a major activity of science and engineering.
4. Systems and System Models: A system is an organized group of related objects or components; models can be used for understanding and predicting the behavior of systems
5. Energy and Matter: Flows, Cycles, and Conservation Tracking energy and matter flows, into, out of, and within systems helps one understand the system's behavior.

Disciplinary Core Ideas:

- LS2.A: Interdependent Relationships in Ecosystems
LS2.B: Cycles of Matter and Energy Transfer in Ecosystems
ESS3.C: Human Impacts on Earth Systems
EVS1B: Resource Management for Louisiana

Louisiana Art Standards Connections:

- VA-CE-M2 Select and apply media techniques, and technology to visually express and communicate
VA-CE-M5 Produce ideas for art productions while engaging in individual and group activities
VA-CE-M6 Understand and visually express relationships among visual arts, other arts, and disciplines outside the arts

Extensions:

Design and make a wetlands model. Test out how erosion rates and patterns change with vegetation, different weather, or types of soil. Compare different maps of Louisiana's coastline and investigate the rate at which the coast is disappearing. Research the causes and possible solutions. Hold a design challenge in which students create or propose a solution to one of the problems raised by disappearing wetlands.

Look for opportunities for students to participate in a wetlands restoration or revegetation project.

<http://www.laseagrant.org/education/projects/>

Resources:

Francis Pavy Process Video: <https://youtu.be/SVSyZHqQTKI>

Sill, Cathryn. *About Habitats: Wetlands*. Illustrated by John Sill, Peachtree. 2008.

Bill Nye- The Science Guy Season 3 Episode 17- Wetlands

Building a wetlands model- Wetlands in a Pan https://www.fws.gov/uploadedFiles/Region_1/NWRS/Zone_2/Inland_Northwest_Complex/Turnbull/Documents/EE/Field_Trip/Wetland%20in%20a%20Pan.pdf

<http://coastal.la.gov/resources/educational-resources/>

http://www.lsuagcenter.com/topics/kids_teens/projects/set/youth_wetlands_week

