



Integrating Outdoor Learning into Your Curriculum

Learning Inside Out Information Session
April 2, 2024



RI Dept. of Education (RIDE) Learning Inside Out Program

- In 2023, RIDE Awarded \$7.5 Million to 89 projects across RI to create outdoor learning spaces
- Be sure to visit the RIDE [Learning Inside Out Outdoor Classroom Initiative](#) page for updates and resources



**Audubon Society
of Rhode Island**



THE
**UNIVERSITY
OF RHODE ISLAND**



How can the RI Farm to School Network support your Outdoor Classrooms?



Cafeteria



Classroom



Community

Educational Benefits of Outdoor Teaching and Learning

- Connections to the natural world
- Support emotional, behavioral, and cognitive development
- Foster Creativity, decision-making, and problem-solving skills
- Promote an assets-based stance to learning
- Make real world learning connections
- Students design and solve problems

Every child needs nature. Not just the ones whose parents appreciate nature. Not only those of a certain economic class or culture or set of abilities. Every child.

-Richard Louv



Sustainability

Importance of Professional Learning for Teachers

- Engage in teaching strategies that support most appropriate practices
- Develop teacher agency
 - Build teacher confidence in outdoor teaching strategies
 - Connect the outdoor learning space to the curriculum
 - Provide meaningful connections to existing curriculum
 - Science, ELA, Math, Social Studies, Arts, etc.
- Value teacher expertise and voice
 - Give time and space to explore learning opportunities
 - Allow time for teacher collaboration and sharing
 - Involve as many teachers as feasible



Successful Planning for Curriculum Integration

HQIM and Community Partners

- Alignment
- Vertical Coherence
- Intentional and Sustainable Integration
- Phenomena Designed Learning by Grade Level NGSS Performance Expectations



[Creative Commons Attribution-ShareAlike 4.0 Unported License.](#)

Funded by the National Science Foundation (NSF).

HQIM Legislation

- **NGSS Performance Expectations**
- **LS1-2** Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms
- **LS1-6** Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

The screenshot shows the OpenSciEd website interface. At the top, there is a navigation bar with the OpenSciEd logo and links for 'Why OpenSciEd', 'Curriculum', 'Professional Learning', and 'About Us'. The main heading is '7.4 Matter Cycling & Photosynthesis – Unit Overview'. Below the heading is a large orange button labeled 'Unit Download'. Underneath the button is the text 'Where does food come from and where does it go next?'. At the bottom of the page, there is a metadata section with the following information: '2022 OpenSciEd', 'PUBLISHER: OpenSciEd', 'SUBJECT: Science', 'GRADES: 6-8', 'REPORT RELEASE: 2/7/2023', 'ALIGNMENT (GATEWAY 1 & 2): Meets', and 'USABILITY (GATEWAY 3): Meets'. There is also a 'FORMAT' section indicating 'Core: Comprehensive'.

Curriculum - Intentional and Sustainable Integration

If you haven't adopted HQIM....

Taking FOSS Outdoors



Taking FOSS Outdoors Contents

What Does FOSS Outdoors Look Like?	2
Goals and Objectives	3
Managing Space	4
Managing Time	8
Managing Materials	10
Managing Students	13
Teaching Strategies	20
Flow of the Lessons	22
Extending Beyond FOSS Outdoors	23
Elementary-Level Environmental Education	25
References	27
Acknowledgments	28

If we want children to flourish, to become truly empowered, then let us allow them to love the earth before we ask them to save it.

David Sobel, *Beyond Ecophobia*

Use existing curriculum to identify grade level entry points

How does changing an ecosystem affect what lives there?

Ecosystem Dynamics & Biodiversity: Palm Oil

OpenSciEd Unit 7.5

Building Toward NGSS Performance Expectations

MS-LS2-1:

Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

MS-LS2-4:

Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

MS-LS2-2:

Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

MS-LS2-5:

Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

MS-ESS3-3:

Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

MS-ETS1-1:

Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.



Lesson Question

LESSON 5

2 days

How have changes in our community affected what lives here?

Investigation



Phenomena or Design Problem



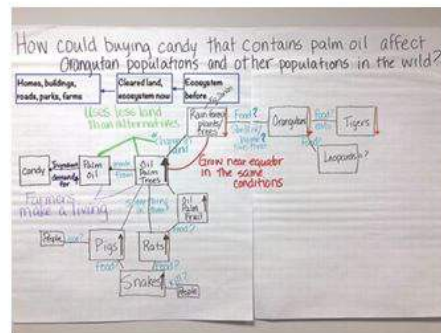
Some plants and animals seem to be doing OK, even with changes humans have made in our community, but others are missing altogether.

What we do and figure out

We share our murals documenting changes in our own community since major human disturbance. We make outdoor observations of evidence of the plant and animal life around the school, along with observations about the changes humans have made to the land. We share what we notice and compare the changes in our own community to those in Indonesia. We modify our model, and then we add questions to the DQB about our local community. We figure out:

- People in our community have changed natural habitats for their homes, buildings, roads, etc.
- Some plants and animals are still around, despite the changes, but others have disappeared from the area.

How we represent it



LESSON 19

0 days

How can we inform others in our community about the palm oil problem and convince them to take action?

Putting Pieces Together



Save the Orangutans!



Orangutans are intelligent and creative, like humans - in fact, they are some of our closest relatives. However, humans have been taking away their homes and food source to plant a certain ingredient that is used in products like candy and shampoo. **This ingredient is palm oil.**

In order to grow oil palm farms, you need space and people get this space by cutting or burning the forest that orangutans live in. When they burn the forest, orangutans' food source and habitat are destroyed. This means fewer orangutans can live there and their population goes down over time.

You might wonder, why can't we just stop using palm oil? But many products depend on it and in some countries many people work on oil palm farms to make money to support their families. So, getting rid of palm oil won't work.

However, there is a way to solve this, that way is by using sustainable oil palm farming. Sustainable oil palm farms are where:

- The workers are treated humanely.
- Different trees are mixed in with the crop to make it more like a rainforest.
- The companies and farmers take care to protect the orangutan population.

- You can help the orangutans by...**
- Buying less products that contain palm oil
 - When you buy products with palm oil, look for products that have a sustainable palm oil sticker (like the one above).
 - Donating money (if you can) to organizations that support orangutans.
 - Tell others about this problem and what they can do to help.

Here are some places you can donate money:

- [Save the Orangutans](#)
- [Orangutan Foundation International](#)

Public service announcements (PSAs) inform people and communities about issues like the palm oil problem and encourage them to take actions to help preserve natural systems.

We have figured out that the problem will require large-scale solutions combined with individual action. We create public service announcements (PSAs) to inform stakeholders in our community about the palm oil problem and how they can act to address this problem. We present our PSAs to our peers, teachers, and/or stakeholders and receive feedback on our approach. We figure out:

- People and communities can take small and large actions that aid the preservation of natural systems like the tropical rainforest.
- Small actions, like changes in people's habits and behaviors, when combined with others' actions or extended over time, can have a large impact on the preservation of natural systems.
- Some actions are more feasible for communities or individuals to implement, while others are more challenging.



Example Outdoor Learning Opportunities with Amplify Elementary Curriculum

Amplify.





We're ecologists.

Needs of Plants and Animals

Phenomenon:

Explore why monarch
caterpillars are no
longer in the garden.

Kindergarten





I'm a weather scientist.

Sunlight and Weather

Phenomenon:

Explore why one school playground is warmer than another.

Kindergarten





I'm a meteorologist.

Weather and Climate

Phenomenon:

Which island has the best weather for an orangutan preserve.

Grade 3



Curriculum - Intentional and Sustainable Integration

- Vertical Coherence
- Map out when and what grade outdoor integration can occur and plan vertically to avoid overlap
- Google Calendar is one way to do this
- Community Partners

Topic	Primary School (Grades K-2)	Elementary School (Grades 3-5)	Middle School (Grades 6-8)
Life Science			
LS1: From Molecules to Organisms: Structures and Processes			
LS1.A: Structure and Function	<ul style="list-style-type: none"> • All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (1-LS1-1) 	<ul style="list-style-type: none"> • Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction. (4-LS1-1) 	<ul style="list-style-type: none"> • All living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of one single cell (unicellular) or many different numbers and types of cells (multicellular). (MS-LS1-1) • Organisms reproduce, either sexually or asexually, and transfer their genetic information to their offspring. (secondary to MSLS3-2) • Within cells, special structures are responsible for particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell. (MS-LS1-2) • In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions. (MS-LS1-3)

THE POLLINATOR WORLD

ATTENTION! By learning about this garden, you are helping those in need!

ECO-SUPER HEROES

Pollinators are animals that carry pollen from one flower to another so that those plants can produce seeds and fruits.

- The majority of pollinators are insects, over 200,000 species of them!
- Bumblebees are important pollinators that visit a wide range of plants and pollinate many foods that we like to eat!
- Butterflies and flies can taste with their feet!
- Male bees and wasps don't have stingers!
- A hummingbird's wings beat 50 – 200 times per second!



NATIVE PLANTS

Native plants, and the ecosystems they sustain, are irreplaceable support systems for life on earth, including humans.

- Plants purify water by trapping and absorbing contaminants.
- Native plants support insects that are food for birds and other animals.
- Plants keep us alive, happy, and comfortable. Through photosynthesis, plants provide oxygen we all breathe.
- These are examples of plants native to Rhode Island that help benefit our wildlife: 1) Boneset 2) Sweet Joe Pye 3) Yellow Wild Indigo 4) Windflower 5) Wild Lupine 6) Highbush Blueberry

Opportunity
for multi-year
activities and
investigations



Scan to find out more information about pollinators and native plants



Placeholder: "Scan for information about school's program"



This outdoor space was sponsored through the RIDE Learning Inside Out grant.

References: RI Pollinator Atlas, DEM RI, & RI Wild Plant Society

STE(A)M Courses

Consider integration of Math, Engineering, Science, and ELA

Student-centered and based on community needs or student interests/curiosities where Teacher is facilitator, not explaining, but guiding students to solve a problem or sense-making discussion of a phenomena

Problem-Based Learning (PBL) - Real world challenge or objectives

Engineering Design Cycle- Iterative process of design, constantly taking new info and redesigning to create or improve a solution to a real problem

Takeaways

- *Outdoor teaching and learning is good for students and teachers*
- *Connecting the outdoor space to the existing curriculum supports sustainability*
- *Teachers need time to collaborate with one another and intentionally plan how the outdoor space can support their learning objectives and vertical progressions*
- *Ongoing professional learning opportunities are needed to sustain and maintain outdoor teaching and learning*

For Additional Support Contact:

kellyhoule@uri.edu; 401-874-6008

Caitlin.Mandel@ride.ri.gov; 401-862-7083

C.sevigny@vsamerica.com; 401-742-0651

erin.escher@ride.ri.gov; 401-222-8168

Questions?

Thank You!



Sign up to receive updates
on all things Farm to School



<https://rifarmtoschool.org/enews/>