Field Trip to the Sakonnet Greenway Trail

Directions to the Trail

The Sakonnet Greenway Trail is located on the east side of East Main Rd. in Portsmouth, between Sandy Point Ave and Union Street across from Oakland Farm Road. The entrance approaches fast and is tight, so be mindful after you pass Union Street (from the North) or Sandy Point Ave (from the South). On the web, at **Google.com** . . . type in Newport Polo Grounds, Portsmouth RI for a driving map.

Two big stone pillars mark the entrance of the Glen Farm Area with sports fields on each side. Continue down Linden Lane past the Brown Farm house (which is actually yellow), parking can be found in the open field on the left behind the stone wall. Look for the trail kiosk which marks the beginning of the Trail on the south side of Linden Lane. The Trail proceeds south from the kiosk along the stonewall.

Things to Remember

- Please use caution when crossing roads (e.g. Sandy Point Ave. and Bramans Lane)
- Hands on interactive learning is encouraged, but please take only photos and leave only footprints
- Silence is good when observing nature!

Things you may want to bring

- A drink
- Snacks for a break
- Note pads and writing utensils
- Binoculars and magnifying glass (if desired)
- Bug spray, sun screen and hat (recommended)
- Field guides of native species (if available)
- Additional clothing if weather is questionable
- First-Aid kit


You Are HERE
St. Mary's Pond
Linden Lane
The Glen
Leonard Brown House
Pennfield School
SANDY POINT AVE.
See Rules & Regs. panel for a closer look at open trails
Loop Trail
EAST MAIN ROAD
BRAMAN'S LANE
Sakonnet River
N
W
E
S
Newport National Golf Course
MITCHELL'S LANE
WAPPING ROAD
WYATT ROAD
Aquidneck Land Trust's
Sakonnet Greenway Trail
Approximate location of future section of the Sakonnet Greenway Trail
0 .25 .5 miles
Properties conserved by the Aquidneck Land Trust
Pedestrian and Equestrian Use
Pedestrian Use Only
Parking
The more clearly we can focus our attention on the wonders and the realities of the universe, the less taste we shall have for destruction.
–Rachel Carson

FOREST ECOLOGY

Grades 6-8:

GLEs/GSEs: (from *The Living Environment*)**

☑ Benchmarks 1 of 2— Interdependence of Life

By the end of 8th grade all students will know that-- In all environments—freshwater, marine, forest, desert, grassland, mountain, wetlands and others**—organisms with similar needs may compete with one another for resources, including food, space, water, air, sunlight and shelter.** In any particular environment, the growth and survival of organisms depend on their physical conditions.

☑ Benchmark 2 of 2— Interdependence of Life

By the end of 8th grade all students will know that-- Two types of **organisms may interact with one another in several ways: they might be in a producer/consumer**, **predator/prey**, **or parasite/host relationship.** Or one organism may scavenge or decompose another. **Relationships may be competitive or mutually beneficial.** Some species have become so adapted to each other that neither could survive without the other.

☑ Benchmark 1 of 3— Flow of Matter and Energy

By the end of 8th grade all students will know that-- Food provides the fuel and building material for all organisms. Plants use the energy from light to make sugars from carbon dioxide and water. This food can be used immediately or stored for later use. **Organisms that eat plants break down the plant structures to produce the materials and energy that they need to survive. Then they are consumed by other organisms.**

Context for the Lesson:

- The purpose of this lesson is to provide students with direct experiential connections with their natural environment. Concerns about Nature Deficit Disorders (NDD)[1] and the No Child Left Inside (NCLI)[2] Act both support the need for children and teenagers to explore, observe and interact with nature and wildlife. During a field trip to the Sakonnet Greenway Trail, students will be able to see many facets of our local natural habitat and engage in fun activities that stimulate intellect, memory, and observation skills.

Opportunities to Learn:

- **On the trail . . .** students will be hiking through local natural environments on properties that have been conserved by the Aquidneck Land Trust. The Aquidneck Land Trust is a (501)(c)(3) non-profit organization that works to preserve Aquidneck islands open spaces and natural

[1] Last Child in the Woods, by Richard Louv
[2] http://www.naaee.org/ee-advocacy

character for the lasting benefit of our community. On the trail there are numerous areas where invasive species, meadow to forest succession, and natural and urban disturbances can be discussed as well as many places to talk about the natural history of the island. Students can discuss or debate how and why certain circumstances persist, why some forms of wildlife are abundant and others are not, and how living things are connected and related to their environment, including humans. This trail as a whole facilitates the ability for students to recognize the interconnectedness of the natural environment.

Objectives:

- Students will practice using natural science vocabulary that focuses on the characteristics, habitat, basic needs, similarities and differences between various plants and animals by matching the words to the definitions on the vocabulary sheet.
- Students will understand there are many similarities and differences between various aspects of the living environment (interconnectedness) by completing the grocery store worksheet.
- Students will be able to compare and contrast animal and plant similarities and differences by completing the drawing worksheet and participating in the scavenger hunt.
- For students to realize that the natural environment is a source of knowledge available to everyone.

Instructional Procedures: (Lesson Format)

This lesson plan should begin with the attached vocabulary worksheet. Terms on the worksheet should be discussed in class based on the grade level and student ability before and after the field trip. Also, at the end of the field trip, previous knowledge of the outdoors and what it contains should be reviewed and talked about in relation to what was seen on the field trip.

Various activities can be conducted in any order based on the teachers' discretion and correlated to the above benchmarks in any manner.

Grocery Store: Discuss the position of items in a grocery store. Have students look at the outside environment as a grocery store. What types of food are located on the top shelf (canopy), lower shelf (understory), bottom shelf (ground), and basement (underground).From what shelves do different animals `shop'? Do most animals `shop' from one specific shelf, or are they evenly distributed? On the worksheet provided, ask students to brainstorm and then place different animals in different locations of the worksheet based on their size, characteristics and position in the food chain.

Drawing Worksheet: This worksheet provides the students with the ability to develop their individual creativity and artistic ability. Each student should get a worksheet but they may work in groups to provide social comfort and successfully complete the task. After all students have completed the worksheet, teachers can choose to let the students keep them or collect them and analyze later so that back in the class leaf shapes and characteristics can be discussed.

Scavenger Hunt: The scavenger hunt is a group activity in which students can build upon team work as well as develop the ability to think logically and improve their awareness of the natural environmental. After 15-30 minutes (teacher's discretion) have students gather to talk about and share what they found. Remember to minimize the amount of matter that is removed from its natural state.

Assessment

Grading for this lesson will rely on teacher discretion, but all students should demonstrate a better understanding of The Living Environment as specified in the GSE's above. Worksheets can simply be given a √ or √+ for completion. A short summary of what the student learned or took an interest in from the field trip should be required once back in class as a means of evaluating grammar and English in the natural sciences.

Evaluation should be based on student's ability to understand and provide examples of: plant & animal similarities and differences, features that help them survive, features that are distinct, and relationships that plants & animals may have with each on a scale of (1-4); (1) meaning the student lacks the ability to demonstrate an understanding of the benchmarks, (2) meaning the student has the cognitive ability to recognize the outlined benchmarks but lacks the ability to confer their knowledge onto paper, (3) meaning the student has shown the ability to recognize and translate examples outlined in the benchmarks or (4) the student has a very strong understanding of the living environment and can successfully complete all worksheets as specified in the directions.

Materials:

- Field guide or handout of commonly observed wildlife and plant species (if available)
- Worksheets (included), pencils, pens, a note pad to document observances and take notes, binoculars, magnifying glass and a clip board if desired
- Snacks and water bottles for a break if desired, sun block, hat and insect repellant recommended

Suggestions for Teachers:

1.) Walking the trail, teachers should ask questions (at increments throughout the trail) in order to draw on the students observations and reinforce prior classroom knowledge so students can see connections between their observations on the trail and concepts like habitat, community, and ecosystem.

2.) At the various locations students should identify the habitat, and what resources are present that they can distinguish as well as what types of organism relationships may be present.

3.) When approaching the small streams along the northern portions of the trail, students should brainstorm what resources the stream(s) may provide various organisms with and how seasonal variation may affect resources around the stream(s).

4.) At the end of the trail gather to ask questions about different observations noted as the trail was walked, and discuss as many topics and correlations as possible . . .

- ❑ During the walk did anybody notice the different habitats? And what ones were noted?
- ❑ What animals may be present in the various habitats that were observed along the trails?
- ❑ Compile a class list of all the examples of organism relationships that the students brainstormed during the walk
- ❑ List some ways in which humans interact with the environment (compare and contrast)

Intended Outcomes:

Students should finish the day and have confidence in their ability to distinguish different habitats, the resources that those habitats provide for both plants and animals and some patterns and similarities that occur within those habitats. Students should increase their vocabulary and improve their ability to converse intelligently about environmental sciences as well as feel more comfortable and at ease when outdoors and surrounded by their natural environment.

Name: _____ **Date**: _____

Directions: Along the trail there are many different tree species. Find a Yellow Birch leaf like the provided example. Then trace a picture of three different leaves that you can find. If you can name the type of tree the leaf came from, fill in the blank space.

<table>
<tr>
<td>example:
Yellow Birch
  </td>
<td>Type of tree:
_____</td>
</tr>
<tr>
<td>Type of tree:
_____</td>
<td>Type of tree:
_____</td>
</tr>
</table>

Scavenger Hunt

Name: _____ **Date**: _____

Directions: Along the trail there are many living and nonliving aspects of Mother Nature. Without harming Mother Nature or any living organisms, find and collect as many of the items described below as you can.

- ❑ **Find a leaf from Rhode Island's state tree.**
- ❑ **Find a resource that would be eaten by a grazing cow or horse.**
- ❑ **Locate something a small or large bird might require for survival.**
- ❑ **Some trees and bushes produce seeds or nuts which help them reproduce. Find as many different seeds or nuts as you can on the ground.**
- ❑ **Find something that could be recycled.**
- ❑ **Find at least one example of an <u>Abiotic</u> factor of the environment.**
- ❑ **Find at least one example of a <u>Biotic</u> factor of the environment.**
- ❑ **Conifers produce pine needles and pine cones. Find one of these two characteristics of a Conifer.**
- ❑ **Find something a Native American may have used as a tool a long time ago.**
- ❑ **Find where you think the best place for a little bird to hide would be. Why here?**
- ❑ **Find where you think the worst place for a little bird to hide would be. Why here?**

Name: _____ Date: _____

Vocabulary Work Sheet

Directions: Fill in each of the blanks with the proper word from the word box below.

ecosystem	**community**	**species**
competition	**ecology**	**biotic factor**
abiotic	**environment**	**resource**

1.) An _____ includes living organisms and the non living environment of an area functioning together.
2.) A population of more than one species that interact with each other and their environment in an area is a _____.
3.) A group of organisms that have similar physical characteristics and reproduce together are defined as a _____.
4.) _____ is the interaction between organisms or animals for resources, mates, shelter and space?
5.) The word _____ refers to the study of interactions of living organisms with each other and their environment.
6.) A _____ is of or pertaining to living organisms.
7.) A substance valued or required by any organism(s) for survival is a defined as a _____.
8.) The _____ environment consists of all non-living things.
9.) All of the external Abiotic and Biotic surroundings of a particular area is referred to as the _____.

Bonus: compose a descriptive paragraph at the end of the field trip that details the Sakonnet Greenway Trail using as many of the above vocabulary words as you can.

Name: _____ Date: _____

Grocery Store Work Sheet

Directions

1.) **Fill in the boxes with 3 different animals that you would find in each location (Top, middle, bottom shelf, and underground). Animals may be found in more than one location.**

Top Shelf	**1.**	**2.**	**3.**
Middle Shelf	**1.**	**2.**	**3.**
Bottom Shelf	**1.**	**2.**	**3.**
Underground	**1.**	**2.**	**3.**

<u>Now brainstorm with your group why animals are found on those shelves and where they might shop for food with your group and be prepared to explain to the class and your teacher the conclusions that defend your groups answers?</u>