Harvard LTER Schoolyard Program

Teacher Developed Lessons and Documents that integrate Harvard Forest Schoolyard Ecology Themes into curriculum.

• Lesson Title: Forest Ecology
• Teacher/Author: Anne McDonald
• School: Toy Town Elementary School
• Level: Fifth Grade
• Date: April, 2013
Essential Questions

What action can we take to preserve or make positive change in forest ecosystems?

What can we learn about ecosystems in the forest?

How do we do research in forest ecosystems?
Research Study

- Each of 5 fifth grade classrooms has an assigned and tagged hemlock tree in our schoolyard.

- In fall, we are measuring the new growth of tagged branches of our Hemlock trees.

- In Spring, we make observations to see if the woolly adelgid is present or not by looking for egg sacs.

No Adelgid has been found on our trees yet, but it has been found in other towns in the same region.

- Teacher and students provide data which is posted on the Harvard Forest website. Students can analyze their data and compare it to data from other schools.

- Teachers attend Professional Development workshops at Harvard Forest
Toy Town Elementary School Implements the Harvard Forest Schoolyard Ecology Program


with Dr. David Orwig, Forest Ecologist

Will the Hemlock Woolly Adelgid destroy our hemlock trees forever?

How will our forest change if the hemlock disappears?

Dr. David Orwig meets with Toy Town Fifth Graders at Harvard Forest

Hemlock tree at Harvard Forest with the Woolly Adelgid
Fifth Grade Classes Visit Harvard Forest

Dr. Orwig takes us out in the field to observe Hemlock trees and the Woolly Adelgid

Toy Town Elementary student viewing the Woolly Adelgid under the microscope

Pamela Snow, Schoolyard Coordinator tests our knowledge of cones

Volunteer, Bob Clark, shares his knowledge of the changing New England landscape as we view the famous Harvard Forest dioramas
Other Forest Ecology Activities
Our Fall Field Trip to Otter River State Forest
Toy Town Elementary Fifth Graders
Hiking the Wilder Mckenzie Trail,
Otter River State Park to Lake Dennison State Park
Making Observations with Journal Prompts in a Coniferous Area
Making Observations with Journal Prompts in a Deciduous Area
Descriptive Writing from Journal Observations and Samples from the field
What effects did the rain have?

Fish Jumping right out of Lake Dennison!

Creative cast coverings

Most creative costume designs using trash bags!
Spring PLT Field Activity

“The Fallen Log”

How does a forest ecosystem benefit from a fallen log?

Mrs. McDonald and students

Mrs. Duprey and students
Examples of Mrs. McDonald’s Fifth Grade Students’ Research Posters of Invasive Species

- Woolly Adelgid
- Zebra Mussels
Examples of Mrs. McDonald’s Fifth Grade Students’ Research of Invasive Species and Persuasive Writing

European Starling

Gypsy Moth