

## Title: Thoreau Walk: Getting to Know a Piece of Cincinnati Landscape

### Lesson Summary:

In the spirit of Henry David Thoreau and E.O. Wilson students are asked to plot a walk consisting of at least 50 meters around their house. Initially they are asked to plot their path on graph paper, to scale, showing their path, indicating N,S, E and West. Students walk this path once a week during the entire school year recording in their laboratory notebook the kinds of plants, animals and other forms of life they encounter. Observations that involve the use of their five senses are recorded at first. Quantitative measurements regarding the number and kinds of species follow. The students are asked to write questions regarding their observations. Students eventually will test one hypothesis that they construct themselves from their observations. Sharing of their walks will take place once a week, in assigned groups and as a classroom discussion. The culminating activities consist of designing a path that will increase local biodiversity and answer the thesis question, was Henry David Thoreau a scientist?

### General Goal:

The goal of the project is to immerse the urban student into the natural landscape and reinforce the concept of biodiversity. Both scientific and social inquiry are reflected in the execution of the project since students will recognize human alteration of the landscape and our impact on biodiversity, followed by their construction of a landscape design that increases local biodiversity. Students appreciation for nature should also increase.

Duration: The project will be introduced in September and end on May 25th, 2002.

### Specific Learning Objectives:

- to define the concepts of transcendentalism and biophilia
- to read selected works of Henry David Thoreau and E.O. Wilson
- to journalize on scientific thinking vs. transcendental analyses
- to name local flora and fauna
- to analyze the changing seasons and document their effect on organisms
- to examine biodiversity in neighborhoods (human disturbance) vs. a natural habitat
- to design a landscape that increases biodiversity

### Prerequisite knowledge:

The English Department will read Thoreau and develop the ideas of transcendentalism. Biological concepts will be reinforced during the school year. Students have had a course in Environmental Science and are familiar with concepts of biodiversity. Lessons to reinforce biodiversity will enhance student understanding of human intervention in their local surroundings.

### Instructional Strategy:

The English teachers will introduce transcendentalism and the works of Thoreau. The biology teachers will take the students outside and walk Sr. Mary Joseph's path (150 meters) asking the students to observe the organisms as Thoreau may have done. Ask the students how they might fully appreciate the walk? How might they amplify their appreciation of the walk? Do not allow students to talk after the initial walk through. Walk again but this time in silence. The students

and teacher will attempt to demonstrate methods that increase the experiential nature of the walk. Have the students write reflections in their lab books? Upon returning to the classroom have the students write ten questions that stem from their observations.

#### Assessment:

Students will be assessed weekly on their field notes. the final project entitled, "Increasing Biodiversity with Landscape Design" will be displayed in the Science Hallway. The thesis paper, Was Thoreau a Scientist? will be 25% of the final exam. Was Thoreau a scientist? Explore, Thoreau As Botanist on the web. Read the article by Ray Angelo and using your understanding of the nature of science answer the question. Support your position with quotations taken from Angelo's paper and your understanding of the scientific process.

<http://www.herbaria.harvard.edu/~rangelo/BotIndex/ThAsBot.html>

#### Comments:

This project has been done in mini form. Student comments have been positive. The project has been more successful when students pull from their multiple intelligences. Drawings, writing poetry, discussion with peers, journal entries and photography projects when combined with scientific thinking create a holistic learning experience. Students who live in apartments can walk a path around the building. Students can choose paths anywhere they like as long as the walk is convenient and assessable. Field guides should be available in the classroom or library. Students who have been successful in the past have solicited information from parents, grandparents and neighbors. Some have visited nurseries to identify the plants.

#### Suggested References:

Hurd, Paul Dehart. 1997. *Inventing Science Education for the New Millennium*. Teachers College Press, Columbia University: New York

Lingelbach, J. 1986. *Hands-on Nature: Information and activities for exploring the environment with children*. Institute of Natural Science: Woodstock, Vermont.

Pepi, David. 1985. *Thoreau's Method: A Handbook for Nature Study*. Prentice Hall, Inc: New Jersey.

Thoreau, Henry David. *Faith in a Seed*. Island Press paperback, 1996.

Walls, Laura D. 1999. *Material Faith: Henry David Thoreau on Science*. Houghton Mifflin:

Wilson, E.O. 1984. *Biophilia*. Harvard University Press: Massachusetts.

#### Faith In A Seed: The Dispersion Of Seeds And Other Late Natural History Writings

"...I have great faith in the seed.

Convince me that you have a seed there,  
and I am prepared to expect wonders."

-Henry David Thoreau

In 1996, “The Dispersion of Seeds” one of Thoreau's last important research and writing projects was released and places him among the first Americans to understand the significance of Darwin's theory of Natural Selection.

Over the course of the school year we took 22 walks. Some of these were suggested by the students and others by the teacher. This project has been one of the most rewarding of my teaching career. Students formulated many questions about nature and suggested themes for walks. I will continue this for many years.