

# **ART & SCIENCE: Where Do You Draw the Line?** **(Thoreau the Naturalist)**

Wayne D. Little/C. David Luther  
*August 2000*

## **CONCEPTS:**

### **Scientific & Literary Concepts:**

- Students will learn to observe, document, and classify botanical samples using scientific method and Thoreauvian observation skills.
- Students will become familiar with the characteristics and classification of herbs and woody plants.
- Students will learn to organize their observations both on a Scientific data page and their journal as they respond in a narrative style inspired by the writings of Henry David Thoreau.
- Students will produce a “Kalendar” containing drawn samples of herbs and woody plants from the greater Concord area.
- Students will compile a journal of observations from nature in conjunction with their lab samples.

### **Visual Literary Concepts:**

- Students will learn to observe visual elements within the context of (5) basic shapes/forms found in nature.
- Students will identify artistic design elements (line, shape, color, texture, space, pattern, symmetry, rhythm, etc.) as they are found in their natural habitat.
- Students will learn to identify the (3) major styles of objective design (representational, semi-abstract, and abstract) as they build a portfolio of artistic creations, each inspired by naturalistic themes.
- Students will create at least (3) works of art based on their samples and journal observations.
- Students will present their artwork at the annual Spring Art Show.

## **PROCEDURE:**

### **Scientific & Literary**

- The Science Teacher will introduce the “*Botanical Sample Page*” designed for this unit and the compilation of a “Kalendar”. Included in this discussion will be classification techniques and observation criteria.
- The Science Teacher will further introduce a “*Botanical Journal Page*” designed for this unit. Included on this page will be a “*Botanical Word Pool*” inspired by Thoreau (*Wild Fruits*, pg. 276-277). This discussion will also include an overview of Henry D. Thoreau’s skills of observing natural elements and his “journaling” techniques.
- Students will discuss their reading of *Faith in a Seed*, by H.D. Thoreau and Bradley P. Dean’s Introduction to *Wild Fruits*, written by H.D. Thoreau.
- Students will discuss their reading of selected handouts from Thoreau’s journal entries and other writings.
- The Art Teacher will introduce the students to basic drawing techniques reinforced by an introduction to the work of Claire Walker Leslie in her book *Nature Journaling* and/or Hanah Hincheman’s book *A Trail Through Leaves*.

- The Science Teacher will lead a field experience around the school grounds and highlight some of the natural specimens that a keen observer can find. He will also note some of the native species and their characteristics. The students will become aware that many of these specimens can be found in their own backyards so that they will not be restricted to the “outdoor lab” at school.
- Upon completion of the collection of samples and the compilation of data through their botanical samples and journal entries, students will collate their work as lab groups and build a book of samples with journal entries that are common to each specimen.

## ARTISTIC

- Students will view a video presentation called “The Shape of Things” (NOVA, 1985) in an effort to define (5) basic forms of design as they are found in nature.
- The Art Teacher will introduce an overview of the artistic design elements including symmetrical and asymmetrical balance.
- Once all the “Kalendars” are completed, the Art Teacher will lead the students to an understanding of the difference between *objective* and *non-objective* styles in art. Individual works will be shown which illustrate this comparison. Once this classification is understood, the Art Teacher will characterize the differences between the three objective subcategories: *representational*, *semi-abstract*, and *abstract* styles.
- The Art Teacher will introduce the students to the works of the famous Dutch abstractionist Piet Mondrian and his study of “Trees”. It might also be possible to include the works of popular Concord artist Jeannie Abbott and her drawings from nature.
- The Art Teacher will introduce the assignment to create three works of art; one representational, one semi-abstract, and one abstract. Each of these creations must be inspired by a natural specimen for which the student has already produced a “lab sample” and “journal entry”.

## ASSESSMENT

- The “Kalendar” and all artwork will be assessed using a student-designed rubric.
- A show of the best artwork will be organized by the students and will show in conjunction with Burlington’s Spring Art Show.

## BIBLIOGRAPHY

Alden, Peter, National Audubon Society. *National Audubon Society Field Guide to New England*. Knopf, May, 1998.

NOVA. *The Shape of Things*. PBS, 1995.

Thoreau, Henry D. *Autumnal Tints*. Applewood Books, October, 1996.

Thoreau, Henry D., Bradley P. Dean (Editor), Abigail Rorer (Illustrator). *Faith in a Seed: The Dispersion of Seed and Other Late Natural History Writings*. Island Press, May, 1996. (Reissue ed.)

Thoreau, Henry D., Laura Dassow Walls (Editor), Abigail Rorer (Illustrator). *Wild Fruits: Thoreau’s Rediscovered Last Manuscript*. W.W. Norton & Company, November, 1999.

# BOTANICAL JOURNAL

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*Scientific Name*

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*Common Name*

*"...both ice crystals and leaves were the creatures of one law."*  
- Henry David Thoreau

Directions: *As you observe your field sample, write a paragraph as H.D. Thoreau would have for each of the characteristics listed below. Feel free to use, add to, and share the wordpool.*

**Habitat** (*pond, brook, pasture, cultivated, meadow, topography, broadleaf, pine or mixed forest, succession, soil type, etc.*)

**Climate** (*season, date, time, weather, temperature, wind speed, wind direction, etc.*)

**What do you see?** (*leaf type, design, shape, arrangement, size, color, texture, buds, flowers, fruits, seeds, dispersal mechanism, insects, birds, animals, and their evidence, etc.*)

**BOTANICAL JOURNAL**  
(continued)

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*Scientific Name*

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*Common Name*

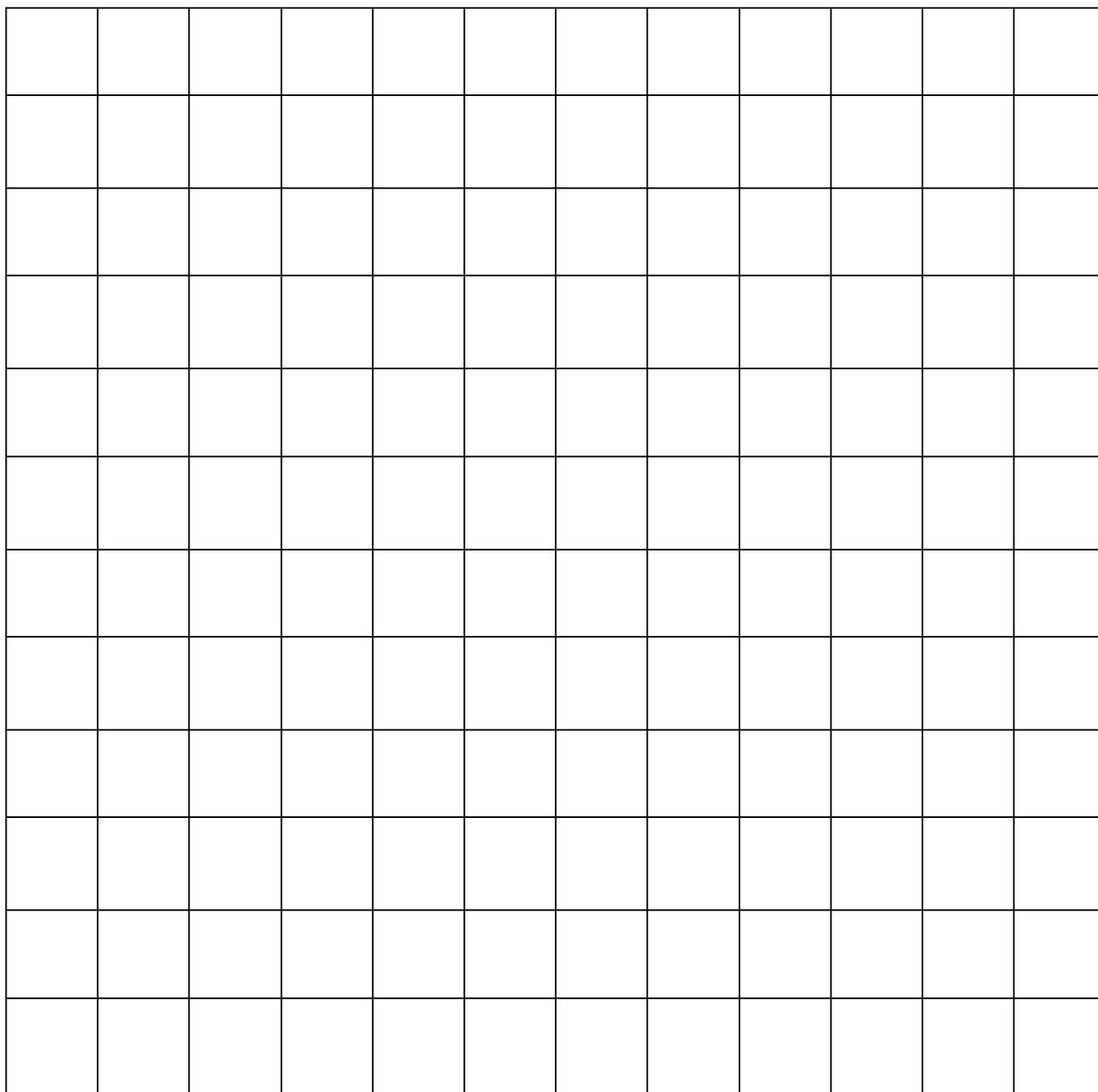
*“...we’re still far from the time when people will understand the curious relation between one fragment of nature and another, which all the same explain each other and enhance each other.”*

- Vincent Van Gogh

What did “Henry” say? *From your selected or optional readings and required readings (“Faith in a Seed” and “Wild Fruits”), select at least two quotes which offer insight into your personal observations.*

What else have you learned from this fragment of nature?

# BOTANICAL SAMPLE (Representational Drawing)



*"I shall never find in the wilds of Labrador any greater wildness than in some recess of Concord"*  
- Walden, Henry David Thoreau

## A Suggested List of Greater Concord Plants Which Make the Thoreauvian Connection

### TREES

|                             | <u>Scientific Name</u>   | <u>Common Name</u> |
|-----------------------------|--------------------------|--------------------|
| <b>Conifers/</b> Evergreen  | <i>Pinus rigida</i>      | Pitch Pine         |
|                             | <i>Pinus strobus</i>     | Eastern White Pine |
|                             | <i>Tsuga canadensis</i>  | Eastern Hemlock    |
|                             | <i>Picea glauca</i>      | White Spruce       |
| <b>Conifers/</b> Deciduous  | <i>Larix laricina</i>    | "American Larch"   |
| <b>Broadleaf/</b> Deciduous | <i>Betula papyrifera</i> | "White Birch"      |
|                             | <i>Betula lenta</i>      | "Black Birch"      |
|                             | <i>Alnus rugosa</i>      | Speckled Alder     |
|                             | <i>Acer rubrum</i>       | Red Maple          |
|                             | <i>Tilia americana</i>   | American Basswood  |
| <b>Broadleaf/</b> Evergreen | <i>Ilex opaca</i>        | American Holly     |

### SHRUBS

|                  |                                |                       |
|------------------|--------------------------------|-----------------------|
| <b>Deciduous</b> | <i>Sambucus canadensis</i>     | "American Elderberry" |
|                  | <i>Vaccinium augustifolium</i> | Lowbush Blueberry     |
|                  | <i>Gaylussacia resinosa</i>    | Black Huckleberry     |
|                  | <i>Rhus typhina</i>            | Staghorn Sumac        |
| <b>Evergreen</b> | <i>Ledum groenlandicum</i>     | Labrador Tea          |

“Though I do not believe that a plant will spring up where no seed has been, I have great faith in a seed.  
Convince me that you have a seed there, and I am prepared to expect wonders.”

- Faith in a Seed, Henry David Thoreau

## List of Greater Concord Plants (Continued)

### VINES

| <u>Scientific Name</u>             | <u>Common Name</u>          |
|------------------------------------|-----------------------------|
| <i>Vitis labrusca</i>              | Wild Grape (“Fox Grape”)    |
| <i>Parthenocissus quinquefolia</i> | Virginia Creeper (Woodbine) |

### HERBACEOUS PLANTS

|                          |                              |                                   |
|--------------------------|------------------------------|-----------------------------------|
| <b>Weeds/Wildflowers</b> | <i>Impatiens capensis</i>    | “Touch-Me-Not”                    |
|                          | <i>Cirsium vulgare</i>       | Bull Thistle                      |
|                          | <i>Asclepias syriaca</i>     | Common Milkweed                   |
|                          | <i>Asclepias tuberosa</i>    | “Butterfly Weed”                  |
|                          | <i>Desmodium canadense</i>   | Showy-Tick Trefoil                |
| <b>Wetlands/Ponds</b>    | <i>Nuphar lutea</i>          | “Spatter Dock” (Yellow Pond Lily) |
|                          | <i>Symplocarpus foetidus</i> | Skunk Cabbage                     |

# **ART & SCIENCE: Where Do You Draw the Line? (Thoreau the Naturalist)**

## **ASSESSMENT RUBRIC**

### **SCIENTIFIC & LITERARY CONCEPTS**

**Credit Earned**

Twenty-four samples (6 from each student in a lab group of 4) are collected, documented, and classified correctly.

Logical and scientific terms are used to describe characteristics of samples.

“Thoreauvian” observations are presented in each journal in a narrative style.

**Sub:TOTAL**

### **VISUAL LITERARY CONCEPTS**

Examples of the (5) basic shapes/forms found in nature are evident.

Artistic design elements are illustrated.

Each lab group member has illustrated at least one of their 6 samples in semi-abstract and abstract objective designs.

A “naturalistic” theme is evident and explainable.

**Sub:TOTAL**

The results of the quiz based on the video, “*The Shape of Things*”, (NOVA, 1985) the lectures on artistic styles, and the visual elements of design.

The results of a narrative style test demonstrating the knowledge and use of 10 out of 15 selected Thoreauvian quotes found in “Faith in a Seed”.

**Sub:TOTAL**

The results of a classic, active “lab practical” test using 25 of the botanical samples which have been collected, pressed, and mounted by the class. Each sample will include a relevant quote from H.D. Thoreau and will be identified by either the “common name” or “scientific name”. An answer sheet will be provided to submit the missing name for each sample.

**TOTAL SCORE**