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A Natural and Cultural History of Thoreau Elementary School
An integrated Place-Based Unit of study for Second Grade
Thoreau Elementary School
29 Prairie Street, Concord, MA 01742
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Unit Overview

Through a series of interdisciplinary activities, the second graders in my class will explore the past and present of our school building and grounds to gain a better understanding of their place in “the stream of time”¹ that connects them to Henry David Thoreau, a man whose name identifies and labels their school. The students will engage in a unit of studies that will function as a string, weaving in and out of required second grade curricula to connect reading, writing, social studies, science, geography, and math. Its objective is to explore such concepts as change, interaction, nature/human relationship, time (past, present, and future), place, maps (birds-eye view), measuring with standard units, system (parts and whole), community, and making a difference (making history).

Although the common approach to teaching a unit is to limit its duration to a certain length of time, I create a flexible and organic process while integrating and adjusting the timing of each lesson to align it with the rest of the district curricula for second grade. I believe that an interdisciplinary and spiraling approach to learning always brings students to a higher level of understanding. I frequently employ this method while working with the children to deepen their level of reflection and elevate their discussions. As a result, rather than 5 short lessons, my unit includes several overarching activities stretched throughout the year, some of which take place over multiple sessions.

Lesson Details

In order to begin connecting my students to the unit as early as possible, I will send them a letter in late summer before school starts along with one I send to their parents. One of the assignments I will give the students in that letter is to choose a tree close by and if they can, find out what kind of a tree it is and have their picture taken with their tree to bring to class on the first day of school. Using that encounter as a springboard, we will start the following activities in the order stated below. As you will notice, many of the activities begin in the fall, but they continue throughout the rest of the year. My experience has led me away from the use of predetermined prompts. Instead, I start the conversations with open-ended questions to determine the students’ prior knowledge and

¹ This is a reference to the following quotation: “Time is but the stream I go a-fishing in. I drink at it; but while I drink I see the sandy bottom and detect how shallow it is. Its thin current slides away, but eternity remains. I would drink deeper; fish in the sky, whose bottom is pebbly with stars.” Thoreau, Henry David and Jeffrey S. Cramer. “Where I Lived, and What I Lived For.” *The Portable Thoreau*. New York: Penguin, 2012. 277.

follow up with Socratic questions to promote reflection, participation, and promote problem solving. Therefore, the students feel freer to share their ideas in an authentic and personal way.

Tree Identification

In September, using Audubon photos of the trees of the northeastern states, we will launch a short daily exercise of reviewing a few (5-10) leaf pictures and learning to name them. As the students become able to recognize each tree by looking at the shape of its leaves, new trees are introduced until the children can easily differentiate between approximately 50 trees common to Massachusetts. To achieve this goal by the end of September, we review the pictures for 2-3 minutes at least twice daily. The best time for this review is the first thing in the morning during our whole class meeting and again after lunch recess.

This activity meets the MA state standards for grade 2 life sciences (LS4 on Biological Diversity requires students to “use texts, media, or local environments to observe and compare (a) different kinds of living things in an area, and (b) differences in the kinds of living things living in different types of areas”²).

Materials/Resources Needed:

- Pictures of leaves which have been cut out from the Audubon field guides³ and pasted to large cardboard cards with names on the back

Tree Inventory

During the same time period, I will ask the students to take an inventory of the trees on the school grounds and mark them on a map of the school property. The focus of this activity is on the location of trees at this point and not the names of the trees. This activity will require three sessions—one for completing the first two sections of the District’s geography unit that introduces map making; the second for looking at the outline map of the school property and comparing it with the actual borders by walking the perimeters of the grounds; and the third for drawing a birds-eye view of the trees on the school ground map.

Because this activity incorporates the MA Geography curriculum introducing maps and the concept of a birds-eye view, it meets state standards in social sciences for second grade, specifically Topic 1 on mapmaking.⁴ It also meets LS4 on Biological Diversity.⁵

² 2016 Massachusetts Science and Technology Curriculum/Engineering Curriculum Framework. Massachusetts Department of Elementary and Secondary Education. 33.

³ *National Audubon Society Field Guide to North American Trees—Eastern Region*. National Audubon Society. [Place Unknown]: Knopf, 1980.

⁴ History and Social Science Curriculum Framework. Massachusetts Department of Elementary and Secondary Education, 37.

⁵ 2016 Massachusetts Science and Technology Curriculum/Engineering Curriculum Framework. Massachusetts Department of Elementary and Secondary Education. 33.

Materials/Resources Needed:

- Maps of school property
- Additional paper & pencils

Field Notes

In late September, I will give all students a notebook and ask them to create a collage for the cover, personalizing the notebook in their own way. After they are done with their designs, the collaged covers can be covered with clear contact paper for protection. The next day, after sharing some sample pages of my own field notes and an image of Henry David Thoreau’s field notes/journal with the class, we will go outside for an around-the-schoolyard nature walk. All of us will take our notebooks to start writing field notes by recording observations, thoughts, feelings, and questions about the trees we see. The students will be encouraged to continue individual exploration during their recess. During these times, they can also collect leaf samples from each tree for leaf rubbing and pressing in their notebooks when they are back in the class and during their “choice” time.

While observing trees, each student will choose one of the trees for frequent visits, sketching, and string journaling. Using the Sibley Guide for Trees⁶ and other resources, they will also research their tree to learn about their needs, habitats, lifespans, and other information, and they will learn how the trees interact with landforms to prevent erosion, etc. Gradually, as the students gain confidence in identifying trees, they will label their map (as described in the Tree Inventory activity above) with the name of each tree as they are identified.

This activity meets several state curriculum standards—reading and writing as set forth in the Grade 2 Reading Standards for Literature and for Informational Text and Grade 2 Writing Standards,⁷ and multiple standards for life and earth and space sciences, including LS4 (Biological Diversity) again, and 2-ESS2-1 on the prevention of erosion.⁸

Materials/Resources Needed:

- Notebooks & pencils
- Materials for cover collages (e.g., pictures that can be cut out of magazines, colored pencils, glue, etc.)
- Contact paper for protecting cover collages
- Leaves, to be collected outdoors

⁶ Sibley, David Allen. *The Sibley Guide to Trees*. New York: Alfred A. Knopf, Inc. and Toronto: Random House, 2009.

⁷ English Language Arts and Literacy Massachusetts Curriculum Framework—2017, Grades Pre-Kindergarten to Grade 12. Massachusetts Department of Elementary and Secondary Education. 43-46.

⁸ 2016 Massachusetts Science and Technology Curriculum/Engineering Curriculum Framework. Massachusetts Department of Elementary and Secondary Education. 32-33.

Nature Art, Science, and Poetry

In early October, the class will watch the documentary "Rivers and Tides: Andy Goldsworthy Working with Time"⁹ on Andy Goldsworthy, a nature sculptor from Scotland, in order to get ideas about the endless possibilities for creativity and strengthening our own inner senses and power of reflection while interacting with nature and to understand the benefits of using available natural resources. "Leaning Into The Wind" is another newer film about Andy's recent work worthy of additional exploration with the class at a later time. After watching the first film, the class will engage in a discussion about their reactions to the documentaries and the personal qualities demonstrated by the artist. For example, possible qualities they might observe could include patience, mindfulness, persistence, hard working and not giving up in the face of failure, and of course strong love for nature.

In a following session, the class will create a list of possible natural resources/materials in the schoolyard or home for creating nature art inspired by Andy Goldsworthy's work.

⁹ As described by film critic Roger Ebert, the documentary:

"is a film about a man wholly absorbed in the moment. He wanders woods and riverbanks, finding materials and playing with them, fitting them together, piling them up, weaving them, creating beautiful arrangements that he photographs before they return to chaos. He knows that you can warm the end of an icicle just enough to make it start to melt, and then hold it against another icicle, and it will stick. With that knowledge, he makes an ice sculpture, and then it melts in the sun and is over.

Some of his constructions are of magical beauty, as if left behind by beings who disappeared before the dawn. He finds a way to arrange twigs in a kind of web. He makes a spiral of rocks that fans out from a small base and then closes in again, a weight on top holding it together. Often Andy will be ... almost there ... right on the edge ... holding his breath as one last piece goes into place ... and then the whole construction will collapse, and he will look deflated, defeated, for a moment, and then start again: 'When I build something, I often take it to the very edge of its collapse, and that's a very beautiful balance.' His art needs no explanation. We go into modern art galleries and find work we cannot comprehend as art.

But with Andy Goldsworthy, not one word of explanation is necessary, because every single one of us has made something like his art. We have piled stones or made architectural constructions out of sand, or played Pick-Up Stix, and we know exactly what he is trying to do--and why. Yes, why, because his art takes him into that Zone where time drops away and we forget our left-brain concerns and are utterly absorbed by whether this ... could go like this ... without the whole thing falling apart. The documentary, directed, photographed and edited by Thomas Riedelsheimer, a German filmmaker, goes home with Goldsworthy to Penpont, Scotland, where we see him spending some time with his wife and kids. It follows him to a museum in the South of France, and to an old stone wall in Canada that he wants to rebuild in his own way. It visits with him old stone markers high in mountains, built by early travelers to mark the path.

And it offers extraordinary beauty. We watch as he smashes stones to release their cyan content and uses that bright-red dye to make spectacular patterns in the currents and whirlpools of streams. We see a long rope of linked leaves, bright green, uncoil as it floats downstream. Before, we saw only the surface of the water, but now the movement of the leaves reveals its current and structure. What a happy man. Watching this movie is like daydreaming."

Then each student will design an art project with the materials of their own choosing. They will observe and compare the qualities of these materials (properties of color, flexibility, hardness, texture, absorbency, and durability), meeting state standards for physical science, specifically PS1 Matter and its Interactions.¹⁰ They will also journal and write a poem reflecting on their project. These designs will be photographed for publishing a class book with their poems and/or journal notes. This project can be repeated in fall, winter, and spring for variation of the natural resources available to the students (e.g., leaves, acorns, flowers, twigs, stones, sand, snow, ice, light, shadows, etc.) and to reflect their growth throughout the year.

Materials/Resources Needed:

- Documentary films & ActivBoard (or other TV, etc.) for screening
- Field Notes Journals (as created by the students above)
- Additional paper, pencils, as needed
- Nature artifacts as found outdoors by the students
- Camera for photographing the students' outdoor art

Interaction and System

In late September and early October, as part of our science curriculum exploring the concepts of interaction and system, the students will study the map of the school building and tour the building to get oriented to the layout and location of key spaces. After meeting the staff working in these spaces, each student will choose one or two persons to interview at a later time in order to understand their role in the school. Then, back in the class, they will discuss what they have learned and compile a staff directory, a graphic organizer, or some other kind of visual representation of their choosing that would communicate the idea of a school as a system. Having an open-ended assignment promotes more problem-solving skills and creativity than if I were to give them a specific format for organizing their project. As such, activities like these are not accompanied by worksheets. This activity meets state standards in social sciences for second grade, specifically Geography Topic 2 on how people interact with their environments.¹¹

Materials/Resources Needed:

- Maps of school property
- Access to school staff for interviewing
- Paper and pencils for writing interview questions and answers
- Computers for typing up staff directory or other representations of their school environment

¹⁰ 2016 Massachusetts Science and Technology Curriculum/Engineering Curriculum Framework. Massachusetts Department of Elementary and Secondary Education. 33.

¹¹ History and Social Science Curriculum Framework. Massachusetts Department of Elementary and Secondary Education, 37.

Read to Write

Starting in January, with the help of guided reading (*A Man Named Thoreau*,¹² *Walden Then and Now*,¹³ and *Walden Pond*¹⁴) as well as independent study of other literature on the topic, the students will find access to the life and teachings of Henry David Thoreau. They will learn where Thoreau's family migrated from and the reason his name is spelled the way it is. They will also explore the school walls (there are quotations stenciled on the walls as well as pictures and other memorabilia) to learn about the school's past. They will keep field notes about anything related to Henry David Thoreau that can help them understand who Thoreau was and how the school that carries his name today represents (or does not represent) what Thoreau believed. Through reflection and analyzing some of the passages from his writings, they will start to appreciate his thinking and mindset about Concord, relationships, education, nature, slavery, living a simple life, and the importance of individual choices. By mid-May each student will write, illustrate, and publish a book about Henry David Thoreau. First drafts will be handwritten. After the children have edited and finalized their content, they will use the computers to type a final version for publication.

This activity meets several state curriculum standards—reading and writing as set forth in the Grade 2 Reading Standards for Literature and for Informational Text and Grade 2 Writing Standards;¹⁵ geography and migration as set forth in Topics 2 (Geography and its Effect on People) and 3 (History: Migrations and Cultures) of the History and Social Science Curriculum Framework;¹⁶ and basic use of digital tools as outlined in the Digital Tools and Collaboration section of the MA second grade state standards on Digital Literacy.¹⁷

Using the map of the building and the grounds that they created along with the exploration of the walls, the students will try to identify three things that may have been the same when Henry was living in Concord and three ways things are different.

Materials/Resources Needed:

- Books to be read in class, as listed above and others
- Clipboards, paper, and pencils
- Field Notes/Journal
- Colored pencils for sketching
- Computers for typing up final book

¹² Burleigh, Robert. *A Man Named Thoreau*. New York: Athenium Books for Young Readers, 1985.

¹³ McCurdy, Michael. *Walden Then & Now: An Alphabetical Tour of Henry Thoreau's Pond*. Watertown: Charlesbridge, 2010.

¹⁴ McGrath, Bonnie. *Walden Pond*. Beverly: Commonwealth Editions, 2004.

¹⁵ English Language Arts and Literacy Massachusetts Curriculum Framework—2017, Grades Pre-Kindergarten to Grade 12. Massachusetts Department of Elementary and Secondary Education. 43-46.

¹⁶ History and Social Science Curriculum Framework. Grade 2 Global Geography: Places & People, Cultures, and Resources. Massachusetts Department of Elementary and Secondary Education. 37.

¹⁷ 2016 Massachusetts Digital Literacy and Computer Science (DLCS) Curriculum Framework. Massachusetts Department of Elementary and Secondary Education. 14.

Surveyors Measure

For a better understanding of Thoreau's role as a surveyor, the students, in teams of five, will use one of the measuring tools introduced to them in math to measure the perimeter of our school ground and school building in both the U.S. Customary and Metric systems and record the data on their maps. They will use string for outdoor measuring (as a substitute for the link chain used by Thoreau) and then bring their string indoors and measure the string with measuring tapes and rulers. This will happen in late May as a part of our measuring unit in Everyday Math,¹⁸ which meets MA state standard 2.MD.9 on math and measuring.¹⁹

Materials/Resources Needed:

- String
- Measuring tapes and rulers
- Maps of school property
- Pencils

Change and Service

During the year the students will be encouraged to include in their field notes observations about positive and negative encounters they have while at school. Sometime mid-year, they will engage in a class discussion to share their views and collectively choose some of the most positive qualities of the Thoreau School's environment. Then each student will write a letter of gratitude to one or more persons who have contributed in some way to these positive qualities.

They will also identify the areas of the school environment that need improvement and reflect on ways to improve these areas through one or more of the following: individual action, collective effort through a whole class project, and/or inviting other people (parents, students in other classes, school staff, or other outside school resources) to initiate or support necessary efforts for improvement.

Materials/Resources Needed:

- Field Notes Journals
- Additional paper and pencils
- Other supplies for service project, as identified by students

¹⁸ Everyday Mathematics, Grade 2 curriculum. University of Chicago.

¹⁹ 2017 Curriculum Framework for Mathematics—Detailed Revisions of 2010 Standards for PK-12. Massachusetts Department of Elementary and Secondary Education, 5.

Grading System/Assessment

This unit will be graded as a part of the required district assessment and scoring rubric (on a scale of 1-4) and not as a separate unit. Additionally, informal formative assessments will be conducted on an ongoing basis to ensure the progress of each and every student. The writing and publishing of the final book about Henry David Thoreau will be a part of the students' assessments, especially to benchmark their informational writing.

Other

Link to State Standards

Explanations of how the various activities are connected to state standards are included in the activity descriptions above. The current Massachusetts standards in each category for Grade 2 are also available for reference online at the following site:

<http://www.doe.mass.edu/frameworks/?section=math-qrg>.

Bibliography/List of Cited Works

See Annex A.

Annex A
Bibliography/List of Cited Works

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