Focusing Quotes:

Nature is a greater and more perfect art, the art of God.—*A Week on the Concord and Merrimack Rivers*

The Artist is he who detects and applies the law from observation of the works of Genius, whether of man or nature.—*A Week on the Concord and Merrimack Rivers*

A written word is the choicest of relics. It is something at once more intimate with us and more universal than any other work of art. It is the work of art nearest to life itself.—*Walden*

How admirably the artist is made to accomplish his self-culture by devotion to his art! The wood-sawyer, through his effort to do his work well, becomes not merely a better wood-sawyer, but measurably a better *man*.—Thoreau to H.G.O. Blake, 19 December 1853

In reality, history fluctuates as the face of the landscape from morning to evening. What is of moment is its hue and color. Time hides no treasures; we want not its *then*, but its *now*. We do not complain that the mountains in the horizon are blue and indistinct; they are the more like the heavens.—*A Week on the Concord and Merrimack Rivers*

It is a great art to saunter.—*Journal*, 26 April 1841

It is something to be able to paint a particular picture, or to carve a statue, and so make a few objects beautiful; but it is far more glorious to carve and paint the very atmosphere and the medium through which we look, which morally we can do. To affect the quality of the day, that is the highest of arts.—*Walden*

Language is the most perfect work of art in the world. The chisel of a thousand years retouches it.—*Journal*, 27 July 1840

Not how is the idea expressed in stone, or on canvas or paper, is the question, but how far it has obtained form and expression in the life of the artist.—*A Week on the Concord and Merrimack Rivers*

The world is but a canvas to our imaginations.—*A Week on the Concord and Merrimack Rivers*

The excursions of the imagination are so boundless.—*Journal*, 20 September 1851
**Topic:** Repurposing an Old Book into Something New-A Nature Journal!

**Learning Objectives:** Students will repurpose an old book and create a nature journal that is uniquely their own to use as they explore and discover the natural world around them. Students will identify ways that people can reduce, recycle, reuse, and repurpose items.

**Essential Questions:** What does it mean to repurpose an item? What are some ways that we can reduce, recycle, reuse, or repurpose?

**Grade levels: 4-12**

**CONDUCTING THE ACTIVITY**

**Time Required:** If students are going to prep each page with gesso, each page needs drying time before doing another page. Students might choose to gesso some of the pages and leave others to collage over.

**Logistics:** Need space to work and store journals as you are preparing pages.

**Materials needed:**
- **Notable Notebooks: Scientists and Their Writings** by Jessica Fries-Gaither
- Examples of journals
- Chart paper
- An old book with sewn in binding—one per student
- Paper glue—Elmer’s Glue seems to work just fine
- Gesso
- Acrylic paint
- Ruler—for tearing out pages
- Wax—can use a white candle—keeps pages from sticking together

**Optional:**
- Craft tape, laminating paper, tape for leaves, flowers, pictures, etc.
- Library pockets, small envelopes—for keeping items in such as postcards, brochures, magnifier, pencil, ruler, etc.
- Camera/phone camera
- Mini printer—can print photos wherever you are—great for field trips

**ENGAGE (Connect to prior knowledge)**
Read parts of **Notable Notebooks: Scientists and Their Writings** by Jessica Fries-Gaither. If possible, share examples of journals. Ask students: “What do you like about ________’s journal? What would you want to have in your journal? What kinds of information is in a nature/science journal? How can that information be presented? (examples: using photographs, drawings, poetry, charts, graphs, etc.)
(Note: In this lesson, Explain comes before Explore)

EXPLAIN (Listening and communicating understanding)
Explain to students that they will be repurposing an old book to make a journal. Discuss the terms: reuse, recycle, reduce, and repurpose. (Use the dititalcommons.usu.edu site for definitions-in Resources) Make a chart with reduce, reuse, repurpose, and recycle for headings. Ask students: “What are some ways we can reduce? reuse? repurpose? recycle?” Record their responses on the chart.

EXPLORE (Hands-on learning)
Say to students: “We will repurpose an old book to create something new—our own personal nature journal. We will use our nature journals as we explore and discover the natural world around us.” See attachment Directions: Repurposing an Old Book into Something New—a Nature Journal!

EXTEND (Group projects, real world connections)
Students can use their journals for group projects such as a phenology chart. They can make additional journals such as a travel journal or an art journal. Their journals can be a source for citizen science work.

EVALUATE (Summarize, check for understanding, assess)
Use journals to check students’ understanding of concepts. Students can use journals to refer to when they are participating in science talks, making a presentation, or when you have a one-on-one conference with them.

Resources
Notable Notebooks: Scientists and Their Writings by Jessica Fries-Gaither

This book shows the many ways that scientists have used science notebooks such as sketching their observations, recording data or writing down their thoughts.

By John Muir Laws, Emilie Lygren, Emily Breunig, and Celeste Lopez
This curriculum teaches children to become keen observers of the natural world through drawing and writing. There are games and activities that employ skills and tools to help children gain confidence in drawing and writing. You can download it for free if you go to the California Native Plant Society website: https://www.cnps.org/education/students/parents-teachers/nature-journaling-curriculum-request

Keeping a Nature Journal: Discover a Whole New Way of Seeing the World Around You by Clare Walker Leslie and Charles E. Roth
California Academy of Sciences-science notebooking activities
https://www.calacademy.org/educators/introductory-science-notebooking-activities

reduce, reuse, repurpose, recycle definitions:
https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=2690&context=extension_curall

Thoreau Quotations

https://www.walden.org/thoreau/thoreau-quotations/
Directions: Repurposing an Old Book into Something New - A Nature Journal!

Step 1: Find old books with sewn in bindings. If your district is anything like mine, they are forever throwing old books in the dumpsters. Save these books from that terrible fate! Check your school if they have a store room that has old books collecting dust or ask the school librarian if they have any old books they can’t put on the shelf anymore. Thrift stores or used book stores are another great source for old books.

Step 2: Go through book ripping out every other page or every third page. It helps to use a ruler to tear the page against. You might want to keep some of the pages to use in the journal.

Step 3: Glue two pages together to make stronger pages.

Step 4: Use gesso to prime the pages. You can add color to the gesso with acrylic paint. By adding color to the gesso, you can cover the text and pictures of the book. Let gesso dry before doing the next page. Put wax paper between pages to keep from getting paint/gesso on other pages and to keep pages from sticking together.

Tip: After you have finished a page by painting, gluing, or collaging, rub the entire page with white/clear wax (you can use a candle) to keep the pages from sticking together.

Sewn in binding

This I learned from experience!
Directions: Repurposing an Old Book into Something New—A Nature Journal!

Some examples:

Bird page—birds I photographed in Winter Park, Florida NEH Zora Neale Hurston Workshop

Cemetery page—Concord, MA

Page from Walden

Quote written over painted page—can still see the photo of redwoods through paint

Add drawing/watercolor

Glue in blank paper to add writing/drawings later
Directions: Repurposing an Old Book into Something New - A Nature Journal!

- Laminate leaves and flowers
  Concord, MA

On the right, three companies of Regular Army troops fire across the **North Bridge**, killing two, and on the left the 450 Provincials from Acton, Concord, Lincoln, and Bedford return fire, killing three.

North Bridge today
Add pictures to tell a story of where you have been

Cover the cover or not!

Give your journal a title
Living and Writing Deliberately: The Concord Landscapes and Legacy of Henry Thoreau

Summer 2019

Week 2 Participant: Beverly Black

Thread: Living in Nature

Focusing Quote: “I wanted to know my neighbors, if possible, -to get a littler nearer to them. I soon found myself observing when plants first blossomed and leafed, and I followed it up early and late, far and near, several years in succession, running to different sides of the town and into the neighboring towns, often between twenty and thirty miles in a day. I often visited a particular plant four or five miles distant, half a dozen times within a fortnight, that I might know exactly when it opened, beside attending to a great many others in different directions and some of them equally distant, at the same time. At the same time I had an eye for birds and whatever else might offer.” Henry David Thoreau

Written in his journal on December 4, 1856

Topic: School Yard Phenology

Objectives: Students will become citizen scientists as they study nature’s calendar and document the changes throughout the seasons around their school yard.

Essential Questions: What life cycle changes do you observe throughout the year? What birds come to our school? When do you see them? What is the weather like at different times of the year? What are the changes you notice in the plants around our school? How might plants and animals react to seasonal changes?

Materials: science journal, pencil, magnifier, thermometer, camera, measuring tape

Grades: 3-5

<table>
<thead>
<tr>
<th>Brief Lesson Description</th>
<th>Students will record changes in plants and animals in and around the school yard throughout the school year.</th>
</tr>
</thead>
</table>

**LESSON PLAN – 5-E Model**

**ENGAGE: Opening Activity – Access Prior Learning / Stimulate Interest / Generate Questions:**

Watch one of the following you tube videos:
*Change of Seasons-Backyard timelapse 15 months by Fingili
*One Year in 40 Seconds by Erik Solheim :46
*A Forest Year 2:47
*Between the Shadows-Time Lapse_Four Seasons by Loreena McKennitt  4:31 Johnny Martinea

Ask the students: What changes did you notice? What did you notice about the river? trees? sky? ground? How would you describe these changes?

**EXPLORE: Lesson Description – Materials Needed / Probing or Clarifying Questions:**

Ask the students: What kinds of changes do you see throughout the year in the school yard? How do the plants in our school yard change throughout the year? What are some birds you see at school? Are they here throughout the year? Take students outside with their science notebooks. Walk around the school and make observations about the plants and animals, the weather, and anything else they notice.

**EXPLAIN: Concepts Explained and Vocabulary Defined:**

Ask the students: How do you know when it is Autumn? Answers might include when trees lose their leaves, birds migrate, animals eat more to prepare for winter, etc. You can record their responses on chart paper. Explain: Each year, plants and animals experience seasonal changes called phenological changes. For example, a blue bird migrates to find a cool home in the early spring. In the late spring, it builds a nest and lays eggs. In the summer, it feeds its hatchlings and teaches them to fly. In the Autumn, it migrates to find a warm, winter home. Phenology is the study of yearly cycles of animals and plants.

**Vocabulary:**

**Phenology:** the study of the yearly cycles of animals and plants

**Phenophase:** A specific seasonal change for a species. For example, oaks have bud burst, increasing leaf size, leaves, flowering, fruiting, colored leaves, and leaves falling.
ELABORATE: Applications and Extensions:
Explain to the students they will be recording the cycles of plants and birds that we observe in our school yard throughout the school year. Each student or a group of students will be assigned a particular plant/tree that they will observe, research and record data about. Students will create a phenology chart for the plant/tree they are assigned. The whole class will observe the birds we see throughout the school year and record data on a class phenology chart. Students should be making observations and recording their data 1-4 times each month. Some of the things they should record are date, time, location, weather, temperature, and observations. If possible, students can take a photograph from the same position each time they make observations.

EVALUATE:
Formative Monitoring (Questioning / Discussion):
Referring to their journals, students can participate in science talks to discuss their findings, ask questions, and share their experiences.

Summative Assessment (Quiz / Project / Report):
At the end of the year, students will have completed their phenology chart which they can present to the class.

Elaborate Further / Reflect: Enrichment:
Continue each year recording observations and tracking such events such as climate change or the number or type of birds that are observed at school.

Resources:
* Book: Henry David Thoreau for Kids: His Life and Ideas- With 21 Activities by Corinne Hosfeld Smith
* Nature journaling curriculum: Opening the World through Journaling: Integrating art, science, and language arts  www.cnps.org/education/students/parents-teachers/nature-journaling-curriculum-request
* Pulse of the Planet Sequoia and Kings Canyon National Park Interpretive Program https://cpp.usanpn.org/sites/cpp.usanpn.org/files/pdfs/Pulse%20of%20the%20Planet%20-%20all%20ages.pdf

The following 2 pages show my “Bear Birders” chart on birds we saw throughout the school year 2010-2011 when I led a birding club before school. Some changes I would make would be to include how many of each bird we see, the temperature, weather, time of day, and other observations.

I’ve also included some pages from my journal from 2011 that show observations that could easily be put into a phenology chart.
<table>
<thead>
<tr>
<th>Bird</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada goose</td>
<td>3/3</td>
</tr>
<tr>
<td>European starling</td>
<td>3/10</td>
</tr>
<tr>
<td>American crow</td>
<td>3/17</td>
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<tr>
<td>red-wing blackbird</td>
<td>4/1</td>
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<tr>
<td>sparrow</td>
<td>5/5</td>
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<tr>
<td>Anna's hummingbird</td>
<td>5/11</td>
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<tr>
<td>mockingbird</td>
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<tr>
<td>Brewer's blackbird</td>
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<tr>
<td>ring-bill gull</td>
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<td>gull</td>
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<td>black phoebe</td>
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<td>rock dove (pigeon)</td>
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<tr>
<td>cormorant</td>
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<td>scrub jay</td>
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<td>killdeer</td>
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<td>marbled godwit</td>
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<td>hawk</td>
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<tr>
<td>mourning dove</td>
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<tr>
<td>turkey vulture</td>
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<td>unknown bird</td>
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<td>House finch</td>
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<td>Duck</td>
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<tr>
<td>American kestrel</td>
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<td>American robin</td>
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<td>swallows</td>
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<tr>
<td>Bird</td>
<td>Date</td>
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</tr>
<tr>
<td>Canada Goose</td>
<td>9/16</td>
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<tr>
<td>Starling</td>
<td>9/9</td>
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<tr>
<td>American Crow</td>
<td>9/16</td>
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<tr>
<td>Red-winged Blackbird</td>
<td>9/23</td>
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<tr>
<td>Sparrow</td>
<td>9/9</td>
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<tr>
<td>Anna's Hummingbird</td>
<td>9/23</td>
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<tr>
<td>Mockingbird</td>
<td>9/23</td>
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<tr>
<td>Blackbird</td>
<td>9/23</td>
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<tr>
<td>Ring-billed Gull</td>
<td>9/23</td>
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<tr>
<td>Black Phoebe</td>
<td>9/23</td>
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<tr>
<td>Rock Dove (pigeon)</td>
<td>9/23</td>
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<tr>
<td>Cormorant</td>
<td>9/23</td>
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<td>Scrub Jay</td>
<td>9/23</td>
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<tr>
<td>Killdeer</td>
<td>9/23</td>
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<tr>
<td>Marbled Godwit</td>
<td>9/23</td>
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<tr>
<td>Hawk, unidentified</td>
<td>9/23</td>
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<tr>
<td>Mourning Dove</td>
<td>9/23</td>
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<tr>
<td>Turkey, Wild and others</td>
<td>9/23</td>
</tr>
</tbody>
</table>
2 Amer. Crows
"how sweet" Jessalyn
"GROSS" Joan
"Class the pants they can't read" Jasni
"Seagull is staring at us" Jessalyn

Angie
Jassalyn
Jasni
Donna
Joan
Miss. Black
Lenny

red was field

"that's my food get away" Joan
Gull & Crow cheer each other

red wing blackbirds
NJ bull gull
mocking bird
starling
sparrow
Am. crow

Amer. Crows clean themselves.

Crows on telephone wire
We went by tree near kindergarten
lot of blackbirds 2 starlings & 1 red-wing
that was doing a lot of talking.
1/6/11

- 12 wh Alter gulls
- ring billed gulls
- brown gull
- juvenile ringbill?
- harry gull?
- Amer. Crow
- hawk up in tall tree after recess
couldn't identify it- flies away before we could
look at it w/ scope
- blackbird

About 40-50
flew in. It was
cool!

birds are cold. So are we!

1/9/11

Brookview
Ira Horse Tail Creek
Carson
50° Sunny/cloudy

Common Merganser (I think)
(Saw holed Merganser a couple weeks ago- didn't know what it was at
time- but after dog Christmas bird
went off- Sonoma group found out that's what they were)

* great egret
* great blue heron. I always see it fly off dam the creek-
always miss the chance to take a picture or video of it
besides- I have a toosy camera!

* Canada Goose
* mallard
* some kind of white goose
* black phoebe
* Steller Jay - scrub Jay
<table>
<thead>
<tr>
<th>Bird</th>
<th>Date/Time</th>
<th>Location</th>
<th>Temperature</th>
<th>Weather</th>
<th>Observations</th>
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