Knock Down the Silos: Outdoor Science Learning and Literature

Virginia Association of Environmental Education
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George Mason Science & Technology Campus
Manassas, Virginia

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Our Mission: To increase understanding of the natural environment through research and education.
Education Outreach

- Hands-on, outdoor, experiential field investigations
- ~7000 PK-12 students per year
- Inquiry, Science Process and Skills focused programs
- Correlated to state and national standards
- Field-based STEM Learning
- Teacher professional development
Plan

- Introduction
- Background to the project
- Resource development
- Model an activity
- Reflect & Share resources
K-3 Literacy in the Schoolyard

https://blandy.virginia.edu/content/ccps-noaa-k-3-literacy-project

This project was funded through an award from the National Oceanic and Atmospheric Association, Award # NA18NMF4570315
Resource Development
Resource Development
Blandy and Clarke Co. teachers reviewed lesson templates, then modified a lesson template that the teachers already were familiar with.
Model an Activity
Share your Discoveries.

How can you apply resources used here in your learning habitat?
Online Resources

• Blandy K-3
  https://blandy.virginia.edu/content/ccps-noaa-k-3-literacy-project

• K-3 Lesson Plans
  https://drive.google.com/drive/folders/12CWBxtu3_3lRwk_PK14nhNtv0LG8ppZp

• Picture Perfect Science

• Slides of Teacher Gains
  https://drive.google.com/drive/u/0/folders/1sSqdTqbv1JzZPtue7nGspOeBOHx-bfQg
Thank you!

Blandy Education Web Pages & Resources  https://blandy.virginia.edu/pk-12-education
Dept of Knowledge chart shared by New Jersey Department of Education
Required Information during the PD

<table>
<thead>
<tr>
<th>Lesson Title</th>
<th>Letters and Leaves</th>
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<tbody>
<tr>
<td>Planned Teaching Date</td>
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Content Objective
Exploring and understanding the physical properties of leaves through multiple senses.

Essential Question(s)
How can we compare the physical properties of leaves? How can we use those properties to create something new?

- Journals or pages (with letters if needed), writing tools if needed
- Gluesticks
- Paper grocery bag
- Different Trees
- Leaf Man

Bloom’s Level and Question(s) or DOK
Recall: identify letters, different body parts are used for different senses
Skill/Concept: Observe, Collect, Compare leaves using different senses, graph frequency of letters
Strategic thinking: Construct a creature out of leaves.

Reading, Writing, & Science Literacy

<table>
<thead>
<tr>
<th>National Geographic Book Title</th>
<th>SOL Emphasis</th>
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</thead>
<tbody>
<tr>
<td>Different Trees</td>
<td>2018 Science: K.3, K.7, 1.4</td>
</tr>
<tr>
<td>Supplementary Book Title</td>
<td>2018 Science: K.3, 1.4, 2.5</td>
</tr>
<tr>
<td>Leaf Man by Lois Ehlert</td>
<td>2017 Eng: K.7 (adjectives)</td>
</tr>
<tr>
<td>Outdoor Activity (connected to the readings)</td>
<td>2018 Science K.1, K.3, K.5</td>
</tr>
<tr>
<td>Leaf collection, sensory observation</td>
<td></td>
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<tr>
<td>Writing Activity</td>
<td>2017 Eng: K.6</td>
</tr>
<tr>
<td>Leaf letter mosaic</td>
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</tbody>
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Differentiation
Reading/writing instruction adjusted to the ability of the students.

Assessment Vocabulary

Formative- Summative-

Reflection/Notes

Expected student products or learning objectives met
- Use of senses other than taste to describe leaves, letter leaf collage
- Optional/preferred:

Supporting Resources


Hook/Engage

Indoor/outdoor: Read Different Trees
Indoor/outdoor: Discuss parts of a tree, and the words that describe the trees as different. What parts of a tree were compared? What senses were used to explore the different trees?

Guided Lesson/Instructional Strategy

Outdoor: Leaf collection - fill a paper grocery bag with leaves. Consider giving specific instructions, for example: find one big leaf and one small leaf, find a smooth leaf and a leaf with jagged edges, find leaves of different colors...

Indoor/outdoor: Leaves and senses - "Looking at Leaves" from Growing Up Wild. During the PD we will complete this activity all together on one big poster, however this could be done in small groups or independently. Alternatively, students could develop oral skills by making video recordings of themselves describing what they sense.
- Students select and carefully observe a leaf. They describe and record what they smell, see, hear, and feel (omit taste unless food leaves are used).

Indoor/outdoor: Read Leaf Man

Indoor/outdoor: Letters and Leaves collage:
Depending on the abilities of your students, have prepared block letters (upper and lowercase) of the first letter of their name, have them write the letters in larger print in their journal, have them write their entire full name, or perhaps have them write the name of a type of tree. Students glue leaves over the letters to fill it up. Then use extra leaves to try to create a leaf creature/picture that starts with their letter. Leaves may be cut or torn to fit. It could be fun to have a hole punch to make leaf confetti.

Indoor/outdoor: Have students arrange open journals in alphabetical order. Graph the frequency of the letters.