

GRADE 5 PLACE-BASED LEARNING: SYSTEMS THINKING AND THE EVERGLADES ECOSYSTEM



Submitted by Bianca Cassouto, 2024, while serving as Education Program Manager at The Everglades Foundation

LEARNING PLAN OVERVIEW

Subject(s)	<ul style="list-style-type: none"> Natural Sciences Environmental Education
Grade Level (s)	<ul style="list-style-type: none"> Upper Primary (ages 8-11) Middle School (ages 12- 13)
Systems Tool(s)	Sustainability Compass
Purpose of Using Tool	<ul style="list-style-type: none"> Critical Thinking Discussion Reflection
Summary	Students will explore ideas and interconnections within the Everglades ecosystem as it relates to nature, economy, wellbeing, and society. Students will apply and understand systems thinking concepts in their Everglades place-based learning lesson plans.

Learning Objectives

- Students will be able to define and identify ideas of nature, economy, wellbeing, and society as it relates to the Everglades ecosystem.
- Students will be able to think analytically and make connections using the Sustainability Compass.
- Students will be able to identify behaviors, actions, and problem-solving solutions as it relates to protecting the Everglades ecosystem.

Material and Settings

- [Sustainability Compass](#) (from Compass Education)
- Poster paper, white board, or SMART board with writing tools
- Additional lessons from The Everglades Foundation's [Everglades Literacy Program](#)

Learning Context

This activity was facilitated with 5th graders who participate in the Everglades Champion Schools Program, a program that designates schools that make Everglades education a part of their school culture. These students are based in Miami, FL and have been learning about the Everglades ecosystem all year long and participated in an Everglades field trip. The Sustainability Compass activity served as a wrap up activity for the school year.

Purpose of Using the Systems Thinking Tools

The Sustainability Compass tool is an approachable and accessible way for young learners to not only learn how to make connections but understand why they are so important. This tool is a fantastic first step in introducing systems thinking to upper-level elementary students who have been participating in place-based learning.

Impact on Participant Learning

Students were already familiar with the importance and value of the Everglades ecosystem (drinking water supply, wetlands, animals and plants, tourism, recreation, and economic impact, etc.). During the Sustainability Compass activity, it was amazing to see the connections the students were making. For many, you could tell it was the first time they had made a connection between two or more ideas. The students were excited to share their ideas and connections and many of them shared that they had a new perspective on the Everglades ecosystem and why it is so important to protect.

Learning Plan Step-by-step Description

1. Gather and prepare all materials necessary.
2. To provide additional background information about the Everglades ecosystem, use The Everglades Foundation's [Everglades Literacy Program](#) lesson resources. Helpful lessons include [The Heart of a Watershed](#), [Threats to the Everglades](#), [Functions of Everglades Wetlands](#), [Everglades and Aquifers](#), and [Everglades Seasons](#).
3. Ask students to recall what they know about the Everglades ecosystem. Ask students to recall specific topics and ideas relating to water, animals and plants, habitats, wetlands, economy, tourism, and recreation, etc.
4. Ask students to define: Nature, Economy, Wellbeing, and Society.
5. Define systems thinking for students. Tell them they are going to work on an activity that is about making connections.

6. Draw the Sustainability Compass or use the existing template to display on a screen. Compass points include: Nature, Economy, Wellbeing, and Society. Follow the PATH (Pick your topic, Add your ideas, Think analytically, Have another look).
7. Ask students to identify ideas for each of the Compass points. Aim to add 5-7 ideas as a class as part of each Compass point.
8. Once students have completed adding ideas to the Compass points, review ideas at a glance as a class.
9. Ask students to make connections between ideas on the Sustainability Compass. Draw a line to connect ideas. Draw as many lines as students are able to make connections.
10. Ask students to have another look at all of the connections they have made and identify new idea and perspectives they have about the Everglades ecosystem.
11. Ask students to share if they have a different perspective about the Everglades ecosystem. Ask students to explain why it is important to protect all components of the Everglades ecosystem.
12. Wrap up by emphasizing what systems thinking is and how it can be applied to protecting the Everglades ecosystem. Ask students how they can help protect the Everglades.

REFLECTION

Plusses

The Sustainability Compass activity brings added value to a curriculum that is based on place-based learning. By using the Sustainability Compass, students were able to gather all of their ideas about the Everglades ecosystem, put them individually into different categories, and then work to make connections that are new or reinforce their perspective on the Everglades ecosystem. Throughout the entire activity, I could see several "aha!" moments from the students, specifically when they shared a valuable idea and were then able to make a strong connection. Students really enjoyed connecting ideas and using the same ideas to make different connections as well. This activity encouraged creativity, critical thinking, and discussion and reinforced place-based learning. During the school year, students learned about the Everglades in class and visited on a field trip. Coming in at the end of the school year to implement the Sustainability Compass activity was the perfect wrap-up and opportunity to introduce a new concept of systems thinking. As these students continue their Everglades education in school, they now have additional tools and skills to increase their depth of knowledge and application to real-world problems and solutions.

Areas for Improvement

I would consider using the Sustainability Compass activity as a pre-test with students before they have learned about the Everglades ecosystem. It would be interesting to see how their ideas and

connections would be different before they used Everglades Literacy Program lesson plans and visited the Everglades.

Then, I would do the activity again to measure knowledge and skills. Other suggestions would be to include a work bank if the students needed additional guidance on ideas, implementing the activity with both younger and older students, and sharing the tool with teachers during our professional development.

EVIDENCE



