



HUMANITIES AND THE SUNSHINE STATE

TEACHING FLORIDA'S CLIMATES

In partnership with the Florida Humanities Council

JUNE 15-29, 2018 UNIVERSITY OF FLORIDA

“TAKING IT BACK TO THE CLASSROOM”

We know that it's not always possible to develop and implement a brand new lesson plan in a busy curriculum. How do you envision incorporating our experiences in your classroom teaching?

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Idea 1: Concept of Ecosystems

Learning Goals/Standards

Students will understand the definition of an ecosystem, including the abiotic and biotic components and processes. Florida ecosystems including Forests, Natural Springs, and Salt Water environments will be introduced. Special emphasis will be made on the historical human use and abuse of these ecosystems over time, their present state, and efforts to restore or improve them.

Idea 2: Ecosystems and Climate Change

Learning Goals/Standards

Students will engage in research using the UF Archive in order compile historic information and analyze data that will allow them to engage in group discussions leading them to answer the following questions:

- Which area or region of the state, is currently showing the greatest effects of climate change?
- Have any Florida ecosystems reached an ecological threshold?
- What are the effects of sea level rise on different parts of our state?
- What are the possible consequences or impacts to our local community?

As a result, students will work together to develop an action plan that they can implement at the school or local level.

Idea 3: Water as a Natural Resource

Learning Goals/Standards

Students will engage in research using the UF Archive in order compile historic information and analyze data that will allow them to identify the impact that humans have had on the planet: such as deforestation, urbanization, desertification, erosion, changing the flow of water, air and

water quality. Special emphasis on the historic polluting of major bodies of waters in our state (rivers, estuaries, springs, and ocean).

- St. Johns River
- Indian River Lagoon
- Springs in Northern Florida
- Lake Okeechobee
- Everglades National Park
- Biscayne Bay
- Big Cypress Preserve
- Suwanee and Apalachicola Rivers

They will produce a video-taped PSA (or similar) in order to show what they've learned and convey this information to our community during our annual Science STEAM night.

Students can also design PSA that can be broadcast during school morning announcements.

Idea 4: Carbon Cycle and Human Activity (CPALMS Resource)

Learning Goals/Standards

In this lesson, students will analyze an informational text intended to support reading in the content area. The article explains the dynamic carbon cycle and how human activity contributes to global warming. A second related text builds on that knowledge to discuss the importance of Everglades mangroves as carbon "sinks." By reading and synthesizing both articles, students will learn not only about the specifics of the carbon cycle, but how it applies to Florida and the rest of the world.

Idea 5: Understanding Carbon

Learning Goals/Standards

Project Learning Tree: Southeastern Forests and Climate Change

- Carbon on the Move (pg. 123) students pretend to be a carbon atom and cycle through biological and physical systems (carbon pools, fluxes, and human activity)
- Counting Carbon (pg. 137) Measuring the amount of carbon stored in trees
- ❖ Field Trip to Everglades National Park to measure the Slash Pine trees found within the park.

Idea 6: Forest Systems Diagram

Learning Goals/Standards

Project Learning Tree: Southeastern Forests and Climate Change

Managing Forests for Change (pg. 95) students will create a systems diagram to explain forest health and productivity

What additional resources do you need in order to act on these ideas?

- ❖ **Check out classroom set of tablets for student research**
- ❖ **Arrange for field trip to Everglades National Park and add the tree measurement activity to our activities for the day**
- ❖ **Look into getting field trip approval to visit Springs**

FLORIDA STANDARDS

SC.7.L.17.3

Describe and investigate various limiting factors in the local ecosystem and their impact on native populations

SC.7E.6.6

Identify the impact humans have had on Earth

SC.912.L.17.4

Describe changes in ecosystems resulting from seasonal variations, climate change and succession.

SC.912.L.17.10

Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.

SC.912.L.17.10

Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.

SC.912.N.1.1

Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science